Agenda City of Loma Linda

From the Department of Community Development

PLANNING COMMISSION

REGULAR MEETING OF
March 2, 2016
7:00 p.m.
CITY COUNCIL CHAMBERS
25541 BARTON ROAD, LOMA LINDA, CA 92354

A. CALL TO ORDER - Persons wishing to speak on an agenda item are asked to complete an information card and present it to the secretary. The Planning Commission meeting is recorded to assist in the preparation of the minutes, and you are, therefore, asked to give your name and address prior to offering testimony. All testimony is to be given from the podium.

B. ROLL CALL

C. PLEDGE OF ALLEGIANCE

D. ITEMS TO BE DELETED OR ADDED

E. ORAL REPORTS/PUBLIC PARTICIPATION ON NON-AGENDA ITEMS (LIMITED TO 30 MINUTES; 3 MINUTES ALLOTTED FOR EACH SPEAKER) - This portion of the agenda provides opportunity to speak on an item, which is **NOT** on the agenda. Pursuant to the Brown Act, the Planning Commission can take no action at this time; however, the Planning Commission may refer your comments/concerns to staff, or request the item be placed on a future agenda.

F. NEW BUSINESS

G. PUBLIC HEARINGS (THREE MINUTES IS ALLOTTED FOR EACH SPEAKER PER PUBLIC HEARING ITEM)

CONDITIONAL USE PERMIT (CUP) NO. 14-153 - A PROPOSAL TO CONSTRUCT A NEW 3,058 SQUARE FOOT DRIVE-THROUGH CAR WASH ON VACANT LAND LOCATED AT 24965 REDLANDS BLVD WITHIN THE EAST VALLEY CORRIDOR SPECIFIC PLAN – GENERAL COMMERCIAL ZONE.

RECOMMENDATION

Staff recommendation is that the Planning Commission recommends the following action to the City Council:

- Adopt the Mitigated Negative Declaration and Mitigation Monitoring Program (Exhibit B); and
- Approve Conditional Use Permit No. 14-153, based on the Findings and subject to attached Conditions of Approval (Exhibit C).

PRECISE PLAN OF DESIGN (PPD) NO. 14-154 – A PROPOSAL TO CONSTRUCT A 15,880 SQUARE FOOT MEDICAL OFFICE BUILDING ON A VACANT LOT LOCATED AT 25925 BARTON ROAD WITHIN THE INSTITUTIONAL ZONE.

RECOMMENDATION

Staff recommends that the Planning Commission deny Precise Plan of Design No.14-154 based on the required Findings, identified in the City of Loma Linda Municipal Code.

APPROVAL OF MINUTES

December 16, 2015

H. REPORTS BY THE PLANNING COMMISSIONERS

I. COMMUNITY DEVELOPMENT DIRECTOR REPORT

J. ADJOURNMENT - Reports and documents relating to each agenda item are on file in the Department of Community Development and are available for public inspection during normal business hours, Monday through Thursday, 7:00 a.m. to 5:30 p.m. The Loma Linda Branch Library can also provide an agenda packet for your convenience.

In compliance with the Americans with Disabilities Act, if you need special assistance to participate in this meeting, please contact the City Clerk at (909) 799-2819. Notification 48 hours prior to the meeting will enable the City to make reasonable arrangements to ensure accessibility to this meeting. Later requests will be accommodated to the extent feasible.

Staff Report City of Loma Linda

From the Department of Community Development

PLANNING COMMISSION MEETING OF MARCH 2, 2016

TO: **PLANNING COMMISSION**

FROM: **KONRAD BOLOWICH, ASSISTANT CITY MANAGER**

SUBJECT: **CONDITIONAL USE PERMIT (CUP) NO. 14-153 -** A PROPOSAL TO CONSTRUCT A NEW 3,058 SQUARE FOOT DRIVE-THROUGH CAR WASH ON VACANT LAND LOCATED AT 24965 REDLANDS BLVD.

SUMMARY

A request to construct a new 3,058 square foot drive-through car wash that will be located at 24965 Redlands Boulevard (Exhibit A). The subject lot is vacant at this time and is located in the boundaries of the East Valley Corridor Specific Plan – General Commercial Zone. The conditional use permit is to allow the construction and operation of the new car wash.

RECOMMENDATION

Staff recommendation is that the Planning Commission recommends the following action to the City Council:

1. Adopt the Mitigated Negative Declaration and Mitigation Monitoring Program (Exhibit B); and
2. Approve Conditional Use Permit No. 14-153, based on the Findings and subject to attached Conditions of Approval (Exhibit C).

PERTINENT DATA

Owner/Applicant:	Alex Irshaid, 670 East Parkridge Avenue, Suite 101 Corona, CA 92879
General Plan:	Commercial
Zoning:	EVC-General Commercial
Site:	A vacant, 32,268 square foot (.74 acres) lot is located on Redlands Boulevard just east of Anderson Street.
Topography:	Relatively flat and generally slopes from east to west
Vegetation:	The project site is void of vegetation.

EXISTING SETTING

The Project site consists of approximately 0.74 acres of land. The site is presently vacant void of structures and vegetation. The site is generally flat and borders Redlands Boulevard, a four (4)-land roadway to the north.

CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) STATUS

The construction of the 3,058 square foot drive-through car wash is subject to the California Environmental Quality Act and a Mitigated Negative Declaration of Environmental Impact has been prepared. The Initial Study checklist determined that the proposed Project would result in Potentially significant impacts to the following issue areas:

- Cultural Resources
- Noise

Later in this report, conditions of approval will be provide that will include the necessary mitigation measures to reduce the potentially significant impacts mention above to levels of less than significant.

PUBLIC COMMENTS

Public hearing notices for this project were mailed to property owners within 300 feet of the project site on February 12, 2016. As of the date of this Staff Report, the City has received no written comments on the project.

ANALYSIS

The propose Project consist of a new drive-through automatic car wash facility, equipment room, office, restrooms, and waiting area (Exhibit D). The facility is proposed to operate seven (7) days a week from 7 AM to 7 PM. One (1) employee per shift is proposed. Fifteen (15) vacuum stations are provided in the form of 12' x 19'. 68" parking stalls. Access to the Project site is proposed from Redlands Boulevard which is an existing paved four-lane roadway adjacent to the northern boundary of the Project site. The Planning Department prepared a correction letter to the applicant dated December 16, 2014. One of the items of concern was the southernmost parking space, identified on the site plans as "Owner's Parking Only". In a worst case scenario where all spaces are being used, the only way for this vehicle to exit is in reverse the length of the property. As a condition, later in this report, the applicant will be requested to remove the previous described parking space.

General Plan, Zoning and Existing Land Use

	General Plan	**Zoning**	**Existing Use**
Site	Commercial	EVC-General Commercial	Vacant Land
North	Commercial	EVC-General Commercial	Home Town Buffet
South	Medium Density Residential (0-9 dwelling units/acre)	Multi- Family Residence (R3)	Single-Family Home
East	Commercial	EVC-General Commercial	Retail Building
West	Commercial	EVC-General Commercial	Restaurant, Mobile Homes, Motel

Development Standards

EVC – General Commercial Zone Development Standards

	Required	Proposed	Complies
Front	25-Feet	25 Feet Building	Yes

		Setback	
Side - East P.L. - West P.L.	 None None	 0.5 Foot 67.52 Feet	 Yes
Rear	10 Feet when abutting a residential district	89.10 Feet	Yes
Minimum Lot Size	7, 200 Square Feet	32,147 Square Feet	Yes
Minimum Lot Width	65 Feet	100 Feet	Yes
Minimum Lot Depth	None	363 Feet	Yes
Maximum Building Coverage	8,067 Square Feet 25%	3,058 Square Feet 9.50%	Yes
Maximum Building Height	Total floor area in all of the buildings on any one parcel of land shall not exceed (13) times the buildable area of such parcel of land.	28 Feet	Yes
Parking Car Wash Bldg. Office/Waiting Area	One Space/car in cue One Space/ 100 Sq. Ft.	15 Spaces	Yes
Landscape Area	20% of lot area 7,255 sq. ft.	26.94 % of lot area 8,663 Sq. Ft.	Yes
Trash Enclosure	Required	Proposed	Yes
Block Wall	6’ high block wall along residentially zoned districts	6’-0 High Block Wall along the south, east and west property lines	Yes

Architecture and Design

The new car wash building will be constructed of grey concrete CMU precision block, with blue tinted butted glass windows, pre-finish corrugated metal ‘s’ panel siding zinc grey, royal blue pre-finish metal panel fascia, front and back metal doors painted honorable blue. All proposed building signage and monument signs would require permit approval. Later in this report a condition will be provided requiring the applicant to obtain the necessary permit(s), prior to installing any signage on the building or on the project site.

Landscaping

The applicant has provided 8,663 square feet of landscaping throughout the site. The East Valley Corridor requires that a 10'-0" wide landscape buffer be placed between the subject site, which is zoned EVC-General Commercial and the Multi-Family Residence (R3) zoned property to the south. Portions of the landscape buffer is more than the minimum 10'-0" width. The current landscape plan includes trees, shrubs and ground cover arranged in landscaped planters throughout the site. Low water usage trees and plants have been identified on the Preliminary Landscape Plan at this time. The project's final landscape plan will fully comply with the City of Loma Linda's adopted specifications.

Traffic

Willdan Engineering prepared the traffic impact analysis for the proposed car wash (Exhibit E). The overall objective of the study was to assess the impact of the proposed project on the surrounding circulation system and determine what mitigation measures, if any, would be required. The study area consisted of the following four signalized intersections:

- Redlands Boulevard and Anderson Street – Tippecanoe Avenue
- Redlands Boulevard and Poplar Street – Holiday Inn Express Driveway
- Redlands Boulevard and Richardson Street - Crooks Street
- Redlands Boulevard and Mountain Avenue

In 2006, the City of Loma Linda voters passed Ballot Measure V, which amended the City's General Plan by the addition of a new growth management element. Accordingly, Chapter 2A was incorporated into the General plan. Principle Six of the Growth Management Element state: Traffic levels of service throughout the City of Loma Linda shall be maintained at current levels and new development shall be required to fully mitigate any impact on traffic resulting from the development.

The project is not expected to have a significant impact on any of the four (4) study intersections for the Existing Plus Project (2015) conditions, Opening Year (2016) conditions or Horizon Year (2035) conditions. Therefore, in accordance with Measure V, no traffic mitigation measures are recommended.

FINDINGS

Conditional Use Permit Findings

The Conditional Use Permit Findings in LLMC §17.30.210 for this project are as follows:

1. *That the use applied for at the location set forth in the application is properly one for which a conditional use permit is authorized by this title.*

   The proposed car wash meets the requirements of the EVC-General Commercial Zone. All public utilities are available to the site. Additionally, the proposed project will provide needed development and amenities to the existing neighborhood.

2. *That the said use is necessary or desirable for the development of the community, is in harmony with the various elements and objectives of the general plan, and is not detrimental to existing uses specifically permitted in the zone in which the proposed use is to be located.*

The project is consistent with the goals of the East Valley Corridor Specific Plan, which seeks to promote and facilitate high-quality commercial, industrial, and residential development within the Corridor.

3. *That the site for the intended use is adequate in size and shape to accommodate said use and all of the yards, setbacks, walls, or fences, landscaping and other features required in order to adjust said use to those existing or permitted future uses on land in the neighborhood.*

   The subject parcel is adequate in size and shape to accommodate the proposed development of the site. The project will be developed on an approximate .74-acre site (32,147 square feet). The lot coverage of the site (3,058 square feet) will be 9.51 percent of the overall site, which conforms to the requirements of the EVC-General Commercial Chapter 7. Therefore, the project site can accommodate the proposed development which will be compatible with the existing and future land uses.

4. *That the site or the proposed use related to streets and highways is properly designed and improved to carry the type and quantity of traffic generated or to be generated by the proposed use.*

   The project site has direct access from Redlands Boulevard, which will continue to accommodate the type and quantity of traffic generated by the facility. The project would generate a total of approximately 21.95 daily trips (including existing plus traffic from the new construction). Of the total trips, 14.6 would occur during the morning peak hour, and 29.3 would occur during the evening peak hour. The parking requirement for the 3,058 square foot building is 10 spaces, and the applicant is proposing 16 spaces.

5. *That the conditions set forth in the permit and shown on the approved site plan are deemed necessary to protect the public health, safety and general welfare.*

   The public health, safety and general welfare will be protected with the implementation of the Conditions of Approval for this Conditional Use Permit to insure compatibility with the surrounding uses and neighborhood.

CONCLUSION

Staff recommends approval of the project because it meets the goals and policies of the East Valley Corridor Specific Plan. The applicant has made the effort to provide the most appropriate layout, design, and architectural design for this project. The proposed development of the drive through car wash building is compatible with the existing and future uses in the surrounding area and will help to eliminate long standing, vacant property along the East Valley Corridor, and increasing employment opportunities for the area.

Report prepared by:
Romo Planning Group, Inc

EXHIBITS

A. Vicinity Map
B. Mitigated Negative Declaration of Environmental Impact and Mitigation Monitoring Program
C. Conditions of Approval
D. Project Plans
E. Traffic Study

VICINITY MAP

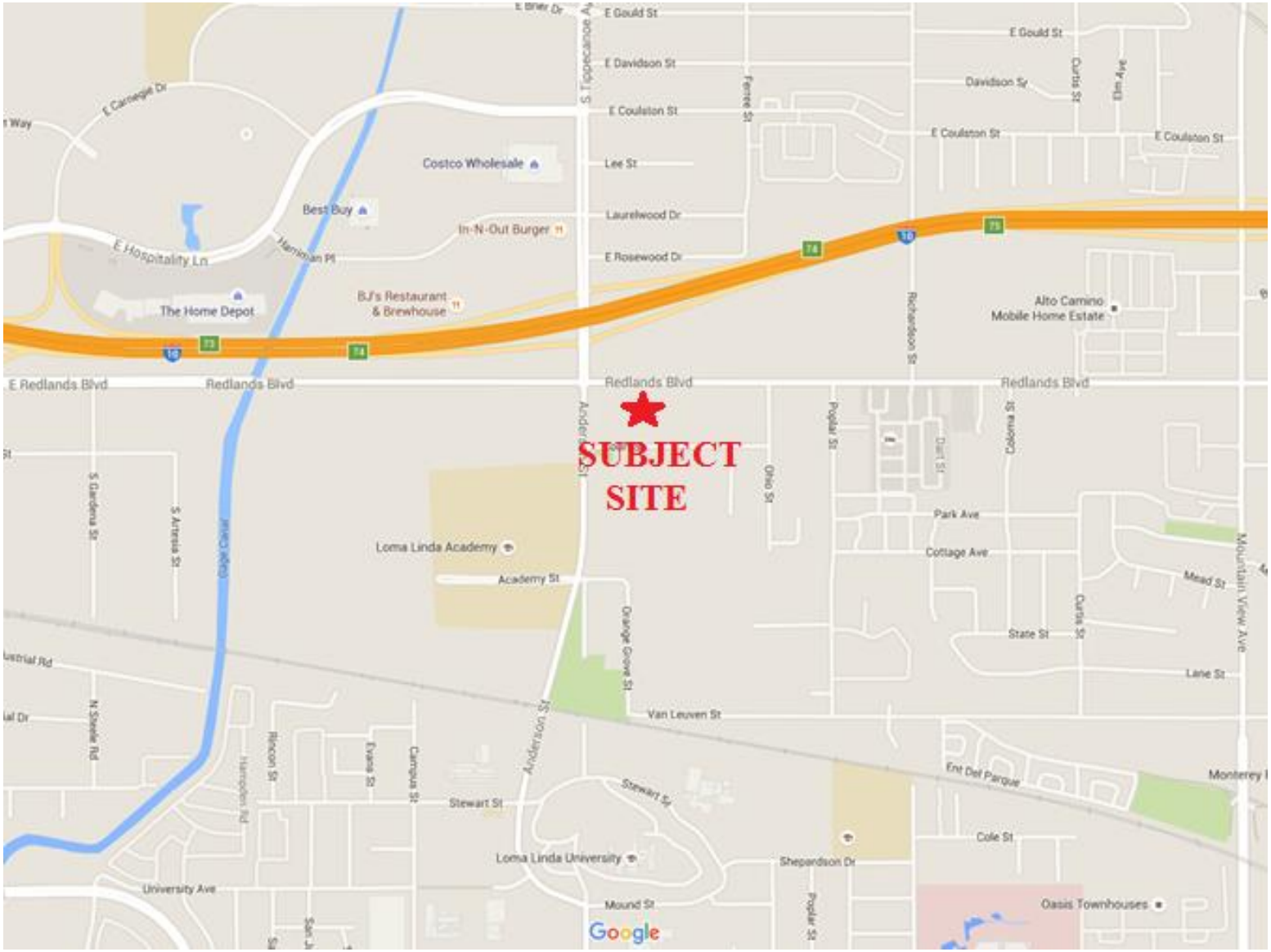

EXHIBIT – A

Initial Study Checklist/ Mitigated Negative Declaration

CONDITIONAL USE PERMIT NO. 14-153
Drive-Thru Car Wash
24965 Redlands Boulevard
Loma Linda, CA

City of Loma Linda
25541 Barton Road
Loma Linda, CA 92354
Contact: Guillermo Arreola, Senior Planner
(909) 799-2830
garreola@lomalinda-ca.gov

Prepared By:

Romo Planning Group, Inc.
8338 Garden Street
Alta Loma, CA 91701
(626) 926-1901

December 30, 2015

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1.0. INTRODUCTION

1.1 Purpose of an Initial Study Checklist

The California Environmental Quality Act (CEQA) requires that before a public agency makes a decision to approve a project that could have one or more adverse effects on the physical environment, the agency must inform itself about the project's potential environmental impacts, give the public an opportunity to comment on the environmental issues, and take feasible measures to avoid or reduce potential harm to the physical environment.

The purpose of an Initial Study Checklist is to provide a preliminary analysis of a proposed action to determine whether a Negative Declaration, Mitigated Negative Declaration, or an Environmental Impact Report should be prepared for a project. An Initial Study Checklist also enables an applicant or the City of Loma Linda to modify a project, mitigating adverse impacts in lieu of preparing an Environmental Impact Report, thereby potentially enabling the project to qualify for a Negative Declaration or a Mitigated Negative Declaration.

The Initial Checklist Study also provides a factual basis for a Negative Declaration. Mitigated Negative Declaration, or serves to focus an Environmental Impact Report on the significant effects of a project.

1.2 Purpose of a Mitigated Negative Declaration

A Mitigated Negative Declaration is a written statement by the City of Loma Linda that the Initial Study Checklist identified potentially significant environmental effects of the Project but the Project is revised or mitigation measures are required to eliminate or mitigate impacts to less than significant levels.

1.3 Initial Study Checklist/Mitigated Negative Declaration Document

This document in its entirety is an Initial Study Checklist/Mitigated Negative Declaration prepared in accordance with the California Environmental Quality Act (CEQA), including all criteria, standards, and procedures of CEQA (California Public Resource Code Section 21000 et seq.) and the CEQA Guidelines (California Code of Regulations, Title 14, Division 6, Chapter 3, Section 15000 et seq.).

As permitted under the *CEQA Guidelines* (Section 15084[d-e]), the Romo Planning Group Inc. (RPG) has prepared this Initial Study Checklist/Mitigated Negative Declaration under the direction of the City of Loma Planning Department. The City is undertaking an independent review of this Initial Study Checklist/Mitigated Negative Declaration by having City of Loma Linda Planning Department work with RPG on the document. If adopted by the City, the information included in this Initial Study Checklist/Mitigated Negative Declaration will therefore represent the City's independent judgment.

1.4 Public Review and Processing of the Initial Study Checklist/Mitigated Negative Declaration

This Initial Study Checklist/Mitigated Negative Declaration and a Notice of Intent to adopt the Mitigated Negative Declaration was distributed to the following entities for a 20-day public review period:

1) Organizations and individuals who have previously requested such notice in writing to the City of Loma Linda;

2) Responsible and trustee agencies (public agencies that have a level of discretionary approval over some component of the proposed Project); and

3) The San Bernardino County Clerk.

The Notice of Intent was also noticed to the general public in a primary newspaper of circulation in the areas affected by the project.

Following the public review period, the City of Loma Linda Planning Department will review any comment letters received during to determine whether any substantive comments were provided that may warrant revisions or recirculation to the Initial Study Checklist/Mitigated Negative Declaration document. If recirculation is not required (as defined by CEQA Guidelines §15073.5(b)), written and/or oral responses will be provided to the City of Loma Linda Planning Commission for review as part of their deliberations concerning the Project.

At the conclusion of the public hearing process, the Planning Commission will take action to approve, conditionally approve, or deny the proposed Project. If approved, the Planning Commission will adopt findings relative to the Project's environmental effects as disclosed in the Initial Study Checklist/Mitigated Negative Declaration and a Notice of Determination will be filed with the Riverside County Clerk.

1.5 Initial Study Checklist/Mitigated Negative Declaration Findings and Conclusions

Section 3.0 of this document contains the Environmental Checklist/Initial Study that was prepared for the proposed Project pursuant to CEQA and City of Loma Linda requirements.

The Initial Study Checklist determined that implementation of the proposed Project would result in **no impacts or less than significant** impacts under the following issue areas:

- Aesthetics
- Agriculture and Forestry Resources
- Air Quality
- Biological Resources
- Geology and Soils
- Greenhouse Gas Emission
- Hazards and Hazardous Materials
- Hydrology and Water Quality

- Land Use and Planning
- Mineral Resources
- Population and Housing
- Public Services
- Recreation
- Transportation/Traffic
- Utilities and Service Systems

The Initial Study Checklist determined that the proposed Project would result in **potentially significant impacts** to the following issue areas, but the Project Applicant will incorporate mitigation measures that would avoid or mitigate effects to a point where clearly no significant environmental impacts on the environment would occur:

- Cultural Resources
- Noise

The Initial Study Checklist determined that, with the incorporation of mitigation measures, there is no substantial evidence, in light of the whole record before the Lead Agency (City of Loma Linda), that the Project as revised may have a significant effect on the environment. Therefore, based on the analysis contained in the Initial Study Checklist, the City of Loma Linda Planning Department is recommending that a Mitigated Negative Declaration is the appropriate CEQA determination for the Project pursuant to *CEQA Guidelines* § 15070(b).

2.0 PROJECT BACKGROUND

2.1 Project Location

The City of Loma Linda covers approximately 10.4 square miles within the County of San Bernardino. The City is bordered by the City of Redlands and City of San Bernardino to the north; the City of Redlands and unincorporated San Bernardino County to the east; unincorporated Riverside and San Bernardino Counties to the south; and unincorporated San Bernardino County and the Cities of Colton and San Bernardino to the west. Specifically, the Project is located at 24965 Redlands Boulevard (southside of Redlands Boulevard 400 feet east of Anderson Street). (Refer to Exhibit 1).

The project site includes the following Assessor Parcel Number:

- 0283-082-43

2.2 Existing Site Conditions/Environmental Setting

CEQA Guidelines §15125 establishes requirements for defining the environmental setting to which the environmental effects of a proposed project must be compared. The environmental setting is defined as "…*the physical environmental conditions in the vicinity of the project, as they exist at the time the Notice of Preparation is published, or if no Notice of Preparation is published, at the time the environmental analysis is commenced*…" (CEQA Guidelines §15125[a]).

In the case of the proposed Project, the Initial Study Checklist determined that a Mitigated Negative Declaration is the appropriate form of CEQA compliance document, which does not require a Notice of Preparation. Thus, the environmental setting for the Project is the approximate date that the Project's Initial Study Checklist commenced in July 2015.

The Project site consists of approximately 0.74 acres. The Project site is heavily disturbed by human activities and is void of vegetation. Topography of the site is relatively flat and generally slopes from east to west. The elevation of the site ranges from approximately 1,075 feet above mean sea level to 1,072 above mean sea level. Redlands Boulevard, a 4-lane roadway with a painted median borders the northern boundary of the site. Surrounding land uses are shown on Table 1.

Table 1. Existing Land Uses

Location	Existing Use
Site	Vacant
North	Redlands Boulevard (Home Town Buffet located across Redlands Boulevard).
South	Single-Family Home
East	Retail Building (Loma Linda Antique Mall)
West	Restaurant, Mobile Homes, Motel
Source: Field Inspection, July 2015	

2.3 Existing General Plan Land Use and Zoning Designations

The *General Plan* land use designation currently assigned to the Project site is Commercial. This land use category provides for a variety of commercial uses. A summary of the existing *General Plan* land use and zoning designations for the Project site and surrounding properties is provided in Table 2.

Table 2. Existing General Plan and Zoning Designations

Location	General Plan Designation	Zoning Designation
Site	Commercial	EVC-General Commercial
North	Commercial	EVC-General Commercial
South	Medium Density Residential (0-9 du/ac)	Multi-Family Residence (R3)
East	Commercial	EVC-General Commercial
West	Commercial	EVC-General Commercial
Source: City of Loma Linda-General Plan Land Use Map, City of Loma Linda Zoning Map		

2.4 Project Description

The proposed Project consists of a new drive-thru automatic car wash facility, equipment room, office, restrooms, and waiting area. Fifteen (15) vacuum stations are provided in the form of 12' x 19.68' parking stalls. Table 3 provides a summary of the proposed Project.

Table 3. Project Summary

Project Component	Size /Number
Building Area:	Car Wash Building -3,058 square feet Office and Waiting Area-503 square feet **Total**-3,561 square feet
Parking Spaces	16 spaces
Vacuum Equipment Units	15 units
Landscaped Area	8,663 square feet
Source: RanCam, Site Plan, September 9, 2014.	

Street Improvements and Access

Access to the Project site is proposed from Redlands Boulevard which is an existing paved four-lane roadway with a painted median adjacent to the northern boundary of the Project site. No additional roadway improvements are required except for construction of a thirty (30) foot wide driveway approach and a new six (6) foot wide sidewalk.

Parking

16 parking spaces are proposed (15 of which have vacuum stations).

On-Site Utility and Drainage Improvements

Water and sewer service to the Project site will be provided by the City of Loma Linda. Water is available to serve the Project site from an existing 18-inch diameter water line in Redlands Boulevard adjacent to the northern boundary of the site.

Sewer service is available for the Project from an existing 8-inch diameter sewer line in Redlands Boulevard adjacent to the northern boundary of the site.

Drainage improvements include concrete ribbons, and a bio-retention filter system.

D. Off-Site Improvements

The Project will connect to existing facilities adjacent to the site. No off-site improvements are proposed.

E. Construction Schedule

For purposes of this analysis, construction is expected to commence sometime in 2016 and would occur in several general phases until completion in approximately 5 months after commencement of construction. The following time durations for the construction process are anticipated, which would be somewhat sequential but overlap in some cases:

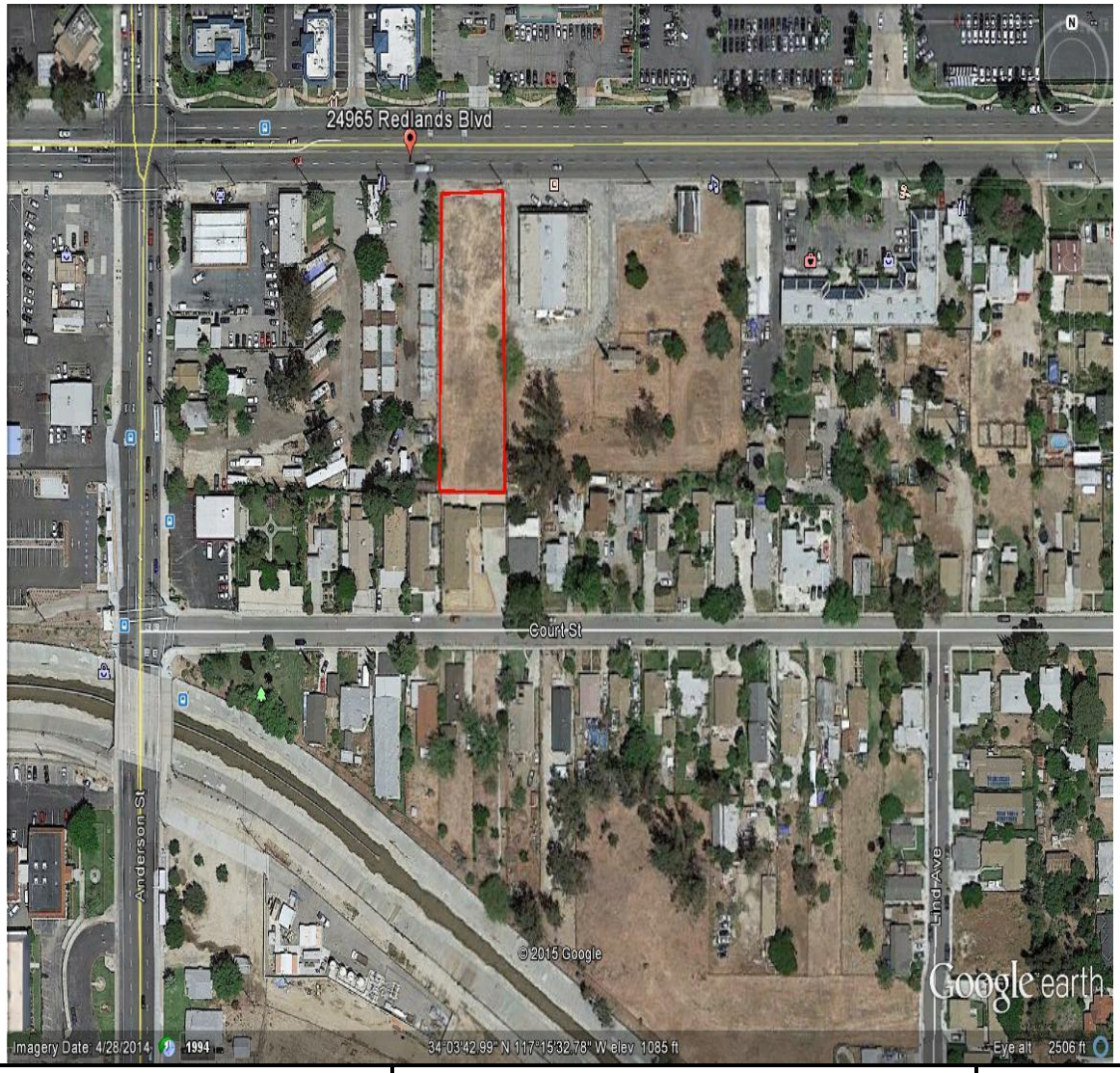
- Site Preparation 1 - day
- Grading 14 - days
- Building Construction 130 - days
- Paving 5 – days
- Architectural Coating 5– days

F. Earthwork and Grading

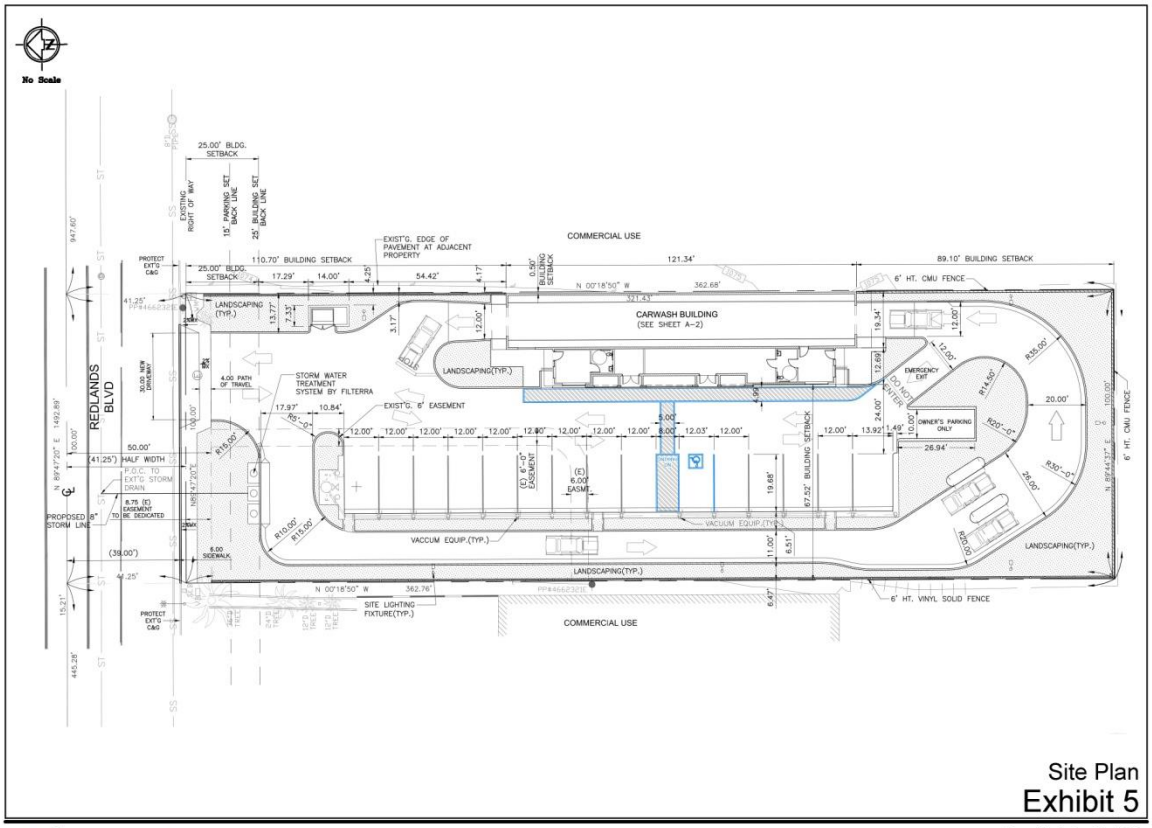
Earthwork and grading details are based on proposed Grading Plan prepared by RanCam prepared on August 14, 2014. No import or export of soil is required and the Project will balance on-site.

G. Operational Characteristics

The Project would be operated as an automated drive-thru car wash. As such, typical operational characteristics include customers traveling to and from the site, delivery of goods to the site, and maintenance activities. The facility is proposed to operate 7 days a week from 7AM to 7 PM. One (1) employee per shift is proposed.



Drive-Thru Car Wash **24965 Redlands Boulevard**	**Project Location Map/Aerial Photo**	**Exhibit 1**



Drive-Thru Car Wash **24965 Redlands Boulevard**	**Site Plan**	**Exhibit 2**

3.0 INITIAL STUDY/ENVIRONMENTAL CHECKLIST

Evaluation Format

This Initial Study Checklist has been prepared in compliance with the California Environmental Quality Act (CEQA) Guidelines. The Project is evaluated based on its potential effect on seventeen (17) environmental factors categorized as follows, as well as Mandatory Findings of Significance:

1. Aesthetics
2. Agriculture & Forestry Resources
3. Air Quality
4. Biological Resources
5. Cultural Resources
6. Geology & Soils
7. Greenhouse Gas Emissions
8. Hazards & Hazardous Materials
9. Hydrology & Water Quality
10. Land Use & Planning
11. Mineral Resources
12. Noise
13. Population & Housing
14. Public Services
15. Recreation
16. Transportation & Traffic
17. Utilities & Service Systems
18. Mandatory Findings of Significance

Each factor is analyzed by responding to a series of questions pertaining to the impact of the Project on the particular factor in the form of a checklist. This Initial Study Checklist provides a manner to analyze the impacts of the Project on each factor in order to determine the severity of the impact and determine if mitigation measures can be implemented to reduce the impact to less than significant without having to prepare an Environmental Impact Report.

CEQA also requires Lead Agencies to evaluate potential environmental effects based to the fullest extent possible on scientific and factual data (CEQA Guidelines §15064[b]). A determination of whether or not a particular environmental impact will be significant must be based on substantial evidence, which includes facts, reasonable assumptions predicated upon facts, and expert opinion supported by facts (CEQA Guidelines §15064f[5]).

The effects of the Project are then placed in the following four categories, which are each followed by a summary to substantiate why the Project does not impact the particular factor with or without mitigation. If "Potentially Significant Impacts" that cannot be mitigated are determined, then the Project does not qualify for a Mitigated Negative Declaration and an Environmental Impact Report must be prepared:

Potentially Significant Impact	***Less Than Significant Impact with Mitigation Incorporated***	***Less Than Significant Impact***	***No Impact***
Potentially significant impact(s) have been identified or anticipated that cannot be mitigated to a level of insignificance. An Environmental Impact Report must therefore be prepared.	Potentially significant impact(s) have been identified or anticipated, but mitigation is possible to reduce impact(s) to a less than significant category. Mitigation measures must then be identified.	No "significant" impact(s) identified or anticipated. Therefore, no mitigation is necessary.	No impact(s) identified or anticipated. Therefore, no mitigation is necessary.

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

Because none of the environmental factors above are "checked", the Project does not require the preparation of an Environmental Impact Report.

Determination

On the basis of this initial evaluation:

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

Signature

Guillermo Arreola, Senior Planner
Printed Name/Title

Date

Appendices (Under Separate Cover)

Appendix A. California Emissions Estimator Model Air Quality/Greenhouse Gas Outputs.

Appendix B Phase I Environmental Site Assessment (HVN Environmental Service Company) August 28, 2013.

Appendix C. Preliminary Water Quality Management Plan (RAMCAM Engineering) January 26, 2015.

Appendix D. Noise Impact Analysis (Landrum & Brown) December 11, 2015.

Appendix E. Traffic Impact Study (Willdan Engineering) October 29, 2015.

3.1 AESTHETICS

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

3.1 (a) Have a substantial adverse effect on a scenic vista?

Determination: Less Than Significant Impact.

Sources: Loma Linda General Plan, Google Earth, Project Application Materials

Impact Analysis

The Project site is approximately 0.74 acres in size and is located in an area largely characterized by residential and commercial development. To the north, the site is bordered by Redlands Boulevard and a restaurant across Redlands Boulevard. To the south, the site is bordered by a single-family home. To the east, the side is bordered by a retail commercial building. To the west is the site is bordered by a restaurant, mobile home park and a motel.

According to the General Plan Conservation and Open Space Element, the hillside portions of the City ("South Hills'), and particularly the Hillside Conservation Area, are identified as important visual resources within the City.

The Project site is located approximately 1.4 miles north of the South Hills in an area that is predominantly developed with urban uses. The car wash building covers approximately 9.5 % of the site and has a maximum height of 28 feet. As such, it would not block or completely obstruct views from surrounding public vantage points to the South Hills visible in the horizon under existing conditions.

Based on the analysis above, impacts to scenic vistas would be less than significant.

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

Determination: No Impact.

Sources: California Department of Transportation.

Impact Analysis

California's Scenic Highway Program was created by the Legislature in 1963. Its purpose is to protect and enhance the natural scenic beauty of California highways and adjacent corridors, through special conservation treatment. The state laws governing the Scenic Highway Program are found in the Streets and Highways Code, Sections 260 through 263.

According to the California Department of Transportation, the Project site is not located within a State Scenic Highway. Therefore, construction and the long-term operation of the Project would have no impact on scenic resources within a scenic highway.

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

Determination: Less Than Significant Impact.

Sources: Project Application Materials, General Plan.

Impact Analysis

The Project site consists of 0.74 acres of vacant land. Topography of the site is relatively flat and generally slopes toward the east to west. The elevation of the site ranges from approximately from approximately 1,075 feet above mean sea level to 1,072 above mean sea level.

As noted above, the Project site is located in an area largely characterized by residential and commercial development. To the north, the site is bordered by Redlands Boulevard and a restaurant across Redlands Boulevard. To the south, the site is bordered by a single-family home. To the east, the side is bordered by a retail commercial building. To the west is the site is bordered by a restaurant, mobile home park, and a motel.

Construction Impacts

During the Project's temporary construction period, construction equipment, supplies, and activities would be visible on the subject property from immediately surrounding areas. Construction activities are a common occurrence in the developing Inland Empire region of Southern California and are not considered to substantially degrade the area's visual quality. All construction equipment would be removed from the Project site following completion of the Project's construction activities. For these reasons, the temporary visibility of construction equipment and activities at the Project site would not substantially degrade the visual character of the surrounding area.

Operational Impacts

At buildout of the proposed Project, the visual character of the Project site would change from disturbed, vacant land to a drive-thru automated car wash. A project is generally considered to have a significant impact on visual character if it substantially changes the character of a project site such that it becomes visually incompatible or visually unexpected when viewed in the context of its surroundings.

The Project site is located in a commercially developed area of the City along a major thoroughfare. It is adjacent to commercial development on two (2) sides and is considered to be an in-fill development site.

In addition, as required by the City of Loma Linda, the proposed Project is required to comply with the standards contained in the General Plan Community Design Element for Auto Oriented Commercial and Small Office Development (Ref. General Plan Community Design Element, Section 3.1.2).

The design standards within the General Plan Community Design Element have been established by the City to ensure that both new development projects and existing land uses are visually compatible. The City's approval of the proposed Project's final design plans will ensure that the Project's design compliments the existing land uses in the Project area and is consistent with the design standards contained in the General Plan Community Design Element to ensure that the Project blends into the existing visual character and quality of its surroundings.

Based on the analysis above, impacts would be less than significant.

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

Determination: Less Than Significant Impact.

Source: Project Application Materials

Impact Analysis

The Project would increase the amount of light in the area above what is being generated by the vacant site by directly adding new sources of illumination including building and parking lot lighting.

Section 17.24.310 of the City's Zoning Ordinance requires that parking lot lighting shall be arranged so that it is directed onto the parking area and reflected away from any residential property. Thus, parking lot lighting used by the proposed Project will not impact adjacent land uses, including the residential home located south of the Project site with mandatory compliance of Section 17.24.310 of the City's Zoning Ordinance. Therefore, impacts associated with lighting will be less than significant.

The primary building materials consist of concrete precision block with various accent treatments such as pre-finished corrugated metal panels, spandrel glass (Low E glass glare-reducing tinted glass) and smooth finish stucco. These materials are non-reflective and would not contribute to glare.

3.2 AGRICULTURE AND FORESTRY RESOURCES

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the Project:	**Potentially Significant Impact**	**Less Than Significant Impact With Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?				■
b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?				■
c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?				■
d. Result in the loss of forest land or conversion of forest land to non-forest use?				■
e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?				■

3.2 (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? .

Determination: No Impact.

Sources: California Department of Conservation "Farmland Mapping and Monitoring Program.

Impact Analysis

The site does not contain any lands designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance as mapped by the State Department of Conservation Farmland Mapping and Monitoring Program. As such, the Project has no potential to convert such lands to a non-agricultural use and no impact would occur.

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

Determination: No Impact.

Sources: General Plan Land Use Map, Zoning Ma, San Bernardino County Assessor

Impact Analysis

Agricultural Zoning

The Project site is zoned EVC-General Commercial which is not an agricultural zone.

Williamson Act

Pursuant to the California Land Conservation Act of 1965, a Williamson Act Contract enables private landowners to voluntarily enter into contracts with local governments for the purpose of restricting specific parcels of land to agricultural or related open space use. In return, landowners receive lower property tax assessments based upon farming and open space uses as opposed to full market value. According to the San Bernardino County Assessor, the site is not under a Williamson Act Contract. As such, there is no impact.

3.2 (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)?

Determination: No Impact.

Sources: General Plan Land Use Map, Zoning Map.

Impact Analysis

The Project site is zoned EVC-General Commercial. The Project site does not contain any forest lands, timberland, or timberland zoned as Timberland Production, nor are any forest lands or

timberlands located on or nearby the Project site. Because no lands on the Project site are zoned for forestland or timberland, the Project has no potential to impact such zoning. No impact would.

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

Determination: No Impact.

Source: Field Survey.

Impact Analysis

The Project site and surrounding properties do not contain forest lands, are not zoned for forest lands, nor are they identified as containing forest resources by the General Plan. Because forest land is not present on the Project site or in the immediate vicinity of the Project site, the Project has no potential to result in the loss of forest land or the conversion of forest land to non-forest use. No impact would occur.

3.2 (e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?

Determination: No Impact.

Sources: General Plan Land Use Map, Field Survey.

Impact Analysis

The Project site is approximately 0.74 acres in size and is located in an area largely characterized by residential and commercial development. There is no land being used primarily for agricultural purposes in the vicinity of the site. As such, the Project would not result in conversion of Farmland to non-agricultural use and no impacts would occur.

3.3 AIR QUALITY

Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the Project:	**Potentially Significant Impact**	**Less Than Significant Impact With Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a. Conflict with or obstruct implementation of the applicable air quality plan?			■	
b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation?			■	
c. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?			■	
d. Expose sensitive receptors to substantial pollutant concentrations?			■	
e. Create objectionable odors affecting a substantial number of people?			■	

3.3 (a) Conflict with or obstruct implementation of the applicable air quality plan (South Coast Air Quality Management District)?

Determination: Less Than Significant Impact.

Sources: California Emissions Estimator Model Outputs (Appendix A), South Coast Air Quality Management District, Air Quality Management Plan, CEQA Air Quality Handbook.

Impact Analysis

Federal Air Quality Standards

Under the Federal Clean Air Act, the Federal Environmental Protection Agency establishes health-based air quality standards that California must achieve. These are called "national (or federal) ambient air quality standards" and they apply to what are called "criteria pollutants." Ambient (i.e. surrounding) air quality standard establish a concentration above which a criteria pollutant is known to cause adverse health effects to people. The national ambient air quality standards apply to the following criteria pollutants:

- Ozone (8-hour standard)
- Respirable Particulate Matter (PM_{10})
- Fine Particulate Matter ($PM_{2.5}$)
- Carbon Monoxide (CO)
- Nitrogen Dioxide (NOx)
- Sulphur Dioxide (SO_2), and
- Lead.

State Air Quality Standards

Under the California Clean Air Act, the California Air Resources Board also establishes health-based air quality standards that cities and counties must meet. These are called "state ambient air quality standards" and they apply to the following criteria pollutants:

- Ozone (1-hour standard)
- Ozone (8-hour standard)
- Respirable Particulate Matter (PM_{10})
- Fine Particulate Matter ($PM_{2.5}$)
- Carbon Monoxide (CO)
- Nitrogen Dioxide (NOx)
- Sulphur Dioxide (SO_2), and
- Lead

Regional Air Quality Standards

The City of Loma Linda is located within the South Coast Air Basin which is under the jurisdiction of the South Coast Air Quality Management District. The District develops plans and regulations designed to achieve both the national and state ambient air quality standards described above.

Attainment Designation

An "attainment" designation for an area signifies that criteria pollutant concentrations did not exceed the established standard. In contrast to attainment, a "nonattainment" designation indicates that a criteria pollutant concentration has exceeded the established standard.

Table 3 shows the attainment status of criteria pollutants in the South Coast Air Basin.

Table 4. Attainment Status of Criteria Pollutants in the South Coast Air Basin.

Criteria Pollutant	State Designation	Federal Designation
Ozone – 1 hour standard	Nonattainment	No Standard
Ozone – 8 hour standard	Nonattainment	Nonattainment
Respirable Particulate Matter (PM_{10})	Nonattainment	Nonattainment
Fine Particulate Matter ($PM_{2.5}$)	Nonattainment	Nonattainment
Carbon Monoxide (CO)	Attainment	Attainment
Nitrogen Dioxide (N0x)	Nonattainment	Attainment
Sulfur Dioxide (SO_2)	Attainment	Attainment
Lead	Attainment	Attainment
Source: South Coast Air Quality Management District, 2014		

Air Quality Management Plan

The South Coast Air Quality Management District is required to produce air quality management plans directing how the South Coast Air Basin's air quality will be brought into attainment with the national and state ambient air quality standards. The most recent air quality management plan is 2012 Air Quality Management Plan and it is applicable to City of Loma Linda. The purpose of the 2012 Air Quality Management Plan is to achieve and maintain both the national and state ambient air quality standards described above.

In order to determine if a project is consistent with the 2012 Air Quality Management Plan, the South Coast Air Quality Management District has established consistency criterion which are defined in Chapter 12, Sections 12.2 and 12.3 of the South Coast Air Quality Management District's *CEQA Air Quality Handbook* and are discussed below.

Consistency Criterion No. 1: *The proposed project will not result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations, or delay the timely attainment of air quality standards or the interim emissions reductions specified in the 2012 Air Quality Management Plan.*

Consistency Criterion No. 1 refers to violations of the California Ambient Air Quality Standards and National Ambient Air Quality Standards. As evaluated under Issues 3.3 (b), (c), and (d) below, the Project would not exceed regional or localized significance thresholds for any criteria pollutant during construction or during long-term operation. Accordingly, the Project's regional and localized emissions would not contribute substantially to an existing or potential future air quality violation or delay the attainment of air quality standards.

Consistency Criterion No. 2: *The proposed project will not exceed the assumptions in the 2012 Air Quality Management Plan.*

The growth forecasts used in the 2012 Air Quality Management Plan to estimate future emissions levels are based on the projections of the Regional Transportation Model utilized by the Southern California Association of Governments, which incorporates land use data provided by city and county General Plans, as well as assumptions regarding population number, location of population growth, and a regional housing needs assessment.

The General Plan land use designation currently assigned to the project is EVC-General Commercial. The future emission forecasts contained in the 2012 Air Quality Management Plan are primarily based on demographic and economic growth projections provided by the Southern California Association of Governments. The project was designated for commercial development at the time the *2012* Air Quality Management Plan adopted. Therefore, the Project will not exceed the growth forecast estimates used in the 2012 Air Quality Management Plan.

For the reasons stated above, the Project would not result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations, delay the timely attainment of air quality standards or the interim emissions reductions specified in the 2012 Air Quality Management Plan. In addition, the Project would not exceed the growth assumptions in the 2012 Air Quality Management Plan. As such, the Project would be consistent with the 2012 Air Quality Management Plan and impacts would be less than significant and no mitigation measures are required.

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

Determination: Less Than Significant Impact.

Sources: California Emissions Estimator Model, Outputs (Appendix A), South Coast Air Quality Management District, Air Quality Management Plan, CEQA Air Quality Handbook

Impact Analysis

As shown in Table 4 above, the South Coast Air Basin, in which the Project is located, is considered to be in "non-attainment" status for several criteria pollutants.

The South Coast Air Quality Management District has developed regional and localized significance thresholds for regulated pollutants. Any project in the South Coast Air Basin with daily emissions that exceed any of the indicated regional or localized significance thresholds would be considered to contribute to a projected air quality violation. The Project's regional and localized air quality impacts are discussed below.

Regional Impact Analysis

As with any new development project, the Project has the potential to generate pollutant concentrations during both construction activities and long-term operation. The following provides an analysis based on the applicable regional significance thresholds established by the South Coast Air Quality Management District in order to meet national and state air quality standards.

Table 5. South Coast Air Quality Management District Air Quality Regional Significance Thresholds

Pollutant	Emissions (Construction) (pounds/day)	Emissions (Operational) (pounds/day)
NOx	100	55
VOC	75	55
PM_{10}	150	150
$PM_{2.5}$	55	55
SOx	150	150
CO	550	550
Lead	3	3
Source: South Coast Air Quality Management District CEQA Air Quality Significance Thresholds (2009)		

Both construction and operational emissions for the Project were estimated by using the California Emissions Estimator Model which is a statewide land use emissions computer model designed to provide a uniform platform for government agencies to quantify potential criteria pollutant emissions associated with both construction and operations from a variety of land use projects. The model can be used for a variety of situations where an air quality analysis is necessary or desirable such as California Environmental Quality Act (CEQA) documents and is authorized for use by the South Coast Air Quality Management District.

Construction Related Impacts

Construction activities associated with the Project will result in emissions of CO, VOCs, NOx, SOx, PM_{10}, and $PM_{2.5}$. Construction related emissions are expected from the following onsite and offsite construction activities:

- Site Preparation
- Grading
- Building Construction
- Paving
- Architectural Coatings (Painting)

Assumptions for equipment use and duration used to estimate air quality emissions are shown in Table 6.

Table 6. Construction Equipment List

Phase	Equipment Type	Number of Units	Hours /Day	Horse Power
Site Preparation	Grader	1	8	174
Site Preparation	Tractor/Loader/Backhoe	1	8	97
Grading	Concrete Industrial Saw	1	8	81
Grading	Rubber Tired Dozer	1	1	255
Grading	Tractor/Loader/Backhoe	2	6	97
Bldg Construction	Forklift	2	6	89
Bldg Construction	Tractor/Loader/Backhoe	2	8	97
Paving	Paver	1	7	125
Paving	Rollers	1	7	80
Paving	Tractor/Loader/Backhoe	1	7	97
Paving	Cement & Mortar Mixers	4	6	9
Architectural Coating	Air Compressor	1	6	78
Source: Romo Planning Group, CalEEMod Outputs, (Appendix A.				

Table 7 shows the South Coast Air Quality Management District Regional Thresholds for construction emissions compared to the Project's maximum emissions without utilizing the standard Best Available Control Measures contained in South Coast Air Quality Management District regulatory requirements.

Table 7. Construction Emissions (without Best Available Control Measures)

Maximum Daily Emissions	Emissions (pounds per day)					
	NOx	**VOC**	**CO**	**SOx**	**PM10**	**PM2.5**
	18.83	17.82	15.11	0.022	1.60	1.24
Regional Threshold	**100**	**75**	**550**	**150**	**150**	**55**
Exceeds Regional Threshold?	NO	NO	NO	NO	NO	NO
Source: SCAQMD and CalEEMod						

As shown in Table 7 above, construction related emissions would not exceed South Coast Air Quality Management District regional construction criteria thresholds without Best Available Control Measures. However, The Project is required to comply with the provisions of South Coast Air Quality Management District Rule 403, "*Fugitive Dust*." Rule 403 requires implementation of Best Available Control Measures during construction activities that generate fugitive dust, such as earth moving and stockpiling activities, grading, and equipment travel on unpaved roads. With adherence to Rule 403, PM_{10} emissions are reduced by 0.62 as shown on Table 8 below.

Table 8. Construction Emissions (with Best Available Control Measures)

Maximum Daily Emissions	Emissions (pounds per day)					
	NOx	**VOC**	**CO**	**SOx**	**PM10**	**PM2.5**
	18.83	17.82	15.11	0.022	1.59	1.24
Regional Threshold	**100**	**75**	**550**	**150**	**150**	**55**
Exceeds Regional Threshold?	NO	NO	NO	NO	NO	NO
Source: SCAQMD and CalEEMod						

Based on the above, the Project would not emit substantial concentrations of these pollutants during construction and would not contribute to an existing or projected air quality violation, on a direct or cumulative basis.

Long-Term Regional Operation Related Impacts

The Project would be operated as a carwash. Typical operational characteristics include customers traveling to and from the site, delivery of supplies and goods to the site, and maintenance activities.

Table 9 shows the South Coast Air Quality Management District Regional Thresholds for operational emissions compared to the Project's maximum daily emissions.

Table 9. Maximum Daily Operational Emissions

Maximum Daily Emissions	Emissions (pounds per day)					
	NOx	**VOC**	**CO**	**SOx**	**PM10**	**PM2.5**
	2.19	2.38	9.61	0.02	1.28	0.36
Regional Threshold	**55**	**55**	**550**	**150**	**150**	**55**
Exceeds Regional Threshold?	NO	NO	NO	NO	NO	NO
Source: SCAQMD and CalEEMod						

As shown in Table 9 above, operational related emissions would not exceed South Coast Air Quality Management District regional operational criteria thresholds. Accordingly, the Project would not emit substantial concentrations of these pollutants during operation and would not contribute to an existing or projected air quality violation, on a direct or cumulative basis.

Based on the analysis above, regional air quality impacts would be less than significant.

Localized Impact Analysis

Localized Significance Thresholds

As previously discussed, the South Coast Air Quality Management District has established that impacts to air quality are significant if there is a potential to contribute or cause localized exceedances of the national and/or state ambient air quality standards. The South Coast Air Quality Management District has established Localized Significance Thresholds which were developed in response to environmental justice and health concerns raised by the public regarding exposure of individuals to criteria pollutants in local communities.

Localized Significance Thresholds are only applicable to the following criteria pollutants: oxides of nitrogen (NO_X), carbon monoxide (CO), particulate matter less than 10 microns in aerodynamic diameter (PM_{10}) and particulate matter less than 2.5 microns in aerodynamic diameter ($PM_{2.5}$). Localized Significance Threshold's represent the maximum emissions from a project that are not expected to cause or contribute to an exceedance of the most stringent applicable national or state ambient air quality standard, and are developed based on the ambient concentrations of that pollutant for each source receptor area and distance to the nearest sensitive receptor which is the single-family home to the south..

Construction-Related Localized Emissions

Table 10 shows the South Coast Air Quality Management's Localized Significance Thresholds for construction emissions compared to the project's maximum localized emissions at 25 meters (83 feet) from the site boundary.

Table 10. LST Analysis (1 acre - Receptor @ 25 meters)

Pollutant	LST Significance Threshold Lbs/Day*	Project Emissions (mitigated)	Exceeds Threshold?
(NO_X) for Construction	118	18.81	**NO**
(NO_X) for Operation	118	0.0319	**NO**
(CO) for Construction	775	15.10	**NO**
(CO) for Operation	775	0.0271	**NO**
PM10 for Construction	4	1.19	**NO**
PM 10 for Operation	1	0.0024	**NO**
PM2.5 for Construction	4	0.96	**NO**
PM 2.5 for Operation	1	0.0025	**NO**
*Based on LST SRA #35 1-acre @ 25 meters			

As shown on Table 10, operational Localized Significance Thresholds will not be exceeded.

CO Hot Spots

CO Hot Spots are typically associated with idling vehicles at extremely busy intersections (i.e., intersections with an excess of 100,000 vehicle trips per day). There are no intersections in the vicinity of the Project site which exceed the 100,000 vehicle per day threshold typically associated with CO Hot Spots. In addition, the South Coast Air Basin has been designated as an attainment area for CO since 2007. Therefore, Project-related vehicular emissions would not create a Hot Spot and would not substantially contribute to an existing or projected CO Hot Spot.

Based on the analysis above, impacts would be less than significant.

3.3(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)?

Determination: Less Than Significant Impact.

Sources: California Emissions Estimator Model, Outputs (Appendix A), South Coast Air Quality Management District, Air Quality Management Plan, CEQA Air Quality Handbook.

Impact Analysis

If an area is in nonattainment for a criteria pollutant, then the background concentration of that pollutant has historically been over the ambient air quality standard. It follows if a project exceeds the regional threshold for that nonattainment pollutant, then it would result in a cumulatively considerable net increase of that pollutant and result in a significant cumulative impact.

As discussed in Issue 3.3(b) above, the Project would not exceed the regional or localized significance thresholds for construction or operational activities and therefore will not result in a cumulatively considerable net increase of any criteria pollutant.

In addition, the following apply to the Project and other projects in the South Coast Air Basin which would reduce impacts related to a cumulatively considerable net increase of any criteria pollutant.

- The Project is required to comply with the provisions of South Coast Air Quality Management District Rule 403, "*Fugitive Dust*." Rule 403 requires implementation of best available dust control measures during construction activities that generate fugitive dust, such as earth moving and stockpiling activities, grading, and equipment travel on unpaved roads.

- The Project is required to comply with California Code of Regulations Title 13, Division 3, Chapter 1, Article 4.5, Section 2025, "*Regulation to Reduce Emissions of Diesel Particulate Matter, Oxides of Nitrogen and Other Criteria Pollutants from In-Use Heavy-Duty Diesel-Fueled Vehicles*" and California Code of Regulations Title 13, Division 3, Chapter 10, Article 1, Section 2485, "*Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling*."

- The Project is required to comply with the provisions of South Coast Air Quality Management District Rule 1113, "*Architectural Coatings*" and Rule 431.2, "*Sulfur Content of Liquid Fuels*." Adherence to Rule 1113 limits the release of volatile organic compounds (VOCs) into the atmosphere during painting and application of other surface coatings. Adherence to Rule 431.2 limits the release of sulfur dioxide (SO_X) into the atmosphere from the burning of fuel.

- The Project is required to comply with the provisions of South Coast Air Quality Management District Rule 1186 "*PM_{10} Emissions from Paved and Unpaved Roads and Livestock Operations*" and Rule 1186.1, "*Less-Polluting Street Sweepers*." Adherence to Rule

1186 and Rule 1186.1 reduces the release of criteria pollutant emissions into the atmosphere during construction

Based on the analysis above, impacts would be less than significant.

3.3(d) Expose sensitive receptors to substantial pollutant concentrations?

Determination: Less Than Significant Impact.

Sources, South Coast Air Quality Management District, CALLEMod Outputs (Appendix A).

Impact Analysis

Sensitive receptors (i.e., children, senior citizens, and acutely or chronically ill people) are more susceptible to the effects of air pollution than the general population. Land uses that are considered sensitive receptors typically include residences, schools, playgrounds, childcare centers, hospitals, convalescent homes, and retirement homes. To the south of the site is a single-family home which is considered sensitive receptor.

As indicated above under the discussion of Issue 3.3 (b), the Project would not exceed any of the South Coast Air Quality Management District's Localized Significance Thresholds during near-term construction or long-term operation. In addition, the Project would not create a CO Hot Spot. Accordingly, Project-related localized emissions would not expose sensitive receptors to substantial pollutant concentrations during construction or long-term operation and impacts would be less than significant.

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

Determination: Less Than Significant Impact.

Source: CEQA Air Quality Handbook, Project Application Materials.

Impact Analysis

According to the South Coast Air Quality Management District *CEQA Air Quality Handbook*, land uses associated with odor complaints typically include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. The Project is a drive-thru car wash facility and does not include any of the above identified uses and therefore would not produce objectionable odors during operation.

Construction activities both onsite and offsite could produce odors from equipment exhaust, application of asphalt, and/or the application of architectural coatings. However, any odors emitted during construction would be temporary, short-term, and intermittent in nature, and would cease upon completion of construction activities.

Based on the analysis above, impacts would be less than significant.

3.4 BIOLOGICAL RESOURCES

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

3.4(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?

Determination: No Impact.

Source: General Plan Conservation and Open Space Element, Site Inspection.

Impact Analysis

The land uses within the Planning Area consist primarily of urban and disturbed lands and undeveloped land consisting of several vegetative types, including agricultural lands, non-native grasslands, coastal sage scrub, ruderal areas, and riparian areas. Urban and disturbed lands exist in the relatively flat northern area of the Planning Area and the potential for any sensitive species to occur in this developed area is very low, except in the area where future development may juxtapose against sensitive habitat.

The biological resources in the City are found mainly on the hillsides and include 2,492 acres of sensitive coastal sage scrub community/non-native grasslands, 21 acres of riparian habitat, and 558 areas of ruderal areas which may contain endangered or sensitive species. In the Planning Area, 1,910 acres are designated critical habitat for the federally threatened coastal California gnatcatcher and 158 acres are proposed as critical habitat for the federally endangered San Bernardino Kangaroo rat. The Project site is located approximately 1.5 miles north of this biologically sensitive area of the City and is located in a predominantly developed setting and has been heavily disturbed by human activities. The site contains little vegetation as a result of recent disking activities.

Critical Habitat identifies specific areas that are essential to the conservation of a listed species and may require special management considerations or protection. As shown on Figure 9.4 Critical Habitat of the General Plan, Conservation and Open Space Element, the Project site is not located in an area designated as Critical Habitat. According to the Figure 9.3, Land Use and Vegetation of General Plan Conservation and Open Space Element, the site is identified as "Developed."

Based on the above analysis, the Project will not have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species.

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

Determination: No Impact.

Source: General Plan General Plan Conservation and Open Space Element, Site Inspection.

Impact Analysis

No indication of riparian habitat or other sensitive natural communities was noted during the site inspection due to the highly disturbed nature of the site. In addition, Figure 9.3, Land Use and Vegetation of the General Plan Conservation and Open Space Element, does not show any riparian features on the site. As such, there is no impact to any riparian habitat or other sensitive natural community.

3.4(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?

Determination: No Impact.

Source: General Plan Conservation and Open Space Element, Site Inspection.

Impact Analysis

No indication of wetland was noted during the site inspection due to the highly disturbed nature of the site. In addition, Figure 9.3, Land Use and Vegetation of the General Plan Conservation and Open Space Element, does not show any wetland features on the site As such, there are no impacts to wetlands.

3.4(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?

Determination: Less Than Significant.

Source: General Plan, Conservation and Open Space Element, Site Inspection

Impact Analysis

The Project site consists of approximately 0.74 gross acres and is predominantly surrounded by existing development. According to Figures 9.3, Land Use and Vegetation of the General Plan Conservation and Open Space Element, and Figure 9.4, Land Use and Vegetation of the General Plan Conservation and Open Space Element, there is no Critical Habitat or other biological features on the site that would support wildlife corridors. Impacts are less than significant.

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

Determination: Less Than Significant Impact.

Source: Municipal Code, Landscape Plans

Impact Analysis

There is one (1) tree currently located on-site. This existing tree will be removed during the construction phase of the Project, and replaced as part of the new landscaping proposed by Project.

Chapter 17.74-Tree Placement, Landscape Materials, and Tree Removal of the Loma Linda Municipal Code regulates the removal of certain trees, including street trees located within the public right-of-way, parkways, and easements, and landmark trees growing on private property. A permit is required to remove any such tree, as established in Section 17.74.070-Permit Required of the Municipal Code which states:

"*To ensure proper street tree selection and protection of the urban forest, no person shall excavate within the drip line or ten feet of a tree (whichever is greater), or install, replace, or alter any tree designated as a landmark (on private property with owner's consent) or any tree located within city*

parkways, (street rights-of-way), or street tree easements, without first obtaining a permit as specified in Section 17.74.080 - 17.74.100. (Ord. 468 § 1 (part), 1992)."

According to Section 17.74.040 of the Municipal Code, "Landmark tree" means "*any tree on private property which is voluntarily nominated by the property owner, or any tree on public property which is designated by the city council to be particularly valuable due to its species, condition and/or age, or due to its cultural or historical significance.*" The exiting tree on the site is not identified as a "Landmark Tree."

Based on the above analysis, impacts are less than significant.

3.4(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?

Determination: No Impact.

Source: General Plan Conservation and Open Space Element.

Impact Analysis

The Project site is not located within an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. As such, there are no impacts.

3.5 CULTURAL RESOURCES

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

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

Determination: No Impact.

Source: General Plan Conservation and Open Space Element

Impact Analysis

Historic resources generally consist of buildings, structures, improvements, and remnants associated with a significant historic event or person(s) and/or have a historically significant style, design, or achievement. Damaging or demolition of historic resources is typically considered to be a significant impact. Impacts to historic resources can occur through direct impacts, such as destruction or removal, and indirect impacts, such as a change in the setting of a historic resource.

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

1. A resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register of Historical Resources.

2. A resource included in a local register of historical resources, as defined in section 5020.1(k) of the Public Resources Code or identified as significant in an historical resource survey meeting the requirements [of] section 5024.1(g) of the Public Resources Code.

3. Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California.

The Project site has been heavily disturbed by human activities. The site contains no buildings or structures. Based on the *General Plan Conservation and Open Space Element* there are no potential historical resources identified on the Project site. As such, there is no impact.

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

Determination: Less Than Significant Impact with Mitigation Incorporated.

Source: General Plan Conservation and Open Space Element

Impact Analysis

Archaeological sites are locations that contain resources associated with former human activities, and may contain such resources as human skeletal remains, waste from tool manufacture, tool concentrations, and/or discoloration or accumulation of soil or food remains.

Although the site has been heavily disturbed by human activities, and the potential to encounter sub-surface archaeological resources is considered low, but cannot be ruled out because excavation is needed to install the underground water tanks or the carwash system. Therefore, Mitigation Measure MM CR-1 and CR-2 is required.

Mitigation Measures (MM)

MM- CR-1: Archaeological Monitoring. *If archaeological resources are encountered during implementation of the project, ground-disturbing activities will be temporarily redirected from the vicinity of the find and the Applicant and/or the Applicants representative shall immediately contact the City. The City shall then contact a qualified archaeologist to determine whether the find requires*

further study. The City shall include a note on the grading plan to inform contractors of this requirement. The Project Archaeologist will be allowed to temporarily divert or redirect grading or excavation activities in the vicinity in order to make an evaluation of the find. If the resource is significant, Mitigation Measure CR-2 shall apply.

***MM- CR-2: Archeological Treatment Plan**. If a significant archaeological resource(s) is discovered on the property, ground disturbing activities shall be suspended 100 feet around the resource(s). The archaeological monitor and a representative of the appropriate Native American Tribe(s), the Project Proponent, and the City Planning Department shall confer regarding mitigation of the discovered resource(s). A treatment plan shall be prepared and implemented by the archaeologist to protect the identified archaeological resource(s) from damage and destruction. The treatment plan shall contain a research design and data recovery program necessary document the size and content of the discovery such that the resource(s) can be evaluated for significance under CEQA criteria. The research design shall list the sampling procedures appropriate to exhaust the research potential of the archaeological resource(s) in accordance with current professional archaeology standards (typically this sampling level is two (2) to five (5) percent of the volume of the cultural deposit). The treatment plan shall require monitoring by the appropriate Native American Tribe(s) during data recovery excavations of archaeological resource(s) of prehistoric origin, and shall require that all recovered artifacts undergo laboratory analysis. At the completion of the laboratory analysis, any recovered archaeological resources shall be processed and curated according to current professional repository standards. The collections and associated records shall be donated to an appropriate curation facility, or, the artifacts may be delivered to the appropriate Native American Tribe(s) if that is recommended by the City of Loma Linda. A final report containing the significance and treatment findings shall be prepared by the archaeologist and submitted to the City of Loma Linda Planning Department and the San Bernardino County Museum.*

With implementation of Mitigation Measures CR-1 and CR-2, impacts will be less than significant.

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

Determination: Less Than Significant Impact.

Sources: General Plan Conservation and Open Space Element.

Impact Analysis

Paleontological resources are the preserved fossilized remains of plants and animals. Fossils and traces of fossils are preserved in sedimentary rock units, particularly fine to medium grained marine, lake, and stream deposits, such as limestone, siltstone, sandstone, or shale, and in ancient soils. They are also found in coarse-grained sediments, such as conglomerates or coarse alluvium sediments. Fossils are rarely preserved in igneous or metamorphic rock units. Fossils may occur throughout a sedimentary unit and, in fact, are more likely to be preserved subsurface, where they have not been damaged or destroyed by previous ground disturbance, amateur collecting, or natural causes such as erosion.

According to the General Plan Conservation and Open Space Element, previous geological mapping of the City indicated the presence of four sedimentary units, with two of the sedimentary units having a high potential for paleontological resources. The proposed Project will require excavation

to install the underground water tanks for the carwash system. It is possible that subsurface paleontological resources could be uncovered during grading, excavation, and other subsurface construction activity. Therefore, Mitigation Measures CR-3 and CR-4 are required.

Mitigation Measures (MM)

MM-CR-3: Paleontological Monitoring. *If paleontological resources are encountered during implementation of the project, ground-disturbing activities will be temporarily redirected from the vicinity of the find and the Applicant and/or the Applicants representative shall immediately contact the City. The City shall then contact a qualified paleontologist to determine whether the find requires further study... The City shall include a note on the grading plan to inform contractors of this requirement. The Project Paleontologist will be allowed to temporarily divert or redirect grading or excavation activities in the vicinity in order to make an evaluation of the find. If the resource is significant, Mitigation Measure CR-2 shall apply.*

MM-CR-4: Paleontological Treatment Plan.

If a significant paleontological resource(s) is discovered on the property, in consultation with the Project proponent and the City, the qualified paleontologist shall develop a plan of mitigation which shall include salvage excavation and removal of the find, removal of sediment from around the specimen (in the laboratory), research to identify and categorize the find, curation in the find a local qualified repository, and preparation of a report summarizing the find.

Based on the analysis above, with implementation of Mitigation Measure CR-3 and CR-4, impacts are less than significant.

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

Determination: Less Than Significant Impact.

Sources: California Health and Safety Code §7050.5, Public Resources Code §5097 et. seq.

Impact Analysis

The Project site does not contain a cemetery and no known formal cemeteries are located within the immediate vicinity of the Project site. The Project site has been heavily disturbed by human activity so the potential for uncovering human remains is considered low. Nevertheless, the remote potential exists that human remains may be unearthed during grading and excavation activities associated with Project construction.

In the event that human remains are discovered during project grading or other ground disturbing activities, the Project would be required to comply with the applicable provisions of California Health and Safety Code §7050.5 as well as Public Resources Code §5097 et. seq. California Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made the necessary findings as to origin. Pursuant to California Public Resources Code Section 5097.98(b), remains shall be left in place and free from disturbance until a final decision as to the treatment and disposition has been made by the Coroner.

If the Coroner determines the remains to be Native American, the California Native American Heritage Commission (NAHC) must be contacted and the NAHC must then immediately notify the "most likely descendant(s)" of receiving notification of the discovery. The most likely descendant(s) shall then make recommendations within 48 hours, and engage in consultations concerning the treatment of the remains as provided in Public Resources Code Section 5097.98.

Based on the analysis above, impacts would be less than significant with compliance with the mandatory requirements of California Health and Safety Code §7050.5 as well as Public Resources Code §5097 et. seq.

3.6 GEOLOGY AND SOILS

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

3.6 (a) (1) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

Determination: No Impact.

Source: General Plan Public Health and Safety Element.

Impact Analysis

The Project site is not located within an Alquist-Priolo Earthquake Fault Zone according to Figure 10.1 *Geologic Hazards* of the *General Plan Public Health and Safety Element* , and no known faults underlie the site. Because there are no faults located on the Project site, there is no potential for the Project to expose people or structures to adverse effects related to ground rupture of a known earthquake fault.

3.6 (a) (2) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: Strong seismic ground shaking?

Determination: Less Than Significant Impact.

Source: General Plan Public Health and Safety Element.

Impact Analysis

The Project site is located east of the Loma Linda Fault as shown in Figure 10.1 *Geologic Hazards* of the *General Plan Public Health and Safety Element* and is located in a seismically active area of Southern California. As such, it is expected to experience moderate to severe ground shaking during the lifetime of the Project. This risk is not considered substantially different than that of other similar properties in the Southern California area. As a mandatory condition of Project approval, the Project would be required to construct the proposed structures in accordance with the *California Building Standards Code* also known as *California Code of Regulations Title 24* and the *City Building Code* which will ensure seismic risks are ameliorated.

Based on the analysis above, impacts would be less than significant.

3.6 (a) (3) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: Seismic-related ground failure, including liquefaction?

Determination: Less Than Significant Impact.

Source: General Plan Public Health and Safety Element.

Impact Analysis

Liquefaction is a phenomenon in which loose, saturated, relatively cohesion-less soil deposits lose shear strength during strong ground motions. The factors controlling liquefaction are:

- Seismic ground shaking of relatively loose, granular soils that are saturated or submerged can cause soils to liquefy and temporarily behave as a dense fluid. For liquefaction to occur, the following conditions have to occur:
    - Intense seismic shaking;
    - Presence of loose granular soils prone to liquefaction; and
    - Saturation of soils due to shallow groundwater.

According to Figure 10.1, Geologic Hazards of the General Plan Public Health and Safety Element, the Project is located in a liquefaction zone. The Project would be required to construct the proposed structures in accordance with the *California Building Standards Code* also known as *California Code of Regulations Title 24* and the *City Building Code* which will ensure liquefaction risks are ameliorated.

Based on the analysis above, impacts would be less than significant.

3.6 (a) (4) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: Landslides?

Determination: No Impact.

Source: Project Application Materials.

Impact Analysis

Generally, a landslide is defined as the downward and outward movement of loosened rock or earth down a hillside or slope. Landslides can occur either very suddenly or slowly, and frequently accompany other natural hazards such as earthquakes, floods, or wildfires. Landslides can also be induced by the undercutting of slopes during construction, improper artificial compaction, or saturation from sprinkler systems or broken water pipes.

The site is relatively flat and contains no slopes that may be subject to landslides. Therefore the site is not considered susceptible to seismically induced landslides. There are no impacts.

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

Determination: Less Than Significant Impact.

Source: Project Application Materials.

Note: A comprehensive discussion of erosion can be found in Section 3.9, Hydrology and Water Quality.

Impact Analysis

The Project site is heavily disturbed by human activity. Therefore, the loss of topsoil is not a significant impact.

Soils in the Project area may be prone to erosion during the grading phase, especially during heavy rains. Reduction of the erosion potential will be accomplished through implementation of a Storm Water Pollution Prevention Plan, which specifies best management practices for temporary erosion controls. Such measures typically include temporary catch basins and/or sandbagging to control runoff and contain sediment transport within the project site. A Storm Water Pollution Prevention Plan is a mandatory requirement pursuant to the National Pollutant Discharge Elimination System.

Based on the analysis above, impacts would be less than significant.

3.6(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 offsite landslide, lateral spreading, subsidence, liquefaction or collapse?

Determination: Less Than Significant Impact.

Source: Project Application Materials.

Impact Analysis

Landslide

The site is relatively flat and contains no slopes that may be subject to landslides.

Lateral Spreading

Lateral spreading is a term referring to landslides that commonly form on gentle slopes and that have rapid fluid-like flow horizontal movement. Most lateral spreading is caused by earthquakes but it is also caused by landslides. The site is relatively flat and contains no slopes that may be subject to landslides or lateral spreading.

Subsidence

Subsidence is the downward movement of the ground caused by the underlying soil conditions. Certain soils, such as clay soils are particularly vulnerable since they shrink and swell depending on their moisture content. Subsidence is an issue if buildings or structures sink which causes damage to the building or structure. Subsidence is usually remedied by excavating the soil the depth of the underlying bedrock and then recompacting the soil so that it is able to support buildings and structures. Impacts related to subsidence can be attenuated through mandatory compliance with the California Building Standards Code and City Building Code.

Liquefaction or Collapse

As noted in the response to Issue 3.6 (a) (3) above, the Project site located within a liquefaction zone. The Project would be required to construct the proposed structures in accordance with the California Building Standards Code also known as California Code of Regulations Title 24 and the City Building Code which will ensure liquefaction risks are ameliorated.

Collapse occurs in saturated soils in which the space between individual particles is completely filled with water. This water exerts a pressure on the soil particles that influences how tightly the

particles themselves are pressed together. The soils lose their strength beneath buildings and other structures. As noted above, the Project site's potential for exposure to collapse is considered remote because the depth of groundwater is more than fifty (50) feet and the soil composition consists of gravelly sandy soils with rocks.

Based on the above analysis, impacts are considered less than significant for landslides, lateral spreading, subsidence, liquefaction or collapse.

3.6(d) Be located on expansive soil, as defined in the Uniform Building Code, creating substantial risks to life or property?

Determination: Less than Significant Impact.

Source: Project Application Materials.

Impact Analysis

Expansive soils are those that undergo volume changes as moisture content fluctuates; swelling substantially when wet or shrinking when dry. Soil expansion can damage structures by cracking foundations, causing settlement and distorting structural elements.

According to the Natural Resources Conservation Service's Web Soil Survey, the project site is underlain by near surface soils are sandy and gravelly in nature. In general, these soils are considered to possess a low to very low expansion potential.

Based on the analysis above, impacts would be less than significant and no mitigation measures are required.

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

Determination: No Impact.

Source: Project Application Materials.

Impact Analysis

The Project does not propose the use of septic tanks or alternative waste water disposal systems. The Project would install domestic sewer infrastructure and connect to the City's sewer system. As such, there are no impacts.

3.7 GREENHOUSE GAS EMISSIONS

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

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

Determination: Less Than Significant Impact.

Source: California Emissions Estimator Model, General Plan Conservation and Open Space Element.

Impact Analysis

An individual project cannot generate enough GHG emissions to influence global climate change. The Project participates in this potential impact by its incremental contribution combined with the cumulative increase of all other sources of greenhouse gas emissions, which when taken together may have a significant impact on global climate change.

A final numerical threshold for determining the significance of greenhouse gas emissions in the South Coast Air Basin has not been established by the South Coast Air Quality Management District. The City of Loma Linda in previous CEQA documents has been using the following as interim threshold for commercial projects proposed by the South Coast Air Quality Management District staff:

1) Generate greenhouse gas emissions that exceeds a screening threshold of 3,000 MTCO2e per year. Projects that emit less stationary source greenhouse gas emissions less than 3,000 MTCO2e per year are not considered a substantial greenhouse gas emitter and the impact is less than significant. Projects that emit in excess of 3,000 MTCO2e per year require additional analysis and mitigation.

For purposes of this analysis, the 3,000 MTCO2e per year threshold is used. A summary of the Project's projected annual operational greenhouse gas emissions, including amortized construction-related emissions, is provided in Table 11.

Table 11. Total Project Greenhouse Gas Emissions (Annual) (Metric Tons Per Year)

Source		GHG Emissions MT/yr		
	N2O	CO2	CH4	CO2e
Mobile Sources	0.000	262.82	0.011	263.05
Area	0.000	0.00009	0.00	0.00009
Energy	0.0002	17.61	0.0006	17.69
Solid Waste	0.000	2.76	0.163	6.18
Water/Wastewater	0.0002	2.00	0.011	2.32
30-year Amortized Construction GHG				2.19
TOTAL				*291.43*
SCAQMD Threshold				**3,000**
Exceed Threshold?				**NO**

As shown in Table 11 above, the Project is estimated to emit approximately 291.43 MTCO2e per year, including amortized construction-related emissions which is below the threshold used by the City to determine if greenhouse gas emissions are significant. Therefore, impacts are less than significant.

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

Determination: Less Than Significant Impact.

Sources: General Plan Conservation and Open Space Element, First Update to the Climate Change Scoping Plan, May 22, 2014.

Impact Analysis

The General Plan Conservation and Open Space Element (2009), addresses global climate change with the following Guiding Policy:

"9.8.1 Guiding Policy

Minimize greenhouse gas emissions that are reasonably attributable to the City's discretionary land use decisions and internal government operations, with the goal of reducing Loma Linda's greenhouse gas emissions to 1990 levels by 2020."

Guiding Policy 9.8.1 is consistent with California Assembly Bill 32 which created a comprehensive, multi-year program to reduce greenhouse gas emissions to 1990 levels by 2020, and to maintain and continue reductions beyond 2020. The California Air Resources Board has adopted the First Update to the Climate Change Scoping Plan, May 22, 2014, and together with other State and local agencies, has developed and implemented specific greenhouse gas emission reduction measures in California's major economic sectors: Transportation; Electricity and Natural Gas; Water; Green Buildings; Industry; Recycling and Waste Management; Forest; High Global Warming Potential Gases; and Agriculture.

Key elements of the Scoping Plan included the following:

- Expand and strengthen energy efficiency programs, including building and appliance standards.

- Increase electricity generation from renewable resources to at least 33 percent of the statewide electricity mix by 2020.

- Establish targets for passenger vehicle-related greenhouse gas emissions for regions throughout California and pursue policies and incentives to achieve those targets. Included with this strategy is support for the development and implementation of a high speed rail system to expand mobility choices and reduce GHG emissions.

- Adopt and implement measures pursuant to existing State laws and policies, including California's clean car standards and the Low Carbon Fuel Standard.

- Develop a cap-and-trade program to ensure the target is met, while providing flexibility to California businesses to reduce emissions at low cost.

The Project's is consistent with the *Scoping Plan* because its individual greenhouse gas emissions are below significance thresholds as noted in the response to Issue 3.7 (a) above and the project is required to implement such greenhouse reduction measures such as water efficient landscaping and compliance with Title 24 energy efficiency requirements.

Based on the analysis above, impacts would be less than significant.

3.8 HAZARDS AND HAZARDOUS MATERIALS

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

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

Determination: Less than Significant Impact.

Source: Phase I Environmental Site Assessment (Appendix B).

Impact Analysis

Existing Conditions

The *Phase I Environmental Site Assessment* prepared for the Project indicated there that there are no known Recognized Environmental Conditions existing on the Project site. A Recognized Environmental Concern is one of the terms used to identify environmental liability within the context of a Phase I Environmental Site Assessment. The American Society for Testing and Materials defines the Recognized Environmental Condition in part as "*the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment.*"

Short-Term Construction Impacts

Heavy equipment (e.g., dozers, excavators, tractors) would be operated on the subject property during construction of the Project. This heavy equipment would likely be fueled and maintained by petroleum-based substances such as diesel fuel, gasoline, oil, and hydraulic fluid, which is considered hazardous if improperly stored or handled. In addition, materials such as paints, adhesives, solvents, and other substances typically used in building construction would be located on the Project site during construction. Improper use, storage, or transportation of hazardous materials can result in accidental releases or spills, potentially posing health risks to workers, the public, and the environment. This is a standard risk on all construction sites, and there would be no greater risk for improper handling, transportation, or spills associated with the proposed Project than would occur on any other similar construction site.

Construction contractors would be required to comply with all applicable federal, state, and local laws and regulations regarding the transport, use, and storage of hazardous construction-related materials, including, but not limited, requirements imposed by the Environmental Protection Agency, the California Department of Toxic Substances Control, the South Coast Air Quality Management District, and the Santa Ana Regional Water Quality Control Board. As such, impacts from construction related activities would be less than significant.

Long-term Operational Impacts

The Project site would be developed with a drive-thru carwash which is a land use not typically associated with the transport, use, or disposal of significant amounts of hazardous materials. All wash waste water is funneled into the 1st in a series of four (4) 1200 gallon tanks buried under the bypass lane. Each tank flows into the next tank settling out the solids. The reclaim system picks up the waste water from the 3rd tank, then processes it through a series of centrifugal systems which produces water that can be used in the wheel blasters and undercarriage wash. This system runs continually, recycling the water back into the 1st tank if the wash is not being used. The system

keeps all the dirt and soil/oil out of the environment by having the tanks pumped using a specialized company that will process and dispose of the waste in an environmentally friendly process.

Based on the analysis above, impacts would be less than significant.

3.8(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?

Determination: Less Than Significant Impact.

Sources: State of California, Project Application Materials.

Impact Analysis

There are several ways in which hazardous materials can be released into the environment through a reasonably foreseeable upset. The following examples include, but are not limited to:

- Floods, earthquakes, or fires that would cause hazardous materials to be released into the environment from tank rupture, pipeline rupture, fumes, or carried by floodwaters.

- Through demolition of older buildings that may contain lead paint, asbestos or other hazardous materials.

- Mistakes in chemical processing that could become volatile and explode causing release of hazardous materials into the environment.

- Through release associated with construction of a project. For example, construction equipment could accidentally release petroleum products in sufficient quantity to pose a hazard to people and the environment.

The Project does not involve the manufacturing or transport of hazardous materials. As such, accidents involving hazardous materials that could pose a significant hazard to the public or the environment would be highly unlikely during the construction and long-term operation of the Project and are not reasonably foreseeable.

The use of hazardous materials on the Project site during construction is a standard risk on all construction sites, and there would be no greater risk for upset and accidents than would occur on any other similar construction site.

Upon build-out, the Project site would operate as a drive-thru carwash which is a land use type not typically associated with the quantities of hazardous materials that could be subject to upset or accident involving the release of hazardous materials into the environment. (Also see analysis under Section 3.9 (b) above).

Based on the analysis above, impacts would be less than significant and no mitigation measures are required.

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

Determination: Less Than Significant Impact.

Sources: Project Application Materials, Google Earth.

Impact Analysis

The Project site is located within one-quarter mile of Loma Linda Academy. As discussed in the responses to issues 3.8 (b) and 3.8 (c) above, the Project is a drive-thru car wash facility which is a land use type not typically associated with the substantial use of hazardous materials. As such, impacts are less than significant.

3.8(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?

Determination: No Impact.

Sources: DTSC's Hazardous Waste and Substances Site List - Site Cleanup (Cortese List,) Phase I Environmental Site Assessment (Appendix B).

Impact Analysis

The Project site is not included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. No impact would occur.

3.8(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?

Determination: Less Than Significant Impact.

Source: Google Earth, General Plan, Public Health and Safety Element (2009), Airport Layout Plan Narrative Report for San Bernardino International Airport.

Impact Analysis

The Project site is located approximately 1.5 miles south of the San Bernardino International Airport. An Airport Land Use Compatibility Plan has not been adopted for the airport. However, according to Figure 10.4, Loma Linda General Plan, Public Health and Safety Element, the northern most portion of the Project site is located within the San Bernardino International Airport Influence Area.

Based on a report entitled: *Airport Playout Plan Narrative for San Bernardino International Airport, San Bernardino, California,* prepared by Coffman Associates, Inc. and approved by the San Bernardino International Airport Authority on September 22, 2010, airfield design standards as required by the Federal Aviation Administration, show that the Project site is not located in any of the following areas:

- Runway Safety Area
- Object Free Area
- Obstacle Free Zone
- Precision Object Free Area
- Runway Protection Zone

Based on the above analysis, the Project would not result in a safety hazard for people residing or working in the Project area and impacts are less than significant.

3.8(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?

Determination: No Impact.

Source: Google Earth.

Impact Analysis

The project site is not located within the vicinity of a private airstrip. No impact would occur.

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

Determination: Less Than Significant Impact.

Sources: General Plan, Public Health and Safety Element (2009), Project Application Materials.

Impact Analysis

Access to the project site is proposed from Redlands Boulevard which is fully improved. The project site does not contain any emergency facilities nor does it serve as an emergency evacuation route. During construction and long-term operation, the project would be required to maintain adequate emergency access for emergency vehicles via Redlands Boulevard and connecting roadways as required by the City. Furthermore, the project would not result in a substantial alteration to the design or capacity of any public road that would impair or interfere with the implementation of evacuation procedures. Because the project would not interfere with an adopted emergency response or evacuation plan, impacts are less than significant.

3.8 (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?

Determination: No Impact.

Source: General Plan, Public Health and Safety Element.

Impact Analysis

The project site is located in a developed area of the City and is not near wildland areas. According to Figure 10.3, Urban Wildland Interface Division Line/Hazardous Fire Area of the General Plan Public Health and Safety Element, the Project site is not located within a hazardous fire area. Therefore development of the Project would not expose people or structures to a significant risk of loss, injury, or death involving wildland fires and no impact would occur.

3.9 HYDROLOGY AND WATER QUALITY

Would the Project:	**Potentially Significant Impact**	**Less than Significant With Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a. Violate any water quality standards or waste discharge requirements?			■	
b. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?			■	
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of stream or river, in a manner, which would result in substantial erosion or siltation on- or offsite?			■	
d. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner, which would result in flooding on- or offsite?			■	
e. Create or contribute runoff which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?			■	
f. Otherwise substantially degrade water quality?			■	
g. Place housing within a 100-year flood hazard as mapped on a Federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?			■	
h. Place within a 100-year flood hazard area structures, which would impede or redirect flood flows?				■
i. Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?				■
j. Inundation by seiche, tsunami, or mudflow?				■

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

Determination: Less Than Significant Impact.

Source: Preliminary Water Quality Management Plan (Appendix C).

Impact Analysis

Construction Impacts

Construction of the Project would involve clearing, grading, paving, utility installation, building construction, and the installation of landscaping, which would result in the generation of potential water quality pollutants such as silt, debris, chemicals, paints, and other solvents with the potential to adversely affect water quality. As such, short-term water quality impacts have the potential to occur during construction of the Project in the absence of any protective or avoidance measures.

Pursuant to the requirements of the Santa Ana Regional Water Quality Control Board and the City of Loma Linda, the Project would be required to obtain a National Pollutant Discharge Elimination System Municipal Stormwater Permit for construction activities. The National Pollutant Discharge Elimination System permit is required for all projects that include construction activities, such as clearing, grading, and/or excavation.

In addition, the Project would be required to comply with the Santa Ana Regional Water Quality Control Board's Santa Ana River Basin Water Quality Control Program. Compliance with the National Pollutant Discharge Elimination System permit and the Santa Ana River Basin Water Quality Control Program involves the preparation and implementation of a Storm Water Pollution Prevention Plan for construction-related activities, including grading. The Storm Water Pollution Prevention Plan would specify the Best Management Practices (BMPs) that the project would be required to implement during construction activities to ensure that all potential pollutants of concern are prevented, minimized, and/or otherwise appropriately treated prior to being discharged from the subject property.

Operational Impacts

Storm water pollutants commonly associated with the land uses proposed by the Project include pathogens, phosphorous, nitrogen, sediment, metals, oil and grease, trash and debris, pesticides and herbicides, and organic compounds.

Pursuant to the requirements of the City's National Pollutant Discharge Elimination System permit, a Water Quality Management Plan is required for managing the quality of storm water or urban runoff that flows from a developed site after construction is completed and the facilities or structures are occupied and/or operational. The Preliminary Water Quality Management Plan proposes BMPs that will detain and treat the calculated stormwater runoff volumes. Treatment will be through a bio-retention basin.

Based on the analysis above, impacts would be less than significant.

3.9(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)?

Determination: Less Than Significant Impact.

Source: 2010 San Bernardino Valley Urban Water Management Plan, City of Loma Linda Public Works Department.

Impact Analysis

The Project would be served with potable water by the City of Loma Linda. The primary source of potable water supply for the City of Loma Linda is groundwater extracted from the cities own six production wells. Loma Linda's main water source is ground water within the Bunker Hill Basin. The Bunker Hill Basin water is replenished by annual rainfall and from snowmelt from the San Bernardino Mountains. The City also uses supplemental water obtained from the City of San Bernardino Municipal Water Department.

Groundwater Supplies Impacts

The primary way a project can deplete groundwater supplies is to exceed the rate of ground-water withdrawal that exceeds the rate of natural recharge ("safe yield'). "Safe yield" is generally defined as the amount of water available for consumption.

The San Bernardino Basin Area was defined by, and adjudicated in gross, by the Western-San Bernardino Judgment (Western Judgment) in 1969. The San Bernardino Basin Area is adjudicated on a safe yield basis. Loma Linda therefore has the opportunity to develop additional wells and over-extract groundwater under specified conditions contained in the stipulated judgment. The wells in general have provided a stable source of water supply. Extensive modeling has been used to examine groundwater recharge, groundwater pumping, basin storage, groundwater flow, and groundwater plume location and plume migration. Based on these studies it is anticipated that groundwater pumping by Loma Linda and other San Bernardino Basin Area users will not be reduced or curtailed during a single-dry or multi-dry year. (Ref. *2010 San Bernardino Valley Urban Water Management Plan, pp. 8-26-27).* Based on the above, the Project is not anticipated to deplete groundwater supplies.

Groundwater Recharge Impacts

The primary way a project can interfere with groundwater recharge is to interfere directly or indirectly with an existing groundwater recharge area that is managed by a local water agency Water purveyors have formal recharge programs where water is delivered to earthen basins called spreading or recharge basins where the water can soak into the ground and ultimately becomes part of the groundwater system. As noted above, the Project is located in the Bunker Hill basin which is 120 square miles in size. The Project site is 0.74 acres in size and is currently not being used as a formal groundwater recharge area.

Development of the Project site will create impervious surfaces which will affect the amount of water that can percolate into the ground. However, the project proposes bio-retention basins which will allow surface flows to infiltrate into subsurface soils and ultimately into subsurface aquifers. Therefore, impacts associated with groundwater recharge will be less than significant.

3.9(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 offsite?

Determination: Less Than Significant Impact.

Source: Preliminary Water Quality Management Plan (Appendix C).

Surface runoff will be directed towards Redlands Boulevard to a bio-retention basin positioned inside the property line to capture the "first flush." Flows from the parking area, driveways and planters will be diverted through the bio-retention basin then through an under sidewalk drain into Redlands Boulevard.

As noted in the response to Issue 3.9 (a) above, the Project's *Storm Water Pollution Prevention Plan* would specify the Best Management Practices (BMPs) that the Project would be required to implement during construction activities to ensure that all potential pollutants of concern are prevented, minimized, and/or otherwise appropriately treated prior to being discharged from the subject property. In addition, the project's Preliminary *Water Quality Management Plan* proposes BMPs that will detain and treat the calculated stormwater runoff volumes. Treatment will be through a bio-retention basin.

Based on the above analysis, with buildout of the Project site, there would be no significant alteration of the site's existing drainage pattern and there would not be any significant increases in the rates of erosion or siltation on or off site. Impacts would be less than significant.

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

Determination: Less Than Significant Impact.

Source: Preliminary Water Quality Management Plan (Appendix C).

Impact Analysis

Surface runoff will be directed towards Redlands Boulevard to a bio-retention basin positioned inside the property line to capture the 'first flush." Flows from the parking area, driveways and planters will be diverted through the bio-retention basin then through an under sidewalk drain into the storm drain system in Redlands Boulevard.

Based on the analysis above, with buildout of the Project site, there would be no significant alteration of the site's existing drainage pattern and there would not be any significant increases in flooding on or off-site. Impacts would be less than significant.

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

Determination: Less than Significant Impact.

Source: Preliminary Water Quality Management Plan (Appendix C).

Impact Analysis

Surface runoff will be directed towards Redlands Boulevard to a bio-retention basin positioned inside the property line to capture the 'first flush." Flows from the parking area, driveways and planters will be diverted through the bio-retention basin then through an under sidewalk drain into the storm drain system in Redlands Boulevard.

As noted in the response to Issue 3.9 (a) above, the Project's *Storm Water Pollution Prevention Plan* would specify the Best Management Practices (BMPs) that the project would be required to implement during construction activities to ensure that all potential pollutants of concern are prevented, minimized, and/or otherwise appropriately treated prior to being discharged from the subject property. In addition, the Project's Preliminary Water Quality Management Plan proposes BMPs that will detain and treat the calculated stormwater runoff volumes. Treatment will be through a bio-retention filtration system.

Based on the analysis above, impacts would be less than significant and no mitigation measures are required.

3.9(f) Otherwise substantially degrade water quality?

Determination: Less Than Significant Impact.

Sources: Preliminary Water Quality Management Plan (Appendix C).

Impact Analysis

There are no conditions associated with the proposed Project that could result in the substantial degradation of water quality beyond what is described above in Responses3.9 (a), 3.9(c), and3.9 (e) above.

Based on the analysis above, impacts would be less than significant.

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

Determination: No Impact.

Source: Project Application Materials.

Impact Analysis

The project does not propose any housing. No impact would occur.

3.9(h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?

Determination: No Impact.

Source: FEMA FIRM Panel No.0607189692H.

Impact Analysis

The site is not located within a designated flood plain based upon a review of Federal Emergency Management Agency Flood Insurance Rate Map Panel No. 06071C8692H, dated August 28, 2008. This Panel identified the subject area as being located within Flood Zone X, which is defined as "Area of minimal flood hazard, usually depicted on Flood Insurance Rate Maps as above the 500-year flood level." No impact would.

3.9(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?

Determination: Less Than Significant Impact.

Source: General Plan, Public Health and Safety Element, Project Application Materials, County of San Bernardino Hazards Map.

Impact Analysis

As noted Issue 3.9(g), the project site is not subject to flooding. No dams, levees or water bodies exist in the immediate vicinity of the Project site that could adversely affect the site should a structural failure occur. The nearest dam is Seven Oaks Dam located approximately 10 miles northeast of the project site. According to the San Bernardino County Hazards Overlay Map (Loma Linda FH30B, FH31B), the Project site is not located within the inundation area for the Seven Oaks dam.

However, the General Plan Public Health and Safety Element states that the northern portion of the City is located within the inundation area of the Seven Oaks Dam, the failure of which while not likely, could potentially impact the Project site. It should be noted the Seven Oaks Dam is a dry dam that serves to decrease peak water flows during spring runoff and storm events. In the unlikely event of dam failure, potential inundation effects would be decreased as a result of the dam only holding large amounts of water during substantial storm events, which are infrequent within the predominantly dry climate of the Southern California region. Furthermore, the Dam is routinely inspected by the County of San Bernardino to ensure structural integrity, which further reduces the potential for dam failure. Therefore, impacts are less than significant.

3.9(j) Inundation by seiche, tsunami, or mudflow?

Determination: No Impact.

Sources: Project Application Materials, Google Earth.

Impact Analysis

The Pacific Ocean is located more than 50 miles from the project site; consequently, there is no potential for tsunamis to impact the Project. In addition, no steep hillsides subject to mudflow are located on or near the Project site. Therefore, the Project site would not be subject to inundation by a seiche, mudflow, and/or tsunami. No impact would occur and no mitigation measures are required.

3.10 LAND USE AND PLANNING

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

3.10(a) Physically divide an established community?

Determination: No Impact.

Sources: Project Application Materials, Google Earth.

Impact Analysis

An example of a project that has the potential to divide an established community includes the construction of a new freeway or highway through an established neighborhood. The Project is located in an area largely characterized by residential and commercial development. To the north, the site is bordered by Redlands Boulevard and a restaurant across Redlands Boulevard. To the south, the site is bordered by a single-family home. To the east, the side is bordered by a retail commercial building. To the west is the site is bordered by a restaurant, mobile home park, and a motel. Therefore, no impacts would occur with respect to dividing an established community.

3.10(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?

Determination: Less Than Significant Impact.

Source: General Plan, Municipal Code, Initial Study Checklist.

The General Plan land use designation for the Project site is Commercial and the zoning classification is EVC-General Commercial. The land use proposed by the Project is consistent with both the General Plan designation and zoning classification.

In addition, as demonstrated throughout this Initial Study/Mitigated Negative Declaration, the Project would otherwise not conflict with any applicable goals, objectives, and policies of the City of Loma Linda General Plan or the City of Loma Linda Municipal Code. Additionally, the Project would not conflict with any applicable policy document, including the South Coast Air Quality Management District's Air Quality Management Plan, Southern California Association of Government's 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy, and Government's 2008 Regional Transportation Plan. The purpose of these plans is to avoid or mitigate an environmental effect.

In conclusion, the Project would not conflict with any applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating adverse environmental effects and impacts are less than significant.

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

Determination: Less Than Significant Impact.

Sources: U.S. Fish and Wildlife Service, California Department of Fish and Wildlife.

Impact Analysis

The Project site is not located within an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. As such, there are no impacts.

3.11 MINERAL RESOURCES

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

3.11(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?

Determination: No Impact.

Source: Phase I Environmental Site Assessment (Appendix B), General Plan.

Impact Analysis

No mineral resource extraction activity is known to have ever occurred on the Project site. The Project site was used for agricultural purposes and then from the early 1970's to 2004 as an open air produce stand. The Project site is not located within an area of known to be underlain by regionally or locally important mineral resources, or within an area that has the potential to be underlain by regionally or locally important mineral resources, as disclosed by the *General Plan* and the associated *General Plan Environmental Impact Report*. Accordingly, implementation of the Project would not result in the loss of availability of a known mineral resource that would be of value to the region or the residents of the State of California. Accordingly, no impact would occur.

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

Determination: No Impact.

Source: General Plan Land Use Map...

Impact Analysis

Refer to the Issue 3.11(a), above. The *General Plan* does not identify any locally important mineral resource recovery sites on-site or within close proximity to the Project site, nor are any mineral resource recovery operations located on-site or in the surrounding area.

3.12 NOISE

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?			■	
b. Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?			■	
c. A substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project?		■		
d. A substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project?		■		
e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or working in the Project area to excessive noise levels?			■	
f. For a project within the vicinity of a private airstrip, would the Project expose people residing or working in the Project area to excessive noise levels?				■

3.12(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?

Determination: Less Than Significant Impact With Mitigation Incorporated.

Source: Noise Impact Assessment (Appendix D).

Impact Analysis

Overview of the Existing Ambient Noise Environment

Ambient or background noise levels are typically a composite of sounds from many sources located both near and far, without any particular sound being dominant. On November 6, 2015, noise measurements were performed at the Project site between the hours of 10:23 a.m. and 11:09 a.m. The results of the ambient measurements are presented in Table 12. The table presents the start time and end time each of the measurements along with the measured noise levels. The Leq, Lmax, $L_{1.7}$, $L_{8.3}$, L_{25}, and L_{50} are presented.

Table 12. Existing Noise Measurements Summary

Location	Leq (dBA)	Lmax (dBA)
#1 (South Property Line)	52.2	63.2
#2 (West Property Line-Center of Site)	55.6	78.4
• Leq is the sound level corresponding to a steady-state sound level containing the same total energy as a time-varying signal over a given sample period. • Lmax is the maximum sound level.		
Source: Noise Assessment, Landrum & Brown, December 11, 2015 (Appendix D.)		

As shown in Table 12 above, noise measurements range from 52.2 dBA at the south property line to 78.1 dBA at the mid-point of the west property line. Traffic noise from Interstate 10 Freeway and from Redlands Boulevard currently dominates the noise environment.

Construction Noise Impact Analysis

The most significant source of short-term noise impact is related to noise generated during construction activities on the Project site which would result in potential noise impacts to nearby sensitive receptors (i.e. the single-family homes located south of the Project site).

Construction is performed in discrete steps, each of which has its own mix of equipment and consequently its own noise characteristics. Thus, noise levels will fluctuate depending upon construction phase, equipment type, duration of equipment use, distance between the noise source and receptor, and the presence or absence of noise attenuation structures. As shown on Table 13 below, noise levels generated by heavy construction equipment can range from approximately 75 dBA to 99 dBA when measured at 50 feet.

Table13. Typical Construction Equipment Noise Levels

Type of Equipment	Range of Sound Levels Measured (dBA at 50 feet)
Pile Drivers	81 to 96
Rock Drills	83 to 99
Jack Hammers	75 to 85
Pneumatic Tools	78 to 88
Pumps	68 to 80
Dozers	85 to 90
Tractors	77 to 82
Front-End Loaders	86 to 90

Type of Equipment	Range of Sound Levels Measured (dBA at 50 feet)
Graders	79 to 89
Air Compressors	76 to 86
Trucks	81 to 87
Source: "Noise Control for Buildings and Manufacturing Plants", Bolt, Beranek & Newman, 1987, as cited in the General Plan EIR	

However, these noise levels diminish with distance from a construction site at a rate of 6 dBA per doubling of distance. For example, a noise level of 75 dBA for a jack hammer measured at 50 feet from the noise source to the receptor would be reduced to 69 dBA at 100 feet from the source to the receptor, and would be further reduced to 63 dBA at 200 feet from the source to the receptor.

As noted above, the nearest existing noise sensitive receptors are the single-family homes located to the south of the Project site. These homes may experience worst-case unmitigated peak construction noise levels between 48 and 83.4 dBA.

Construction noise levels are projected to be above the City's Noise Ordinance limit of 55 CNEL. Therefore, construction noise is expected to significantly impact exterior observers located at the backyards of the adjacent single-family homes to the south. Temporary noise mitigation measures are discussed below in accordance with the City of Loma Linda Noise Ordinance Standards.

Per Section 9.20.050, "Prohibited Noises", of the City's Ordinance, construction noise would be considered a nuisance between the hours of 10 p.m. and 7 a.m. According to Section 9.20.070 (C), "Temporary Permit Procedures", the ordinance states:

"*Developers that are involved with building construction and subdivision grading may exceed maximum noise levels between the hours of 7 a.m. and 8 p.m., Monday through Friday, provided that all equipment is properly equipped with standard noise muffling apparatus specifically for such equipment (i.e., exhaust mufflers). Heavy construction is not permitted on weekends or national holidays*."

Therefore, major construction of the Project appears to be exempt from the City's Noise Ordinance and must be limited to the hours of 7 a.m. to 8 p.m., Monday through Friday. Major construction may not take place during weekends or holidays. Minor activities may be permitted on weekends and holidays.

Regardless of the Project's consistency with the City's Noise Ordinance as described above, construction activities on the Project site, especially those involving heavy equipment, would initially create intermittent, short-term noise increases on sensitive receptors in the vicinity of the Project site, representing a temporary effect on ambient noise levels. The following mitigation measure is required to reduce impacts to the maximum extent feasible:

MM (Mitigation Measure)

NOI-1 Prior to the issuance of a grading permit and building permit, the following notes shall be included on grading plans and building plans:

"a) All construction activities shall comply with Chapter 9.0 (Noise Regulations) of the Municipal Code, including but not limited to the requirement that must be limited to the hours of 7 a.m. to 8 p.m., Monday through Friday. Major construction may not take place during weekends or holidays. Minor activities may be permitted on weekends and holidays.

b) Construction contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers, consistent with manufacturers' standards.

c) All stationary construction equipment shall be placed in such a manner so that emitted noise is directed away from any sensitive receptors adjacent to the Project site.

d) Construction equipment staging areas shall be located the greatest distance between the staging area and the nearest sensitive receptors. "

Traffic Noise Impact t Analysis

The major source of noise impacting the Project will be from traffic noise from Redlands Boulevard. The Project is not considered a "sensitive receptor" because it is a commercial development. Therefore, traffic noise from Redlands Boulevard is considered less than significant.

The Project will result in increased traffic on the roadways in the vicinity of the Project site. This increased traffic will increase noise levels along these roadways. Table 14 below shows the projected increase in peak hour traffic volume for several intersections along with the corresponding in traffic noise level increases.

Table 14. Traffic Noise CNEL Increases with Project (dB)

Intersection	Existing (2015) Peak Hour Traffic Volume	Existing +Project Peak hour Traffic Volume	Increase in Noise Level (dB)
Tippecanoe-N	2,176	2,184	0.0
Redlands-W	1,364	1,368	0.0
Redlands –E	1,467	1,489	0.1
Anderson-S	1,653	1,663	0.0
Holiday Inn Express-N	34	34	0.0
Redlands-W	1,475	1,493	0.1
Redlands-E	1,389	1,405	0.0
Poplar-S	274	276	0.0
Richardson St.	454	460	0.1
Redlands-W	1,439	1,455	0.0
Redlands-E	1,518	1,526	0.0

Intersection	Existing (2015) Peak Hour Traffic Volume	Existing +Project Peak hour Traffic Volume	Increase in Noise Level (dB)
Croks St.-S	65	67	0.1
Mountain View Ave. –N	2,049	2,051	0.0
Redlands-W	1,281	1,289	0.0
Redlands-E	1,153	1,155	0.0
Mountain View Ave. -S	2,251	2,255	0.0
Source: Noise Impact Analysis, Landrum & Brown, December 11, 2015.			

A change of 3.0 dBA is considered "barely perceptible" by the human ear and changes of less than 3.0 dBA generally cannot be perceived except in carefully controlled laboratory environments. As shown in Table 14 above, the Project's increase in traffic noise levels is a maximum of 0.01 dBA. Therefore, impacts are less than significant.

Noise Generated by the Project Impact Analysis

Carwash operations are expected to be between the hours of 7 a.m. and 7 p.m., and therefore will not impact the residential homes to the south during evening and nighttime hours. Mechanical equipment associated with the drying, and vacuuming is expected to be the loudest components of the proposed Project.

To determine the noise levels generated by carwash, data was used from a similar project (the University Carwash in the City of San Bernardino, Landrum & Brown Project #559801-0200, dated March 24, 2015). This data was used to predict the noise levels at sensitive receptors adjacent to the Project. Table 15 presents the projected unmitigated carwash noise levels.

Table 15. Carwash Equipment Unmitigated Noise Levels

Equipment	Source Level	At Receiver	CNEL	Noise Ordinance Standard
Blowers	94.3 at 10 feet	68.7	65.3	55 CNEL
Vacuum Unit	70.0 at 15 feet	44.8	41.4	55 CNEL
Source: Noise Impact Analysis, Landrum & Brown, December 11, 2015.				

The nearest residential rear yards are located approximately 190 feet from the blower units at the north end of the carwash tunnel, and they are located about 272 feet from the vacuum pump. The unmitigated noise levels were projected for receptors at the nearby residential area. Noise levels were calculated for observers in the rear yards directly facing the proposed Project. The data indicates that an observer located in a rear yard near the southern property line of the site would be subjected to an unmitigated noise level of 65.3 CNEL from the blower units. The same observer would be subjected to an unmitigated noise level of about 41.4 CNEL from the vacuum pump.

As noted above, the noise from the blowers is 65.3 CNEL and exceeds the Noise Ordinance Standard of 55 CNEL. The following mitigation measure is required in order to mitigate the blower noise levels and meet the City's *Noise Ordinance Standard* of 55 CNEL at the southern property line.

MM (Mitigation Measure)

NOI-2 The project proponent shall implement one (1) of the following two (2) options:

Option 1) Prior to final occupancy clearance, construct an 8.5 foot high noise barrier consisting of a wall along the southern property line adjacent to the residential homes at that location. The noise barrier must have a surface density of at least 3.5 pounds per square foot, and shall have no openings or gaps. The wall may be constructed of stud and stucco, 3/8-inch plate glass, 5/8-inch plexiglass, any masonry material, or a combination of these materials.

Option 2) Prior to the issuance of a building permit, building plans shall include an automated roll-up door at the entrance end of the car wash tunnel. The door shall remain closed during the operation of the car wash dryers. The door shall include glass or Plexiglas panels to allow light into the car wash tunnel. The gaps around the edge of the door and between panels shall be kept to a minimum. The bottom of the door shall have a heavy rubber flap.

With implementation of Mitigation Measure NOI-2, impacts are less than significant.

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

Determination: Less Than Significant Impact.

Source: Project Application Materials. Caltrans.

Impact Analysis

Construction Vibration

Under existing conditions, there are no known sources of ground-borne vibration or noise that affect the Project site. The Project would not generate ground-borne vibration or ground-borne noise, except, potentially, during the construction phase from the use of heavy construction equipment.

Construction activities can result in varying degrees of ground vibration, depending on the equipment used on the construction site. Operation of construction equipment causes ground vibrations that spread through the ground and diminish in strength with distance. Buildings in the vicinity of the construction site respond to these vibrations with varying results ranging from no perceptible effects at the low levels to slight damage at the highest levels. Table 16 below provides approximate vibration levels for particular construction equipment.

Table 16. Vibration Source Amplitudes for Construction Equipment.

Equipment Type	Reference PPV at 25 Feet (inches/second)
Pile Driver	0.484 – 1.876
Vibratory Roller	0.210
Large Bulldozer	0.089
Caisson Drilling	0.089
Loaded Trucks	0.076
Jackhammer	0.035
Small Bulldozer	0.003
Source: Caltrans Transportation and Construction Induced Vibration Guidance Manual, June 2004.	

Generally, a vibration impact would be considered significant if it involves any construction-related operations-related impacts in excess of 0.05 inches per second RMS vertical velocity at a nearby sensitive receptor (0.035 inches per second is barely perceptible). The Project is not anticipated to create substantial vibration to the adjacent single-family homes to the south of the Project site for the following reasons:

- According to California Department of Transportation's *Transportation and Construction-Induced Vibration Guidance Manual*, ground-borne vibration from heavy construction equipment does not create vibration amplitudes that could cause structural damage, when measured at a distance of 10 feet. The residential structure to the south of the Project site is located approximately fifteen (15) feet from the property line.

- A small bulldozer is likely to be used for grading given the small size of the Project (0.74 acres) and because the site is flat. A small bulldozer has a Reference PPV at 25 feet of 0.003 as shown in Table 16 above, which is less than the significance threshold of 0.05.

- The Project will not employ any pile driving, rock blasting, or rock crushing equipment during construction activities, which are the primary sources of ground-borne noise and vibration during construction.

- A Vibratory Roller may be used for paving. The nearest paved area to be constructed will be the drive aisle leading to the carwash tunnel which is approximately twenty-five (25) feet from the residential structure to the south.

Operational Vibration

There are no conditions associated with the long-term operation of the Project that would result in the exposure nearby residents to excessive ground-borne vibration or noise. The Project would develop the subject property as a small carwash and would not include nor require equipment, facilities, or activities that would generate ground-borne vibration or ground-borne noise.

Based on the above analysis, operation of the Project would not expose nearby residents to substantial ground-borne vibration or ground-borne noise. Impacts are less than significant and no mitigation is required.

3.12(c) A substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project?

Determination: Less Than Significant Impact with Mitigation Incorporated.

Source: Noise Impact Analysis (Appendix D).

Impact Analysis

As discussed above under Issue 3.12(a), the potential for the Project to create a permanent increase in ambient noise levels is the result of future traffic generated by the proposed Project and operations of the blowers for the carwash.

The analysis presented under Issue 3.12(a) concluded that the Project's incremental noise contributions to nearby roadways would be less than significant. As such, off-site transportation-related noise impacts would be less than significant and no mitigation is required.

The analysis presented under Issue 3.12(a) concluded that the Project's incremental noise contributions from the carwash blowers would be 65.3 CNEL which exceeds the *Noise Ordinance Standard* of 55 CNEL. Mitigation Measure NOI-2 is required in order to mitigate the blower noise levels and meet the City's *Noise Ordinance Standard* of 55 CNEL at the southern property line.

3.12(d) A substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project?

Determination: Less Than Significant Impact with Mitigation Incorporated.

Source: Noise Impact Analysis (Appendix D).

Impact Analysis

As discussed above under Issue 3.12(a), the only potential for the Project to create a substantial temporary or periodic increase in ambient noise levels is during its construction phase. The analysis presented under Issue 3.12(a) concluded that the Project would result in elevated noise levels during construction but would be less than significant with implementation of Mitigation Measure NOI-1.

3.12 (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?

Determination: Less Than Impact.

Source: Google Earth, City of Loma Linda General Plan Noise Element,

Impact Analysis

The Project site is located approximately 1.5 miles southwest of the San Bernardino International Airport. There is no airport land use plan which has been adopted for the airport.

Most federal and state regulations and policies set 65 Community Noise Equivalent Level (CNEL) as the basic limit of acceptable aircraft noise exposure for residential and other noise-sensitive land uses. The Project is a commercial development and is not a noise sensitive land use.

According to the California Office of Noise Control Land Use Compatibility Matrix for Community Noise Exposure, noise exposure up to 70 CNEL is considered normally acceptable for commercial land uses such as the proposed Project.

According to the General Plan Noise Element, the City is outside the 60 dBA CNEL airport noise contours of the San Bernardino International Airport. (Ref. General Plan, Page 7-6). Therefore, the Project is not significantly affected by aircraft noise associated with that airport.

3.12(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?

Determination: No Impact.

Source: Google Earth, Field Inspection.

The Project site is not located in the vicinity of a private airstrip. No impacts will occur.

3.13 POPULATION AND HOUSING

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

3.13(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)?

Determination: Less than Significant Impact.

Source: City of Loma Linda Public Works Department Utilities Map.

Impact Analysis

The Project would not directly result in population growth because it does not propose any residential dwelling units. The Project proposes a drive-through car wash which will employ two (2) people. Therefore, the Project will not create an additional need for housing thus increasing the overall population of the City.

Typically, population growth would be considered a significant impact pursuant to CEQA if it directly or indirectly affects the ability of agencies to provide needed public services and requires the expansion or new construction of public facilities and utilities.

The site is considered an in-fill development site. Water and sewer service to the Project site will be provided by the City of Loma Linda. Water and sewer are available to serve the site from existing lines in Redlands Boulevard and off-site extensions into undeveloped areas of the City are not required. Therefore, the Project would not induce population growth by extending a roads or other infrastructure into undeveloped areas.

Based on the above analysis, impacts are less than significant.

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

Determination: No Impact.

Sources: Project Application Materials.

Impact Analysis

The Project site does not contain any residential units. Therefore, implementation of the Project would not displace a substantial number of existing housing, nor would it necessitate the construction of replacement housing elsewhere.

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

Determination: No Impact.

Sources: Project Application Materials.

Impact Analysis

As described above under the response to Issue 3.13(b), the Project site does not contain any residential units. Therefore, the Project would not displace substantial numbers of people and would not necessitate the construction of replacement housing elsewhere. Impacts would be less than significant.

3.14 PUBLIC SERVICES

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

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

FIRE PROTECTION

Determination: Less Than Significant Impact.

Sources: General Plan Public Services and Facilities Element, Loma Linda Fire Department.

Impact Analysis

The Loma Linda Fire Department provides fire protection services to the Project area. The Project would be primarily served by Fire Station 2, an existing station located approximately ¼ roadway mile east of the Project site at 10520 Ohio Street. According to the General Plan Public Services and Facilities Element, the City has established a response goal of a five-minute response time (including three-minute running time) to be maintained for 80 percent of emergency fire, medical, and hazardous materials calls on a citywide response area basis. Although the proposed Project will introduce new development, such development will not be introduced into an area that is not currently being served by the Fire Department, and as such, would not impede the Fire Department from meeting its established response goal given the Project site's proximity to the Fire Station 2.

Development of the Project would impact fire protection services by placing an additional demand on existing Loma Linda Fire Department resources. To offset the increased demand for fire protection services, the Project would be conditioned by the City to provide a minimum of fire safety and support fire suppression activities, including compliance with State and local fire codes, fire sprinklers, a fire hydrant system, paved access, and secondary access routes.

Furthermore, the Project would be required to comply with the provisions of the City's Development Impact Fee Ordinance, which requires a fee payment to assist the City in providing for fire protection services. Payment of the Development Impact Fee would ensure that the Project provides fair share funds for the provision of additional public services, including fire protection services, which may be applied to fire facilities and/or equipment, to offset the incremental increase in the demand for fire protection services that would be created by the Project.

Based on the above analysis, the construction of new or expansion of current Fire Department facilities will not be required. Therefore, impacts associated with fire protection will be less than significant.

POLICE PROTECTION

Determination: Less Than Significant Impact.

Sources: General Plan Public Services and Facilities Element, *San Bernardino County Sheriff's Department.*

Impact Analysis

The San Bernardino County Sheriff's Department provides community policing to the Project area via the Central Headquarters located at 655 East Third Street in the City of San Bernardino. The Central Station is located 3.6 roadway miles from the Project site. According to the General Plan Public Services and Facilities Element, the City has set a response goal of a 3.25-minute response time from the time of dispatch. It should be noted that primary response to the proposed Project site would be patrol vehicles located throughout the City and in the immediate area. Therefore, response time to calls for service may vary depending on their location at time of dispatch.

Although the proposed Project will introduce new development into the Project area, such development will not occur in an area that is not currently being served by the Sheriff's Department. Therefore, the proposed Project would not impede the Sheriff's Department from meeting its established response goal.

Based on the above analysis, the construction of new or expansion of current Sheriff's Department facilities will not be required. Therefore, impacts associated with police protection will be less than significant.

SCHOOLS

Determination: Less Than Significant Impact.

Sources: California Senate Bill 50 (Greene), Project Application Materials.

Impact Analysis

The Project proposes a drive-through car wash facility with two (2) employees will not create an additional need for housing which will directly increase the overall population of the City and thus generating additional students to be served by the Redlands Unified School District. However, the Project would be required to contribute fees to the Redlands Unified School District in accordance with the Leroy F. Greene School Facilities Act of 1998 (Senate Bill 50). Pursuant to Senate Bill 50, payment of school impact fees constitutes complete mitigation under CEQA for Project-related impacts to school services. Based on the above analysis, impacts related to schools would be less than significant.

PARKS

Determination: Less Than Significant Impact.

Source: Project Application Materials

Impact Analysis

The Project proposes a drive-thru car wash facility with 2 employees and will not create a direct additional need for parkland. In addition, the Project would be required to comply with the provisions of the City's Development Impact Fee Ordinance, which requires a fee payment to assist the City in providing park facilities. Payment of the Development Impact Fee would ensure that the Project provides fair share funds for the provision of additional park facilities to offset the incremental increase in the demand for park facilities that would be created by the Project.

Based on the above analysis, impacts related to parks would be less than significant.

OTHER PUBLIC FACILITIES

Determination: Less Than Significant Impact.

Source: Project Application Materials.

Impact Analysis

As noted above, development of the Project would not result in a direct increase in the population of the City and would not increase the demand for public services, including public health services and library services which would require the construction of new or expanded public facilities. The Project would be required to comply with the provisions of the City's Development Impact Fee Ordinance, which requires a fee payment to assist the City in providing public services. Payment of the Development Impact Fee would ensure that the Project provides fair share of funds for additional public facilities. These funds may be applied to the acquisition and/or construction of public facilities and/or equipment.

Based on the above analysis, impacts would be less than significant and no mitigation measures are required.

3.15 RECREATION

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

Impact Analysis

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

Determination: Less than Significant Impact.

Source: Project Application Materials.

Impact Analysis

The Project proposes a drive-through car wash facility with 2 employees and will not significantly increase the use of existing public park facilities and would not require the modification existing parks or modification of new park facilities offsite because the Project does not proposes residential dwelling units. Based on the above analysis, impacts related to recreational facilities would be less than significant.

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

Determination: Less than Significant Impact.

Source: Project Application Materials.

Impact Analysis

As noted in the response to Issue 3.15(a) above, the Project does not propose any recreational facilities or require the construction or expansion of recreational facilities which might have an adverse effect on the environment. In addition, no offsite parks or recreational improvements are proposed or required as part of the Project. Based on the above analysis, impacts related to parks and recreational facilities would be less than significant and no mitigation measures are required.

3.16 TRANSPORTATION/TRAFFIC

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

3.16(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?

Determination: Less Than Significant Impact.

Source. Traffic Impact Analysis (Appendix E).

Impact Analysis

Study Intersections

The following study intersections were evaluated.

Table 17. Traffic Study Intersection Locations

ID No.	Intersection Location
1	Redlands Boulevard/ Anderson Street-Tippecanoe Avenue
2	Redlands Boulevard / Poplar Street-Holiday Inn Express Driveway
3	Redlands Boulevard / Richardson Street Crooks Street
4	Redlands Boulevard / Mountain View Avenue
Source: Traffic Impact Analysis, Willdan Engineering, December 9 2015.	

Significance Thresholds

In 2006, the City of Loma Linda voters passed Ballot Measure V, which amended the City's General Plan by the addition of a new growth management element. Accordingly, Chapter 2A was incorporated into the General Plan. Principle Six of the Growth Management Element states:

Traffic levels of service throughout the City of Loma Linda shall be maintained at current levels and new development shall be required to fully mitigate any impact on traffic resulting from the development.

Further clarification is provided in subsection 2. *Levels of Service Throughout the City Shall Be Maintained,* under Principle Six, as follows:

To assure the adequacy of various public services and to prevent degradation of the quality of life experience by the resident of Loma Linda, all new development projects shall assure by implementation of appropriate mitigation measures that, at a minimum, traffic levels of service (LOS) are maintained at a minimum of LOS C throughout the City, except where the current level of service is lower than LOS C.

In any location where the level of service is below LOS C at the time an application for development project is submitted, mitigation measures shall be imposed on that development project to assure, at a minimum, that the level of traffic service is maintained at levels of service that are no worse than those existing at the time an application for development is filed. In any location where the Level of Service is LOS F at the time an application for a development project is submitted, mitigation measures shall be imposed on that development project to assure, at a minimum, that the volume to capacity ratio is maintained at a volume to capacity ratio that is no worse than that existing at the time an application for development is filed. Projects where sufficient mitigation to achieve the above stated objectives is infeasible shall not be approved unless and until the necessary mitigation measures are identified and implemented.

LOS is described in Table 18 below.

Table 18. Level of Service Criteria for Unsignalized and Signalized Intersections

Level of Service	Unsignalized Intersection Average Delay per Vehicle (sec.)	Signalized Intersection Average Delay per Vehicle (sec.)
A	< 10	< 10
B	> 10 and < 15	10 and < 20
C	> 15 and < 25	> 20 and < 35
D	> 25 and < 35	> 35 and < 55
E	35 and < 50	> 55 and < 80
F	> 50	> 80
Source: Transportation Research Board Special Report 209, Highway Capacity Manual (HCM).		

Traffic Scenarios

The *Traffic Impact Analysis* prepared for the Project examined the following scenarios:

1) Existing (2015) Conditions.

2) Existing (2015) with Project Conditions.

3) Opening Year (2016) Pre-Project Conditions.

4) Opening Year (2016) with Project Conditions.

5) Horizon Year (2035) without Project Conditions.

6) Horizon Year (2035) with Project Conditions.

For each scenario, traffic operations at study intersections were evaluated for the A.M. and P.M. peak hours. The A.M. peak hour is defined as the one hour of highest traffic volumes occurring between 7:00 and 9:00 A.M. The P.M. peak hour is defined as the one hour of highest traffic volumes occurring between 4:00 and 6:00 P.M.

Trip Generation

The *Traffic Impact Analysis* prepared for the Project estimated the Project would generate 18 trips in the a.m. peak hour, 40 trips in the p.m. peak hour, and 443 daily trips.

Motorized Vehicle Travel Analysis

Scenario #1: Existing Traffic Conditions (2015)

Under existing conditions, all intersections are operating at satisfactory Levels of Service B or better

Scenario #2: Existing (2015) with Project Conditions.

The Project is expected to change the average delay by a negligible amount at all of the study intersections during both peak hours and is not expected to have a significant impact on any of the four study intersections. All intersections are projected to operate at satisfactory Levels of Service B or better.

Scenario #3: Opening Year (2016) without Project Traffic Conditions

All four of the study intersections are expected to continue to operate at LOS B or better without the Project during the Opening Year.

Scenario #4: Opening Year with Project Traffic Conditions

With the Project, all four study intersections are expected to continue to operate at LOS B or better.

Scenario #5: Horizon Year (2035) without Project Conditions.

All four of the study intersections are expected to continue to operate at LOS B or D or better without the Project in the year 2035. It should be noted that the intersections of Redlands Boulevard/Anderson Street-Tippecanoe Avenue and Redlands Boulevard/Mountain View Avenue are currently operating at LOS D *without* the Project.

Scenario #6: Horizon Year (2035) with Project Conditions.

The addition of the traffic generated by the Project in Year 2035 will increase the amount of delay but not the Level of Service as shown in Table 19 below.

Table 19. Without Project Traffic vs. With Project Traffic PM Peak Hour Comparison (Year 2035)

Intersection	2035 Without Project Conditions	2035 With Project Conditions	Level of Service
	Pm Peak Hour	PM Peak Hour	
	Delay in Seconds	Delay in Seconds	
Redlands Boulevard/Anderson Street-Tippecanoe Avenue	**49.8**	**51.7**	**D**
Redlands Boulevard/Mountain View Avenue	**35.0**	**35.2**	**D**
Source: Traffic Impact Analysis, Willdan Engineering, December 9 2015.			

As shown in Table 19 above, there is a slight increase in the delay in seconds but the Level of Service remains the same when Project traffic is added. As noted above, pursuant to Measure V, *in*

any location where the level of service is below LOS C at the time an application for development project is submitted, mitigation measures shall be imposed on that development project to assure, at a minimum, that the level of traffic service is maintained at levels of service that are no worse than those existing at the time an application for development is filed. In this case, no mitigation measures are required because there is no change in the Level of Service as result of the Project.

Table 20 summarizes the intersection Level of Service impacts for all the scenarios analyzed.

Table 20. Summary of Intersection Level of Service (LOS) and Impacts

Scenario	**1**		**2**		**3**		**4**		**5**		**6**	
	Existing		**Existing with Project**		**Opening Year without Project**		**Opening Year with Project**		**Horizon Year (2035) without Project Conditions**		**Horizon Year (2035) with Project Conditions**	
Intersection	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**
Redlands Blvd / Anderson St-Tippecanoe Ave	A	B	B	B	B	B	B	B	B	D	B	D
Redlands Blvd / Poplar St-Holiday Inn Express Driveway	B	B	B	B	B	B	B	B	B	B	B	B
Redlands Blvd / Richardson St-Crooks St	B	B	B	B	B	B	B	B	B	B	B	B
Redlands Blvd / Mountain View Ave	A	B	A	B	A	B	A	B	B	D	B	D
Source: Traffic Impact Analysis, Willdan Engineering, December 9 2015.												

Conclusion

The Project is not expected to have a significant impact on any of the four study intersections for Existing Plus Project (2015) conditions, Opening Year (2016) conditions or Horizon Year (2035) conditions. Therefore, in accordance with Measure V, no traffic improvement mitigation measures are required. The Project is required to pay the City's Development Impact Fee for traffic impacts, but that is a standard condition of approval and not considered a mitigation measure under CEQA.

Bicycle & Pedestrian Facilities Analysis

The Project is not proposing to construct any improvements that will interfere with bicycle and pedestrian use. Pedestrian and bicycle access will be available from the existing sidewalk and

roadway on Redlands Boulevard. Therefore, the Project will not conflict with an applicable plan, ordinance or policy applying to non-motorized travel. Impacts are less than significant.

3.16(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?

Determination: Less Than Significant Impact.

Source: SANBAG Congestion Management Program.

Impact Analysis

The San Bernardino Associated Governments (SANBAG) is designated as the Congestion Management Agency for San Bernardino County. SANDAG prepares and administers the Congestion Management Program for San Bernardino County in consultation with local agencies, the County of San Bernardino, transit agencies, and subregional agencies.

The intent of the Congestion Management Program is to more directly link land use, transportation, and air quality, thereby prompting reasonable growth management programs that will effectively utilize new transportation funds, alleviate traffic congestion and related impacts, and improve air quality.

For transportation facilities identified in the Congestion Management Program, including intersections, segments, and freeways, the Congestion Management Program definition of deficiency is based on maintaining a Level of Service (LOS) standard of LOS E or better, except where an existing LOS F condition is identified in the Congestion Management Program. A Congestion Management Program deficiency is, therefore, defined as any facility operating or projected to operate at LOS F, unless the facility is identified explicitly in the Congestion Management Program document. If the facility is specifically identified in the CMP document as operating at LOS F, then a 10 percent or more degradation in the quantitative measure used to determine the LOS (such as delay, V/C, or travel speed) will comprise a deficiency, which must be addressed by a deficiency plan.

Based on the analysis in Section 3.16(a) above, the Project would not result in an intersection to operate at LOS F. Accordingly, implementation of the Project would not conflict with the applicable CMP, including Level of Service standards, and impacts would be less than significant.

3.16(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?

Determination: Less Than Significant Impact.

Source: Google Earth, General Plan, Public Health and Safety Element), Airport Layout Plan Narrative Report for San Bernardino International Airport

Impact Analysis

The Project site is located approximately 1.5 miles south of the San Bernardino International Airport. An Airport Land Use Compatibility Plan has not been adopted for the airport. However, according to Figure 10.4, Loma Linda General Plan, Public Health and Safety Element, the northern most portion of the Project site is located within the San Bernardino International Airport Influence Area.

Based on a report entitled: *Airport Playout Plan Narrative for San Bernardino International Airport, San Bernardino, California,* prepared by Coffman Associates, Inc. and approved by the San Bernardino International Airport Authority on September 22, 2010, airfield design standards as required by the Federal Aviation Administration, show that the Project site is not located in any of the following areas:

- Runway Safety Area
- Object Free Area
- Obstacle Free Zone
- Precision Object Free Area
- Runway Protection Zone

Based on the above analysis, the Project would not result in a 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. Impacts are less than significant.

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

Determination: Less Than Significant Impact.

Source: Project Application Materials.

Impact Analysis

The proposed drive-thru car wash facility would be compatible with the existing commercial development in the surrounding area; therefore, implementation of the Project would not create a transportation hazard as a result of an incompatible use. Access to the Project site is from Redlands Boulevard which is an existing paved four-lane roadway with a painted median. No additional roadway improvements are required except for construction of a new driveway approach and reconstructed sidewalk. With the implementation of these improvements, the Project would provide adequate vehicular and pedestrian safety and ensure that no hazardous transportation design features would be created by the Project. Accordingly, the Project would not substantially increase hazards due to a design feature or incompatible use. Impacts would be less than significant.

3.16(e) Result in inadequate emergency access?

Determination: Less Than Significant Impact.

Source: Project Application Materials.

Impact Analysis

The Project would result in a new commercial use, which would increase the need for emergency access to-and-from the site. Adequate emergency access would be provided to the project site from Redlands Boulevard. During the course of the required review of the project, the project's transportation design was reviewed by the City's Engineering Department, County Fire Department, and County Sheriff's Department to ensure that adequate access to and from the site would be provided for emergency vehicles.

With the adherence to mandatory requirements for emergency vehicle access, impacts would be less than significant.

3.16(f) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?

Determination: Less Than Significant Impact.

Source: General Plan Circulation Element, Project Application Materials.

Impact Analysis

The Project is designed to comply with all applicable transportation policies, plans, and programs. The Project also would accommodate pedestrians via sidewalks. Omnitrans operates Route 8 which runs along Redlands Boulevard and serves the Project area. Implementation of the Project would not interfere with the operation of this transit route because no additional roadway improvements are required except for construction of a new driveway approach and reconstructed sidewalk. Therefore, the Project would not conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities. Impacts would be less than significant.

3.17 UTILITIES AND SERVICE SYSTEMS

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

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

Determination: Less Than Significant Impact.

Source: San Bernardino Municipal Water Department

Impact Analysis

Wastewater treatment for the City of Loma Linda is provided by the San Bernardino Municipal Water Department Water Reclamation Plant which is a 33 MGD Regional Secondary Treatment facility. Primary and secondary treatment processes are employed to meet the discharge standards specified in the National Pollutant Discharge Elimination Permit issued to the Water Reclamation Plant by the State of California Regional Water Quality Control Board. Secondary treated wastewater from the Water Reclamation Plant discharges to an offsite tertiary treatment facility operated jointly by the cities of San Bernardino and Colton.

The Rapid Infiltration and Extraction facility receives approximately 33 MGD of secondary treated wastewater from the Water Reclamation Plant and Colton's treatment facility. Natural bio-filtration is employed through the use of percolation basins and ultra-violet disinfection is used to meet the State of California Title 22 tertiary standards, in addition to the discharge standards specified in a separate National Pollutant Discharge Elimination Permit issued to the Rapid Infiltration and Extraction facility. Rapid Infiltration and Extraction facility treated wastewater consistently meets or exceeds required discharge standards and is often superior in quality to effluent produced through conventional tertiary facilities.

Based on the above analysis, the Project would have no potential to exceed the applicable wastewater treatment requirements established by the. Santa Ana Regional Water Quality Control Board. Accordingly, impacts would be less than significant.

3.17(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?

Determination: Less Than Significant Impact.

Sources: Loma Linda Public Works Department Utilities Map

Impact Analysis

Water and sewer service to the Project site will be provided by the City of Loma Linda. Water is available to serve the Project site from an existing 18-inch diameter water line in Redlands Boulevard adjacent to the northern boundary of the site. Sewer service is available for the Project from an existing 8-inch diameter sewer line in Redlands Boulevard adjacent to the northern boundary of the site.

The connection to the exiting water and sewer lines as proposed by the Project would result in physical impacts to the surface and subsurface of the Project site and vicinity. These impacts are considered to be part of the Project's construction phase and are evaluated throughout this Initial Study Checklist. In instances where potentially significant impacts have been identified for the Project's construction phase, Mitigation Measures (as necessary) are required to reduce impacts to less-than-significant levels. Accordingly, additional measures beyond those identified throughout this Initial Study Checklist would not be required.

Based on the above analysis, impacts would be less than significant.

3.17(c) Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

Determination: Less Than Significant Impact.

Source: Preliminary Water Quality Management Plan.

Surface runoff will be directed towards Redlands Boulevard to a bio-retention filtration system positioned inside the property line to capture the "first flush." Flows from the parking area, driveways and planters will be diverted through the bio-retention filtration system then through an under sidewalk drain into Redlands Boulevard.

The construction of storm drain facilities would result in physical impacts to the surface and subsurface of the Project site. These impacts are considered to be part of the Project's construction phase and are evaluated throughout this Initial Study Checklist. In instances where potentially significant impacts have been identified for the Project's construction phase, Mitigation Measures are required to reduce impacts to less-than-significant levels. Accordingly, additional measures beyond those identified throughout this Initial Study Checklist would not be required.

Based on the above analysis, impacts would be less than significant.

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

Determination: Less Than Significant Impact.

Sources: 2010 San Bernardino Valley Urban Water Management Plan, City of Loma Linda Public Works Department.

Impact Analysis

The Project would be served with potable water by the City of Loma Linda. The primary source of potable water supply for the City of Loma Linda is groundwater extracted from the cities own six production wells. Loma Linda's main water source is ground water within the Bunker Hill Basin. The Bunker Hill Basin water is replenished by annual rainfall and form snowmelt from the San Bernardino Mountains. The city also uses supplemental water obtained from the City of San Bernardino Municipal Water Department.

The San Bernardino Basin Area was defined by, and adjudicated in gross, by the Western-San Bernardino Judgment (Western Judgment) in 1969. The San Bernardino Basin Area is adjudicated on a safe yield basis. Loma Linda therefore has the opportunity to develop additional wells and over-extract groundwater under specified conditions contained in the stipulated judgment. The wells in general have provided a stable source of water supply. Extensive modeling has been used to examine groundwater recharge, groundwater pumping, basin storage, groundwater flow, and groundwater plume location and plume migration. Based on these studies it is anticipated that groundwater pumping by Loma Linda and other San Bernardino Basin Area users will not be reduced or curtailed during a single-dry or multi-dry year. (Ref. 2010 San Bernardino Valley Urban Water Management Plan, pp. 8-26-27).

Based on Table 8.15- *Water Deliveries - Projected 2025, 2030, and 2035* of the *2010 San Bernardino Valley Urban Water Management Plan,* it is estimated that commercial uses such as the proposed Project have an annual water demand approximately 2.85 acre feet per year (afy). Based on the project site's 0.74 acres, the proposed Project's water demand is estimated to be approximately 2.1 afy, or 1,874 gallons per day (gpd). This estimated water demand will represent only a nominal percentage (0.02 percent or less) of projected surplus (projected supply minus project demand) for the single and multiple dry year scenarios as described in Table 8.29-*Water Supplies - Current and*

Projected of the *2010 San Bernardino Valley Urban Water Management Plan.* (It should be noted that the estimate for water usage is conservative and is based on a general commercial use. The Applicant provided information that based on a factor of 8.4 gallons of water per vehicle wash and assuming 100 vehicles per day, daily water usage would be 840 gallons per day for the washing of cars).

In addition, all wash waste water is funneled into the 1st in a series of four (4) 1200 gallon tanks buried under the bypass lane. Each tank flows into the next tank settling out the solids. The reclaim system picks up the waste water from the 3rd tank, then processes it through a series of centrifugal systems which produces water that can be used in the wheel blasters and undercarriage wash. This system runs continually, recycling the water back into the 1st tank if the wash is not being used. This system helps conserve the amount of water used.

It should be noted that in response to the State of California's severely depleted water supplies, multi-year drought and a record low snowpack, on April 1, 2015, Governor Brown issued an Executive Order effective immediately, ordering the Department of Water Resources Control Board to issue mandatory actions to reduce statewide water usage by 35% from 2013 levels, as well as increasing enforcement efforts to prevent water waste. In response, the City of Loma Linda has established the following emergency water prohibitions that are applicable to the Project:

- The application of potable water to any driveway, sidewalk or hard scape. Must repair water leaks in a timely manner.

- Using potable water to water outdoor landscapes in a manner that causes runoff to adjacent property, non-irrigated areas, private and public walkways, roadways, parking lots or structures.

- Restricting the watering of turf and landscape to two day per week. Use of outdoor sprinkler system only between the hours of 8:00 pm until 7:00am.

- No watering of outdoor landscape, turf or plant material for 48 hours after any measurable rain fall.

Based on the above analysis, impacts would be less than significant.

3.17(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?

Determination: Less Than Significant Impact.

Sources: 2010 San Bernardino Valley Urban Water Management Plan, City of Loma Linda Public Works Departmen.t

Impact Analysis

Sanitary sewer service to the Project site would be provided by the Loma Linda Public Works Department. Wastewater treatment for the City of Loma Linda is provided by the San Bernardino

Municipal Water Department Water Reclamation Plant which is a 33 MGD Regional Secondary Treatment facility.

The Project's wastewater generation is based on a number of factors, such as the metered water usage and the number and type of plumbing fixtures and bathroom facilities. Given that the Project only has one bathroom facility, the wastewater production will represent only a nominal percentage of the 33 MGD of permitted wastewater treatment capacity at the Water Reclamation Plant.

In addition, all wash waste water is funneled into the 1st in a series of four (4) 1200 gallon tanks buried under the bypass lane. Each tank flows into the next tank settling out the solids. The reclaim system picks up the waste water from the 3rd tank, then processes it through a series of centrifugal systems which produces water that can be used in the wheel blasters and undercarriage wash. This system runs continually, recycling the water back into the 1st tank if the wash is not being used. This system helps reduce the amount of waste water generated.

Based on the above analysis, impacts associated with wastewater treatment capacity will be less than significant.

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

Determination: Less Than Significant Impact.

Sources: CalRecycle.

Impact Analysis

Solid waste produced in the City of Loma Linda is collected and transported to the County of San Bernardino's San Timoteo Sanitary Landfill, located just south of the City of Redlands. The San Timoteo landfill has 114 acres permitted for disposal, a permitted daily throughput of 2,000 tons, and a remaining total capacity of 13,605,488 cubic yards. Estimated closure date is 2043

Construction Related Impacts

Waste generated during the construction phase of the Project would primarily consist of discarded materials from the construction of streets, common areas, infrastructure installation, and other project-related construction activities.

According to the Cal Recycle Facility/Site Summary Details website accessed on August 21, 2015, the San Timoteo landfill receives well below its maximum permitted daily disposal volume and demolition and construction waste generated by the project is not anticipated to cause this landfill to exceed its maximum permitted daily disposal volume. As such, the San Timoteo Landfill will have sufficient daily capacity to accept construction solid waste generated by the project.

In addition, the Project is required to comply with Section 4.408 of the *2013 California Green Building Code Standards,* which requires new development projects to submit and implement a construction waste management plan in order to reduce the amount of construction waste transported to landfills.

Operational Related Impacts

Based on a waste generation factor of 0.9 lbs/100sf/day obtained from the CalRecycle Website accessed on August 21, 2015, the project would generate approximately 27.5 pounds of waste per day, or 5 tons of waste per year (0.01 tons per day).

According to the Cal Recycle Facility/Site Summary Details website accessed on August 21, 2015, the San Timoteo Sanitary Landfill has a permitted disposal capacity of 2,000 tons per day with a remaining capacity of 13,605,488 cubic yards. The San Timoteo Sanitary Landfill is estimated to reach capacity, at the earliest time, in the year 2043.

During long-term operation, the Project's solid waste would represent less than 0.0005% of the daily permitted disposal capacity of the San Timoteo Sanitary Landfill.

Therefore, solid waste generated by the project is not anticipated to cause the San Timoteo Sanitary Landfill to exceed its maximum permitted daily disposal volume.

Based on the above analysis, impacts would be less than significant.

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

Determination: Less Than Significant Impact.

Sources: California Assembly Bill 939 (Sher), San Bernardino County, Countywide Integrated Waste Management Plan

Impact Analysis

The California Integrated Waste Management Act established an integrated waste management system that focused on source reduction, recycling, composting, and land disposal of waste. In addition, the Act established a 50% waste reduction requirement for cities and counties by the year 2000, along with a process to ensure environmentally safe disposal of waste that could not be diverted. Per the requirements of the Integrated Waste Management Act, the San Bernardino County Board of Supervisors adopted the *Countywide Integrated Waste Management Plan* which outlines the goals, policies, and programs the County and its cities will implement to create an integrated and cost effective waste management system that complies with the provisions of California Integrated Waste Management Act and its diversion mandates.

The Project's waste hauler would be required to coordinate with the waste hauler to develop collection of recyclable materials for the Project on a common schedule as set forth in applicable local, regional, and State programs. Recyclable materials that would be recycled by the Project include paper products, glass, aluminum, and plastic. Additionally, the Project's waste hauler would be required to comply with all applicable local, State, and Federal solid waste disposal standards, thereby ensuring that the solid waste stream to the landfills that serve the project are reduced in accordance with existing regulations.

Based on the above analysis, impacts would be less than significant.

3.18 MANDATORY FINDINGS OF SIGNIFICANCE

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

Impact Analysis

3.18(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?

Determination: Less Than Significant Impact with Mitigation Incorporated.

Source: This Initial Study Checklist.

As noted in the analysis throughout this Initial Study Checklist, the following Mitigation Measures apply to the Project and would reduce impacts relating to this issue. These measures will be included in the Project's Mitigation Monitoring and Reporting Program:

Mitigation Measures (MM)

Mitigation Measures CR-1 through CR-4 shall apply.

Impact Analysis

All impacts to the environment, including impacts to habitat for fish and wildlife species, fish and wildlife populations, plant and animal communities, rare and endangered plants and animals, and historical and pre-historical resources were evaluated as part of this Initial Study Checklist..

In instances where impacts have been identified, the Mitigation Measures listed above are required to reduce impacts to less than significant levels. Therefore, the Project would not substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, 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.

3.18(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)?

Determination: Less Than Significant With Mitigation Incorporated.

Source: This Initial Study Checklist.

As noted in the analysis throughout this Initial Study Checklist, the following Mitigation Measures apply to the Project and would reduce impacts relating to this issue. These measures will be included in the Project's Mitigation Monitoring and Reporting Program:

Mitigation Measures (MM)

All Mitigation Measures (MM) identified in this Initial Study Checklist Document shall apply.

Impact Analysis

As discussed throughout this Initial Study Checklist, implementation of the proposed Project has the potential to result in effects to the environment that are individually limited, but cumulatively considerable.

In instances where impacts have been identified, the Mitigation Measures, listed above are required to reduce impacts to less than significant levels. Therefore, the Project would not contribute to environmental effects that are individually limited, but cumulatively considerable.

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

Determination: Less Than Significant Impact with Mitigation Incorporated.

As noted in the analysis throughout this Initial Study Checklist, no Mitigation Measures apply to the Project and that would reduce impacts relating to this issue.

Mitigation Measures (MM)

Mitigation Measures NOI-1 and NOI-2 shall apply.

Impact Analysis

The Project's potential to result in environmental effects that could adversely affect human beings, either directly or indirectly, has been discussed throughout this Initial Study Checklist document.

In instances where impacts have been identified, these impacts are less than significant without mitigation. Therefore, the Project would not result in environmental effects which would cause substantial adverse effects on human beings, either directly or indirectly.

4.0 REFERENCES

California Air Resources Board (CARB) Handbook, 2009.
http://www.arb.ca.gov/homepage.htm

California Environmental Quality Act (CEQA) Guidelines.
http://opr.ca.gov/m_ceqa.php

California Environmental Quality Act (CEQA) Air Quality Handbook.
http://opr.ca.gov/m_ceqa.php

City of Loma Linda General Plan, May, 2009.
http://lomalindaca.gov/asp/Site/Departments/CommunityDev/PlanningDivision/GeneralPlan/index.asp

City of Loma Linda Municipal Code.
http://qcode.us/codes/lomalinda/

California Department of Toxic Substances Control.
www.dtsc.ca.gov

Countywide Integrated Waste Management Plan.
http://www.sbcounty.gov/dpw/solidwaste/PDFs/20080729_dpw_swmd_ciwmb_2007_5_year_review_optimized_20080723.pdf

Flood Insurance Rate Maps, Federal Emergency Management Agency.
https://msc.fema.gov

South Coast Air Quality Management District.
www.aqmd.gov.

South Coast Air Quality Management District, Final 2012 Air Quality Management Plan.
www.aqmd.gov

Southern California Association of Governments, 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy.
http://rtpscs.scag.ca.gov/Pages/default.aspx

San Bernardino International Airport Authority, *Airport Layout Plan Narrative for San Bernardino International Airport, San Bernardino, California,* Coffman Associates, Inc., September 22, 2010.
http://www.sbiaa.org/wp-content/uploads/2015/10/ALP-Narrative-Report-Complete.pdf

5.0 REPORT PREPARATION PERSONNEL

LEAD AGENCY:

City of Loma Linda
25541 Barton Road
Loma Linda, CA 92354
Contact: Guillermo Arreola, Senior Planner

Ernest Perea, Romo Planning Group, Inc.

CONDITIONAL USE PERMIT No. 14-153
DRIVE-THRU CAR WASH, 24965 REDLANDS BOULEVARD

MITIGATION MONITORING AND REPORTING PROGRAM

Table 1, Mitigation Monitoring Reporting Program, will be used by the City of Loma Linda to enforce mitigation measures during each phase of the project pursuant to Section 15097 of the State CEQA Statues and Guidelines and Section 21081.6 of the Public Resources Code Section. The City of Loma Linda will be responsible for the implementation for all the mitigation measures listed in Table 1 and shall maintain monitoring documentation on each measure within the Loma Linda files at the address listed below.

The entity responsible for monitoring will change based on the specific requirements identified in each mitigation measure. The phase of the project and monitoring period are also listed. Lastly, while monitoring of a specific measure is being conducted for several project phases, the Notes/Initial column is used to record compliance for each phase. When compliance with a mitigation measure for each project phase has been demonstrated, documentation on the Notes/Initial column is provided and monitoring of the measure will be deemed to be satisfied. No further monitoring will be required for the completed mitigation measure. For measures that require monitoring during operation of the project, annual documentation on the notes/initial column or a separate letter/memorandum shall be provided in the monitoring file that is kept at the City of Loma Linda.

The Mitigation Monitoring and Reporting Program will be kept on file at the following address:

City of Loma Linda
Community Development Department
25541 Barton Road
Loma Linda, CA 92354
909.799.2895
Konrad Bolowich, Assistant City Manager

Table1. Mitigation Monitoring Reporting Program

Mitigation Measure	Implementation	Monitoring	Notes/Initials
Cultural Resources			
MM- CR-1: Archaeological Monitoring. If archaeological resources are encountered during implementation of the project, ground-disturbing activities will be temporarily redirected from the vicinity of the find and the Applicant and/or the Applicants representative shall immediately contact the City. The City shall then contact a qualified archaeologist to determine whether the find requires further study. The City shall include a note on the grading plan to inform contractors of this requirement. The Project Archaeologist will be allowed to temporarily divert or redirect grading or excavation activities in the vicinity in order to make an evaluation of the find. If the resource is significant, Mitigation Measure CR-2 shall apply.	**Responsible Party(s)** City of Loma Linda Community Development Department, Building Division **Implementation Phase** During earthmoving activities	**Responsible Party(s)** City of Loma Linda Community Development Department, Building Division **Monitoring Period** Verify inclusion in grading plan notes; site inspection	
MM- CR-2: Archeological Treatment Plan. If a significant archaeological resource(s) is discovered on the property, ground disturbing activities shall be suspended 100 feet around the resource(s). The archaeological monitor and a representative of the appropriate Native American Tribe(s), the Project Proponent, and the City Planning Department shall confer regarding mitigation of the discovered resource(s). A treatment plan shall be prepared and implemented by the archaeologist to protect the identified archaeological resource(s) from damage and destruction. The treatment plan shall contain a research design and data recovery program necessary document the size and content of the discovery such that the resource(s) can be evaluated for significance under CEQA criteria. The research design shall list the sampling procedures appropriate to exhaust	**Responsible Party(s)** City of Loma Linda Community Development Department, Building Division, Planning Division **Implementation Phase** During earthmoving activities	**Responsible Party(s)** City of Loma Linda Community Development Department, Building Division, Planning Division **Monitoring Period** Verify inclusion in grading plan notes; site inspection	

Mitigation Measure	Implementation	Monitoring	Notes/Initials
the research potential of the archaeological resource(s) in accordance with current professional archaeology standards (typically this sampling level is two (2) to five (5) percent of the volume of the cultural deposit). The treatment plan shall require monitoring by the appropriate Native American Tribe(s) during data recovery excavations of archaeological resource(s) of prehistoric origin, and shall require that all recovered artifacts undergo laboratory analysis. At the completion of the laboratory analysis, any recovered archaeological resources shall be processed and curated according to current professional repository standards. The collections and associated records shall be donated to an appropriate curation facility, or, the artifacts may be delivered to the appropriate Native American Tribe(s) if that is recommended by the City of Loma Linda. A final report containing the significance and treatment findings shall be prepared by the archaeologist and submitted to the City of Loma Linda Planning Department and the San Bernardino County Museum.			
MM-CR-3: Paleontological Monitoring. If paleontological resources are encountered during implementation of the project, ground-disturbing activities will be temporarily redirected from the vicinity of the find and the Applicant and/or the Applicants representative shall immediately contact the City. The City shall then contact a qualified paleontologist to determine whether the find requires further study… The City shall include a note on the grading plan to inform contractors of this requirement. The Project Paleontologist will be allowed to temporarily divert or redirect grading or excavation activities in the vicinity in order to make an evaluation of the find. If the resource is significant, Mitigation Measure CR-2 shall apply.	**Responsible Party(s)** City of Loma Linda Community Development Department, Building Division, Planning Division **Implementation Phase** During earthmoving activities	**Responsible Party(s)** City of Loma Linda Community Development Department, Building Division, Planning Division **Monitoring Period** During earthmoving activities	
MM-CR-4: Paleontological Treatment Plan. If a significant paleontological resource(s) is discovered on the property, in consultation	**Responsible Party(s)** City of Loma Linda Community Development	**Responsible Party(s)** City of Loma Linda Community Development	

Mitigation Measure	Implementation	Monitoring	Notes/Initials
with the Project proponent and the City, the qualified paleontologist shall develop a plan of mitigation which shall include salvage excavation and removal of the find, removal of sediment from around the specimen (in the laboratory), research to identify and categorize the find, curation in the find a local qualified repository, and preparation of a report summarizing the find.	Department, Planning Division **Implementation Phase** During earthmoving activities	Department, Planning Division **Monitoring Period** During earthmoving activities, final occupancy clearance	
Noise			
NOI-1 Prior to the issuance of a grading permit and building permit, the following notes shall be included on grading plans and building plans: "a) All construction activities shall comply with Chapter 9.0 (Noise Regulations) of the Municipal Code, including but not limited to the requirement that must be limited to the hours of 7 a.m. to 8 p.m., Monday through Friday. Major construction may not take place during weekends or holidays. Minor activities may be permitted on weekends and holidays. b) Construction contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers, consistent with manufacturers' standards. c) All stationary construction equipment shall be placed in such a manner so that emitted noise is directed away from any sensitive receptors adjacent to the Project site. d) Construction equipment staging areas shall be located the greatest distance between the staging area and the nearest sensitive receptors. "	**Responsible Party(s)** City of Loma Linda Public Works Department, Engineering Division, City of Loma Linda Community Development Department, Building Division **Implementation Phase** Verify inclusion on grading plan	**Responsible Party(s)** City of Loma Linda Public Works Department, Engineering Division, City of Loma Linda Community Development Department, Building Division **Monitoring Period** Prior to the issuance of a grading permit and building permit	
NOI-2 The project proponent shall implement one (1) of the following two (2) options:	**Responsible Party(s)** City of Loma Linda Community	**Responsible Party(s)** City of Loma Linda Community	

Mitigation Measure	Implementation	Monitoring	Notes/Initials
Option 1) Prior to final occupancy clearance, construct an 8.5 foot high noise barrier consisting of a wall along the southern property line adjacent to the residential homes at that location. The noise barrier must have a surface density of at least 3.5 pounds per square foot, and shall have no openings or gaps. The wall may be constructed of stud and stucco, 3/8-inch plate glass, 5/8-inch plexiglass, any masonry material, or a combination of these materials. Option 2) Prior to the issuance of a building permit, building plans shall include an automated roll-up door at the entrance end of the car wash tunnel. The door shall remain closed during the operation of the car wash dryers. The door shall include glass or Plexiglas panels to allow light into the car wash tunnel. The gaps around the edge of the door and between panels shall be kept to a minimum. The bottom of the door shall have a heavy rubber flap.	Development Department, Building Division, Planning Division **Implementation Phase** Option 1: Prior to issuance of a building permit Option 2: Prior to issuance of a building permit	Development Department, Building Division, Planning Division **Monitoring Period** Option 1: Prior to final occupancy clearance Option 2: Verify inclusion on building plan	

CONDITIONS OF APPROVAL
CONDITIONAL USE PERMIT (CUP) NO. 14 - 153

COMMUNITY DEVELOPMENT DEPARTMENT

General

1. Within one year of this approval, the Conditional Use Permit shall be exercised by substantial construction or the permit/approval shall become null and void. In addition, if after commencement of construction, work is discontinued for a period of one year, the permit/approval shall become null and void.

PROJECT:	**EXPIRATION DATE:**
CONDITIONAL USE PERMIT (CUP) NO. 14-153	**March 2, 2017**

2. The review authority may, upon application being filed 30 days prior to the expiration date and for good cause, grant a one-time extension not to exceed 12 months. The review authority shall ensure that the project complies with all current Development Code provisions.
3. In the event that this approval is legally challenged, the City will promptly notify the applicant of any claim or action and will cooperate fully in the defense of the matter. Once notified, the applicant agrees to defend, indemnify, and hold harmless the City, Redevelopment Agency (RDA), their affiliates officers, agents and employees from any claim, action or proceeding against the City of Loma Linda. The applicant further agrees to reimburse the City and RDA of any costs and attorneys fees, which the City or RDA may be required by a court to pay as a result of such action, but such participation shall not relieve applicant of his or her obligation under this condition.
4. Construction shall be in substantial conformance with the plan(s) approved by the Planning Commission. Minor modification to the plan(s) shall be subject to approval by the Director through a minor administrative variation process. Any modification that exceeds 10% of the following allowable measurable design/site considerations shall require the refilling of the original application and a subsequent hearing by the appropriate hearing review authority if applicable:
    a. On-site circulation and parking, loading and landscaping;
    b. Placement and/or height of walls, fences and structures;
    c. Reconfiguration of architectural features, including colors, and/or modification of finished materials that do not alter or compromise the previously approved theme; and,
    d. A reduction in density or intensity of a development project.
5. No vacant, relocated, altered, repaired or hereafter erected structure shall be occupied or no change of use of land or structure(s) shall be inaugurated, or no new business commenced as authorized by this permit until a Certificate of

Occupancy has been issued by the Building Division. A Temporary Certificate of Occupancy may be issued by the Building Division subject to the conditions imposed on the use, provided that a deposit is filed with the Community Development Department prior to the issuance of the Certificate, if necessary. The deposit or security shall guarantee the faithful performance and completion of all terms, conditions and performance standards imposed on the intended use by this permit.

6. This permit or approval is subject to all the applicable provisions of the Loma Linda Municipal Code, Title 17 in effect at the time of approval, and includes development standards and requirements relating to: dust and dirt control during construction and grading activities; emission control of fumes, vapors, gases and other forms of air pollution; glare control; exterior lighting design and control; noise control; odor control; screening; signs, off-street parking and off-street loading; and, vibration control. Screening and sign regulations compliance are important considerations to the developer because they will delay the issuance of a Certificate of Occupancy until compliance is met. Any exterior structural equipment, or utility transformers, boxes, ducts or meter cabinets shall be architecturally screened by wall or structural element, blending with the building design and include landscaping when on the ground.

7. Signs are not approved as a part of this permit. Prior to establishing any new signs, the applicant shall submit an application, and receive approval, for a sign permit from the Planning Division (pursuant to LLMC, Chapter 17.18) and building permit for construction of the signs from the Building Division, as applicable.

8. The applicant shall comply with all of the Public Works Department requirements for recycling prior to issuance of a Certificate of Occupancy.

9. Prior to issuance of Certificate of Occupancy, the applicant shall submit a photometric plan and final lighting plan to City staff showing the exact locations of light poles and the proposed orientation and shielding of the fixtures to prevent glare onto the existing home to the east.

10. During construction of the site, the project shall comply with Section 9.20 (Prohibited Noises) which limit construction activities to the hours between 7:00 a.m. to 10:00 p.m. Monday through Friday, with no heavy construction occurring on weekends or national holidays. Additionally, all equipment is required to be properly equipped with standard noise muffling apparatus. Adhering to the City's noise ordinance and implementation of the above mitigation measure would ensure impacts from construction noise would be less than significant.

11. The following shall also be implemented to help reduce the noise impacts to meet the City's interior (45dB) noise level.

    a. Dual pane windows and entry doors with solid core wood and weather stripping construction shall be utilized.

12. The applicant shall implement SCAQMD Rule 403 and standard construction practices during all operations capable of generating fugitive dust, which will

include but not be limited to the use of best available control measures and reasonably available control measures such as:

a. Water active grading areas and staging areas at least twice daily as needed;
b. The project proponent shall ensure that all disturbed areas are treated to prevent erosion until the site is constructed upon.
c. The project proponent shall ensure that landscaped areas are installed as soon as possible to reduce the potential for wind erosion.
d. Suspend grading activities when wind gusts exceed 25 mph;
e. Sweep public paved roads if visible soil material is carried off-site;
f. Enforce on-site speed limits on unpaved surface to 15 mph; and
g. Discontinue construction activities during Stage 1 smog episodes.

13. The applicant shall implement the following construction practices during all construction activities to reduce VOC emission as stipulated in the project Initial Study and identified as mitigation measures:

a. The contractor shall utilize (as much as possible) pre-coated building materials and coating transfer or spray equipment with high transfer efficiency, such as high volume, low pressure (HVLP) spray method, or manual coating applications such as paint brush, hand roller, trowel, dauber, rag, or sponge.

b. The contractor shall utilize water-based or low VOC coating of 100 g/l of VOC (allowing approximately 31,500 square feet painted per day) to 250 g/l of VOC (allowing approximately 12,950 square feet painted per day). The following measures shall also be implemented:

- Use Super-Compliant VOC paints whenever possible.
- If feasible, avoid painting during peak smog season: July, August, and September.
- Recycle leftover paint. Take any left-over paint to a household hazardous waste center; do not mix leftover water-based and oil-based paints.
- Keep lids closed on all paint containers when not in use to prevent VOC emissions and excessive odors.
- For water-based paints, clean up with water only. Whenever possible, do not rinse the clean-up water down the drain or pour it directly into the ground or the storm drain. Set aside the can of clean-up water and take it to a hazardous waste center (www.cleanup.org).
- Recycle the empty paint can.
- Look for non-solvent containing stripping products.
- Use Compliant Low-VOC cleaning solvents to clean paint application equipment.
- Keep all paint and solvent laden rags in sealed containers to prevent VOC emissions.
- The developer/contractor shall use building materials that do not require

painting, where feasible.

- The developer/contractor shall use pre-painted construction materials where feasible.

14. The applicant shall work with the City's franchised solid waste hauler to follow a debris management plan to divert the material from landfills by the use of separate recycling bins (e.g., wood, concrete, steel, aggregate, glass) during demolition and construction to minimize waste and promote recycle and reuse of the materials.
15. To reduce emissions, all equipment used in grading and construction must be tuned and maintained to the manufacturer's specification to maximize efficient burning of vehicle fuel.
16. The project proponent shall ensure that existing power sources are utilized where feasible via temporary power poles to avoid on-site power generation during construction.
17. The project proponent shall ensure that construction personnel are informed of ride sharing and transit opportunities.
18. The operator shall maintain and effectively utilize and schedule on-site equipment in order to minimize exhaust emissions from truck idling.
19. The operator shall comply with all existing and future CARB and SCAQMD regulations related to diesel-fueled trucks, which may include among others: (1) meeting more stringent emission standards; (2) retrofitting existing engines with particulate traps; (3) use of low sulfur fuel; and (4) use of alternative fuels or equipment.
20. The proposed project shall contribute on a fair share basis, through an adopted traffic impact fee schedule, in the implementation of the recommended intersection lane improvements or in dollar equivalent in lieu mitigation contributions, or in the implementation of additional capacity on parallel routes to offset potential impacts to study area intersections as listed the Traffic Impact Analysis.
21. All Development Impact fees shall be paid to the City of Loma Linda prior to the issuance of any building and/or construction permits.
22. Prior to issuance of any Building and/or Construction Permits, the applicant shall submit to the Community Development Department proof of payment or waiver from both the City of San Bernardino for sewer capacity fees and Redlands Unified School District for school impact fees.
23. The applicant shall pay all required development impact fees to cover 100 percent of the pro rata share of the estimated cost of public infrastructure, facilities, and services.
24. The developer shall provide infrastructure for the Loma Linda Connected Community Program, which includes providing a technologically enabled development that includes coaxial, cable and fiber optic lines to all outlets in each unit of the development. Plans for the location of the infrastructure shall be provided with the precise plan of design, which includes providing a technologically enabled development that includes coaxial, cable, and fiber optic lines to all outlets in each

unit of the development. Plans for the location of the infrastructure shall be provided with the precise grading plans and reviewed and approved by the City of Loma Linda prior to issuing grading permits.

25. The project shall comply with the City Art in Public Places Ordinance (LLMC Chapter 17.26), which establishes grounds for compliance for new enterprises to facilitate public art. The establishment of artistic assets will be financed and/or constructed by the development community as part of the development requirements.

26. Should paleontological resources be uncovered during grading, a qualified vertebrate paleontologist shall be contracted to perform a field survey to determine and record any nonrenewable paleontological resources found on-site. The paleontologist will determine the significance, and make recommendations for appropriate mitigation measures in compliance with the guidelines of the California Environmental Quality Act.

27. In the event that human remains are encountered during grading, all provisions of state law requiring notification of the County Coroner, contacting the Native American Heritage Commission, and consultation with the most likely descendant, shall be followed.

28. The project shall comply with all non-exempt provisions of Measure V and shall pay the full amount of any recalculated development impact fees, including traffic impact fees, prior to occupancy.

29. The applicant shall provide elevation details of the proposed trash enclosure. Trash enclosure design should incorporate matching colors and finishes to those found on the proposed hotel building.

Landscaping

30. The applicant shall submit three sets of the final landscape plan prepared by a state licensed Landscape Architect, subject to the approval of the Community Development Department, and Public Works Department for landscaping in the public right-of-way. Landscape plans for the Landscape Maintenance District shall be on separate plans.

31. Final landscape and irrigation plans shall be in substantial conformance with the approved conceptual landscape plan and these conditions of approval. Any and all fencing shall be illustrated on the final landscape plan.

32. Landscape plans shall depict the utility laterals, concrete improvements, and tree locations. Any modifications to the landscape plans shall be reviewed and approved by the Public Works and Community Development Departments prior to issuance of permits.

33. The applicant, property owner, and/or business operator shall maintain the property and landscaping in a clean and orderly manner and all dead and dying plants shall be replaced with similar or equivalent type and size of vegetation.

34. Should the relocation or removal of any tree be required, the applicant shall submit an Arborist Report prior to site disturbance. Any removal or replacement of trees shall be in accordance with the City's Tree Preservation Ordinance.

35. The applicant shall perform a Phase I Environmental Site Assessment to determine if the project site includes any contamination prior to the issuance of building permits.

36. The applicant shall prepare a study for the presence of hazardous chemicals, mercury, and asbestos containing materials (ACM) as a result of the demolition of the existing on-site structures. If other hazardous chemicals, lead-based paints (LPB) or products, mercury or ACMs are identified, proper precautions should be taken during demolition activities. Additionally, the contaminants should be remediated in compliance with California environmental regulations and policies.

37. Should future project construction require soil excavation or filling in certain areas, soil sampling may be required. If soil is contaminated, it must be properly disposed. Land Disposal Restrictions (LDRs) may be applicable to such soils. Soil sampling shall also be conducted on any imported soil.

38. If it is determined that hazardous wastes are, or will be generated by the proposed operation of the facility, the wastes shall be managed in accordance with the California Hazardous Waste Control Law and the Hazardous Waste Control Regulations. If it is determined that hazardous wastes will be generated, the facility shall obtain a United States Environmental Protection Agency Identification Number. Certain hazardous waste treatment processes or hazardous materials, handling, storage or uses may require authorization from the local Certified Unified Program Agency (CUPA).

39. If clean up oversight is required of the project, the applicant shall be required to obtain an Environmental Oversight Agreement with the DTSC.

FIRE DEPARTMENT

40. The applicant shall submit a complete set of plans to the Loma Linda Fire Department for review and approval prior to the issuance of building permits.

41. All construction shall meet the requirements of the editions of the California Building Code (CBC) and the California Fire Code (CFC)/International Fire Code (IFC) as adopted and amended by the City of Loma Linda and legally in effect at the time of issuance of building permit.

42. Pursuant to CFC Section 903, as amended in Loma Linda Municipal Code (LLMC) Sections 15.28.230-450, the building(s) shall be equipped with automatic fire sprinkler system(s). Pursuant to CFC Section 901.2, plans and specifications for the fire sprinkler system(s) shall be submitted to Fire Prevention for review and approval prior to installation. Fire flow test data for fire sprinkler calculations must be current within the last 6 months. Request flow test data from Loma Linda Fire Prevention.

43. On-site civil engineering improvement plans shall be submitted to Fire Prevention for review and approval prior to construction. Plans shall show the proposed

locations for water mains and fire hydrants; driveways, drive aisles and access roadways for fire apparatus.

44. The site address shall be as assigned by the Fire Marshal in a separate document, following approval of the project, and upon submittal of a working copy of the final approved site plan.

45. The developer shall submit a Utility Improvement Plan showing the location of fire hydrants for review and approval by the Fire Department.

PUBLIC WORKS DEPARTMENT

46. The developer shall submit an engineered grading plan for the proposed project.

47. All utilities shall be underground. The City of Loma Linda shall be the sewer purveyor.

48. All public improvement plans shall be submitted to the Public Works Department for review and approval.

49. Any damage to existing improvements as a result of this project shall be repaired by the applicant to the satisfaction of the City Engineer.

50. Prior to issuance of grading permits, the applicant shall submit to the City Engineer a Notice of Intent (NOI) to comply with obtaining coverage under the National Pollutant Discharge Elimination System (NPDES) General Construction Storm Water Permit from the State Water Resources Control Board. Evidence that this has been obtained (i.e., a copy of the Waste Dischargers Identification Number) shall be submitted to the City Engineer for coverage under the NPDES General Construction Permit.

51. All site drainage shall be handled on-site and shall not be permitted to drain onto adjacent properties.

52. An erosion/sediment control plan and a Water Quality Management Plan are required to address on-site drainage construction and operation.

53. All necessary precautions and preventive measures shall be in place in order to prevent material from being washed away by surface waters or blown by wind. These controls shall include at a minimum: regular wetting of surface or other similar wind control method, installation of straw or fiber mats to prevent rain related erosion. Detention basin(s) or other appropriately sized barrier to surface flow must be installed at the discharge point(s) of drainage from the site. Any water collected from these controls shall be appropriately disposed of at a disposal site. These measures shall be added as general notes on the site plan and a statement added that the operator is responsible for ensuring that these measures continue to be effective during the duration of the project construction.

54. Per the City of Loma Linda recycling policy, the project proponent shall incorporate interior and exterior storage areas for recyclables.

55. The project proponent shall comply with City adopted policies regarding the reduction of construction and demolition (C&D) materials.

56. The project shall comply with the Low Impact Development (LID) Principles and LID Best Management Practices (BMPs) for Southern California.

SHERIFFS DEPARTMENT

57. The developer shall provide sufficient exterior lighting to the site that illuminates otherwise dark corridors which may compromise public safety.
58. The developer shall register with the Crime Free Hotel/Motel Program which closely works with San Bernardino County Sheriffs Department personnel to address crime prevention.
59. The developer shall be required to prevent loitering on site.
60. The developer shall be required to provide clear windows at the lobby area.

COMMUNITY DEPARTMENT

1. The applicant shall comply all items listed in the Letter Dated December 16, 2014.

2. Within forty-eight (48) hours of this approval of the subject project, the applicant shall deliver a payment of two thousand, two hundred and ten dollars and twenty-five cents ($2,210.25), please make check out to the Clerk of the Board of Supervisors. This will enable the City to file the appropriate environmental documentation for the project. If within such forty-eight (48) hour period the applicant has not delivered to the Community Development Department the above noted check, the statue of limitations for any interested party to challenge the environmental determination under the provisions of the California Environmental Quality Act could be significantly lengthened.

MITIGATION MEASURES

61. Prior to site disturbance, the applicant shall provide to the City a detailed construction schedule that shall include a 44-day (at a minimum) building coating schedule.
62. In the event historic or archaeological resources are unearthed, a qualified archaeologist shall be contacted to determine if reporting the finds is required and if further monitoring during site earthwork is warranted. If, at any time, resources are identified, the archaeologist shall make recommendations to the City of Loma Linda for appropriate mitigation measures in compliance with the guidelines of the California Environmental Quality Act.
63. Should paleontological resources be uncovered during grading, a qualified vertebrate paleontologist shall be contacted to perform a field survey to determine and record any non-renewable paleontological resources found on-site. The paleontologist shall determine the significance, and make recommendations to the City of Loma Linda for appropriate mitigation measures in compliance with the guidelines of the California Environmental Quality Act.

64. If human remains of any kind are found during earthwork activities, all activities must cease immediately and the San Bernardino County Coroner and a qualified archaeologist must be notified. The Coroner will examine the remains and determine the next appropriate action based on his or her findings. If the coroner determines the remains to be of Native American origin, he or she will notify the Native American Heritage Commission. The Native American Heritage Commission will then identify the most likely descendants to be consulted regarding treatment and/or reburial of the remains. If a most likely descendant cannot be identified, or the most likely descendant fails to make a recommendation regarding the treatment of the remains within 48 hours after gaining access to them, the contractor shall rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further subsurface disturbance.

65. The Project Proponent shall implement recommendations for the Project's following: foundation design, bearing value, total and differential (static) settlement, earth pressures, slab on grade, pavement design and grading as provided in the recommendations set forth in the May 2013 Preliminary Foundation Soils Exploration report (pages 6 through 10) prepared by Geo-Etka, Inc. for the Project Site.

66. Prior to issuance of grading permits, the applicant shall submit to the City Engineer a Notice of Intent (NOI) to comply with obtaining coverage under the National Pollutant Discharge Elimination System (NPDES) General Construction Storm Water Permit from the State Water Resources Control Board. Evidence that this has been obtained (i.e., a copy of the Waste Dischargers Identification Number) shall be submitted to the City Engineer for coverage under the NPDES General Construction Permit prior to the issuance of grading permits.

67. The Project Proponent shall comply with Best Management Practices set forth in the August 2013 Water Quality Management Plan and as approved by the City Engineer.

68. The developer shall require that all construction equipment is properly maintained with operating mufflers and air intake silencers, and prioritizes the location of equipment staging and storage as far as practical from the existing hotel and residential unit southeast and south of the site, respectively.

69. The Project Proponent shall construct Redlands Boulevard from the west project boundary to the east project boundary at its ultimate half-section width including the Redlands Boulevard/Poplar Street traffic signal improvements, landscaping and parkway improvements in conjunction with development.

70. Sight distance at each project access shall be reviewed with respect to California Department of Transportation/City of Loma Linda standards in conjunction with the preparation of final grading, landscaping, and street improvement plans.

71. The necessary off-site improvement recommendations are included in Table 5 within this Initial Study. The Project Proponent shall contribute towards the cost of

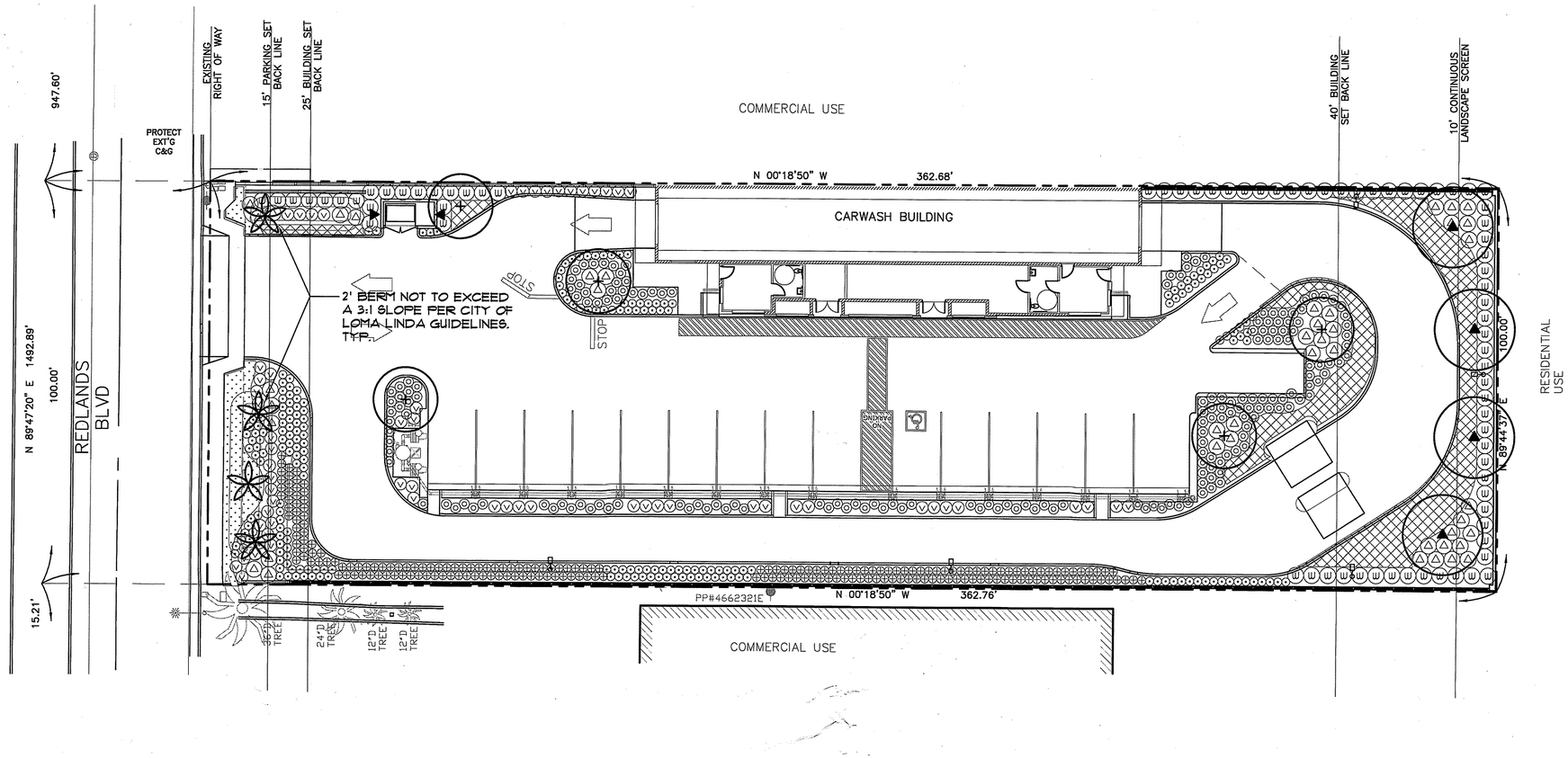
necessary study area improvements on a fair share or "pro-rata" basis. The Project's fair share of identified intersection costs is $3,173.

72. The Project Proponent shall comply with City adopted policies regarding the reduction of construction and demolition (C&D) materials.

Applicant signature _____ Date _____

Owner signature _____ _____

End of Conditions



PLANTING LEGEND

SYMBOL	BOTANICAL/COMMON NAME	SIZE	WUCOLS III REGION 4 WATER USAGE	REMARKS	QTY.
	TREES				
+	AGONIS FLEXUOSA PEPPERMINT WILLOW	15 GAL.	LOW	LOW BRANCH DOUBLE STAKE	5
▲	ARBUTUS UNEDO 'MARINA' DWARF STRAWBERRY TREE	24" BOX	LOW	STANDARD DOUBLE STAKE	4
	WASHINGTONIA FILIFERA 'HYBRID' HYBRID FAN PALM	12' B.T.H.	LOW	SKINNED MATCHED APPEARANCE	4
	SHRUBS / GROUNDCOVERS				
Ⓐ	AGAVE VILMORINIANA OCTOPUS AGAVE	5 GAL.	LOW	4'-0" O.C.	43
◎	CALLISTEMON 'LITTLE JOHN' DWARF WEEPING BOTTLEBRUSH	5 GAL.	LOW	2'-6" O.C.	184
⊙	DIANELLA TASMANICA 'VARIEGATA' WHITE STRIDED FLAX LILLY	1 GAL.	LOW	2'-0" O.C.	211
⊕	JUNCUS PATENS 'ELK BLUE' CALIFORNIA GRAY RUSH	1 GAL.	LOW	2'-0" O.C.	203
	LANTANA MONTEVIDENSIS / 'ALBA' SPREADING LANTANA	1 GAL.	LOW	3'-0" O.C. 50% WHITE, 50% PURPLE	1335 S.F.
Ⓥ	MUHLENBERGIA 'REGAL MIST' PINK MUHLY	5 GAL.	LOW	30" O.C.	63
	SENECIO MANDRALISCAE BLUE CHALK STICKS	FLATS	LOW	6" O.C.	360 S.F.
Ⓦ	WESTRINGIA FRUTICOSA COAST ROSEMARY	5 GAL.	LOW	4'-0" O.C.	152
	VINES				
▼	MACFADYENA UNGUIS-CATI CATS CLAW VINE	5 GAL.	LOW	SPLAY ON WALL	2

NOTES:

1. INSTALL 3" LAYER OF SHREDDED/RECYCLED BARK IN ALL NON-SLOPE PLANTING AREAS, AND 1 1/2" ON GROUND COVER FROM FLATS, WHENEVER POSSIBLE.
2. ALL TREES WITHIN 6' OF PAVING TO HAVE ROOT BARRIERS FROM DEEPROOT OR EQUAL. (800) 458-7668. LINEAL APPLICATION ONLY (DO NOT WRAP ROOTBALL).
3. TREES SHALL BE STAKED WITH 2-3 STAKES AND 6 TREE TIES. USE TRIPLE STAKING WITH 3" DIAMETER STAKES IN HIGH WIND AREAS.
4. LANDSCAPE SHALL CONFORM WITH CITY OF LOMA LINDA REQUIREMENTS.
5. ALL UTILITY AND APPURTENANCES SHALL BE SCREENED FROM PUBLIC VIEW.
6. QUANTITIES ON PLANS ARE FOR REFERENCE ONLY. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ALL PLANT QUANTITIES SHOWN ON PLANS.
7. IRRIGATION ON THIS PROJECT SHALL CONSIST OF LOW VOLUME SUBGRADE BUBBLERS FOR TREES ON SEPARATE VALVES. DRIP, BUBBLERS OR LOW VOLUME SPRAY HEADS FOR SHRUB AREAS. ALL IRRIGATION SHALL BE CONNECTED TO AUTOMATIC REMOTE CONTROL VALVES TIED INTO AN AUTOMATIC 'SMART' CONTROLLER INSTALLED WITH RAIN SENSOR DEVICE OR EQUAL. ALL IRRIGATION SHALL ADHERE TO AB1881 WATER EFFICIENT LANDSCAPE GUIDELINES.

SITE DATA:

OVERALL SITE	108,140 S.F.
LANDSCAPE AREA	7,635 S.F.
SHRUB AREA	7,635 S.F.
TURF AREA	0 S.F.

NORTH

PRELIMINARY LANDSCAPE PLAN

SCALE 1"=16'-0"

0 16' 32' 48'

RamCam
6106 Parkridge Avenue #101
Corona, California 92879
Tel 951-734-6330
ramcam@ramcamgroup.com

R. DALE HADFIELD
LANDSCAPE ARCHITECT
27601 FORBES ROAD, SUITE 50
LAGUNA NIGUEL, CALIFORNIA 92677
(949) 367-9279 • FAX (949) 367-9321

REGISTERED LANDSCAPE ARCHITECT R. DALE HADFIELD
Signature
2/29/2016
Renewal Date
2/02/2015
Date
STATE OF CALIFORNIA

LOMA LINDA CARWASH
24965 REDLANDS BLVD.
Loma Linda, CA 92354

CASE No. 000000

CLIENT: RAMCAM ENGINEERING GROUP

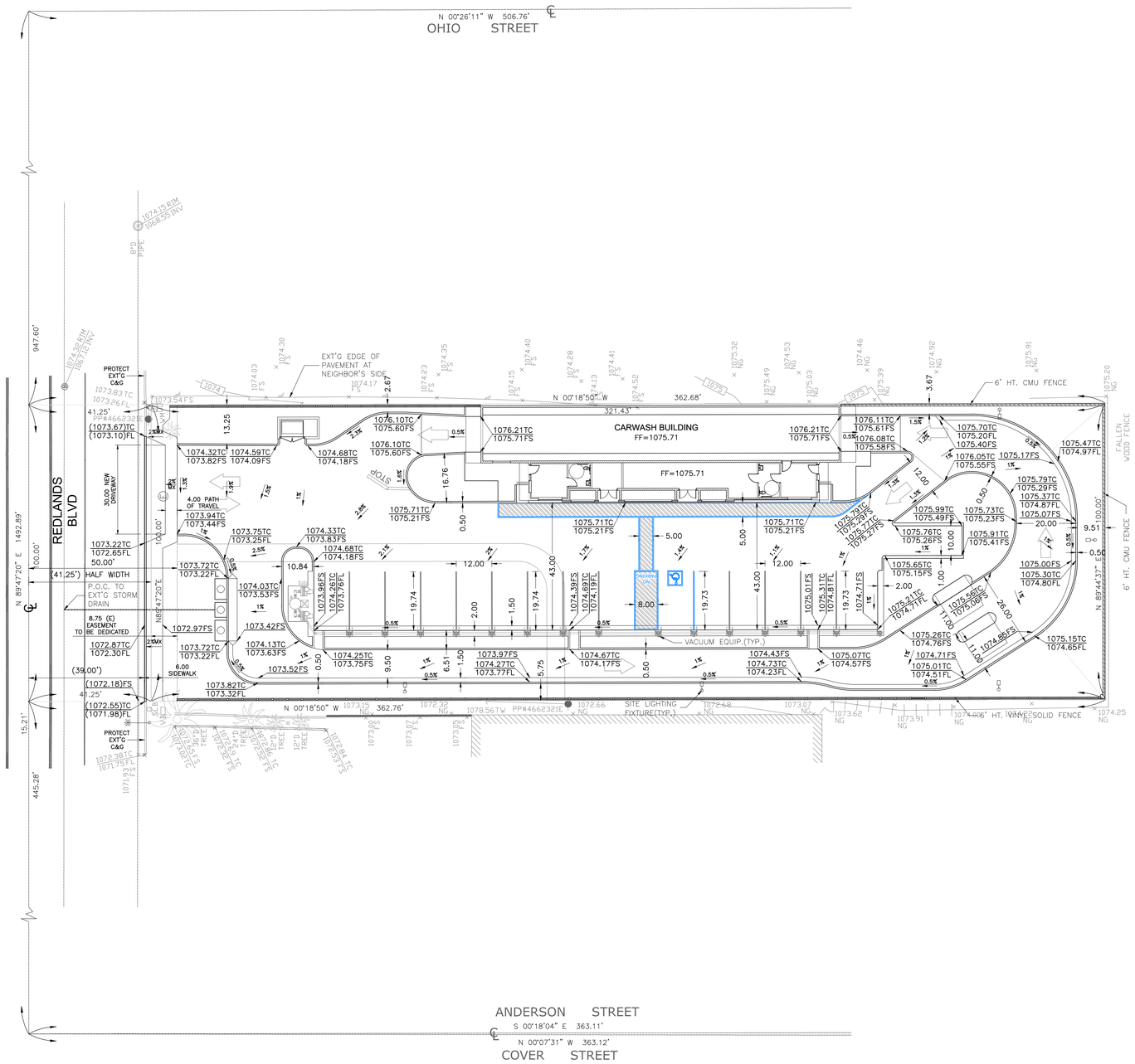
PROJECT: RC-11380W039

REVISIONS

DATES	2.02.2015
PRELIMINARY	
PLAN CHECK	
BACK CHECK	
BID	
CONSTRUCTION	
RECORD	

SHEET TITLE
PRELIMINARY LANDSCAPE PLAN

SERIAL NO.:
SHEET NUMBER
L-1



N

SCALE: 1" = 20'

0' 10' 20' 30' 40' 50' 60'

RamCam
670 E. Parkridge Avenue, #101
Corona, California 92879
Tel 951-734-6330
ramcam@ramcamgroup.com

SEAL-ENGINEER

LOMA LINDA CARWASH

24965 REDLANDS BLVD.
Loma Linda, CA 92354

PROJECT NUMBER
RC-13503

8/14/2014

REVISIONS

CONCEPTUAL GRADING

C1.0

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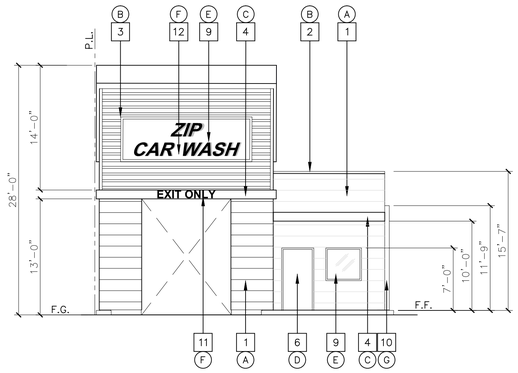
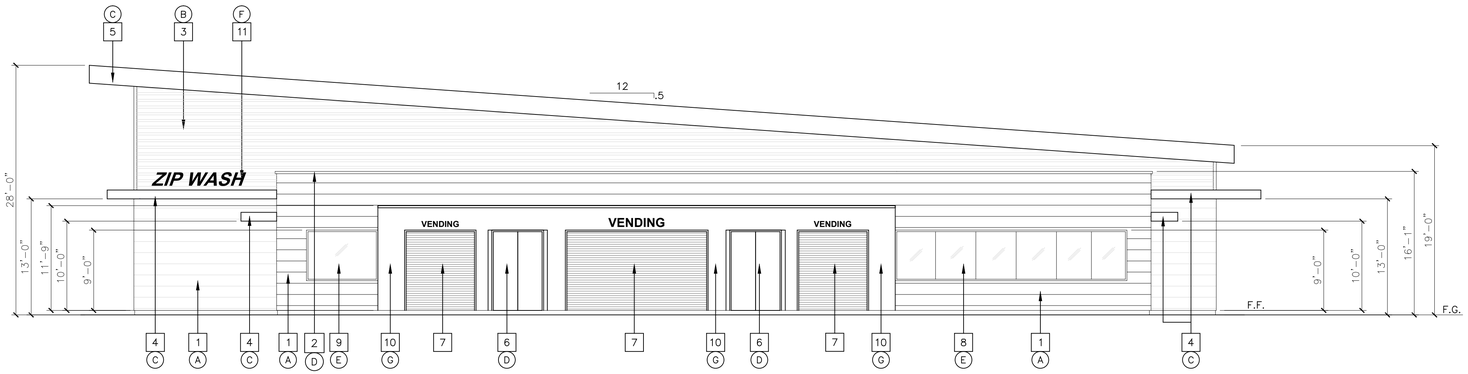


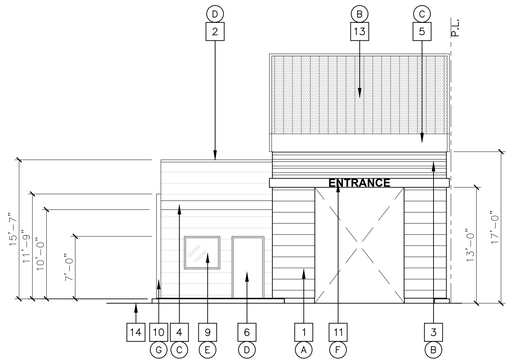
NORTH ELEVATION

SCALE: 1/8"=1'-0" | 2



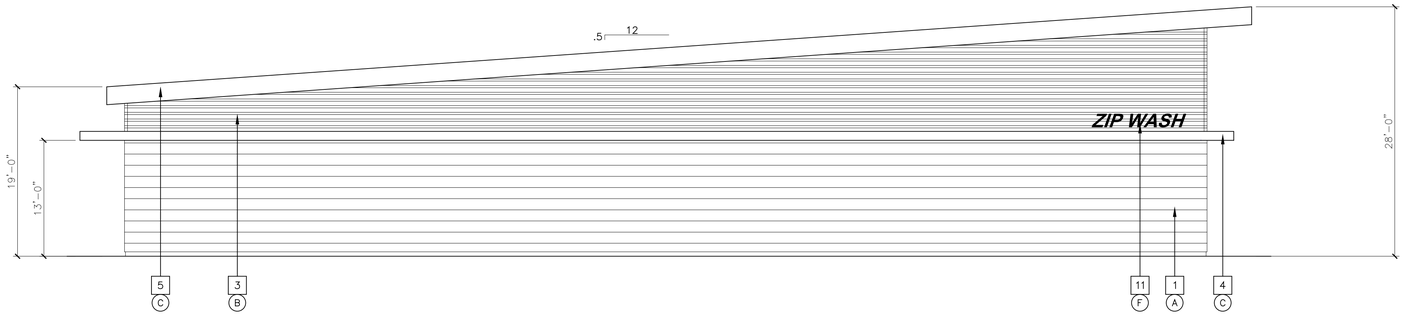
WEST ELEVATION

SCALE: 1/8"=1'-0" | 1



SOUTH ELEVATION

SCALE: 1/8"=1'-0" | 4



EAST ELEVATION (@ P.L.)

SCALE: 1/8"=1'-0" | 3

KEY NOTES: #

1. CONCRETE GREY CMU PRECISION BLOCK WITH VERTICAL JOINTS SMOOTH FLUSH.
2. METAL COPING, PAINTED.
3. BERRIDGE PRE-FINISHED CORRUGATED METAL 'S' PANELS
4. CANOPY WITH PREFINISHED METAL FASCIA PANEL FACE.
5. ROOF EDGE WITH PREFINISHED METAL PANEL FACE.
6. METAL DOOR AND FRAME.
7. CLEAR ANODIZED ALUM. ROLL-UP DOOR
8. CONTINUOUS SPANDREL GLASS WITH BUTTED JOINTS.
9. TINTED GLAZING AND ALUMINUM FRAME
10. STEEL TROWEL SMOOTH FINISH STUCCO.
11. MOLD SIGN LETTERS WITH LITE BEHIND
12. ON GLASS LETTER SIGNS
13. BERRIDGE BATTEN SEAM ROOFING PANEL.
14. FINISH GRADE LINE

COLOR & MATERIAL SCHEDULE: (A)

A. CMU BLOCK NATURAL GREY-SMOOTH
B. COLOR: BERRIDGE ZINC GREY
C. COLOR: BERRIDGE 'ROYAL BLUE'
D. SHERWIN-WILLIAMS SW 6256 'SERIOUS GRAY'
E. DARK BRONZE ANODIZED ALUM. FRAME
F. PER SIGN PROGRAM
G. PAINT: SHERWIN-WILLIAMS SW 6811 'HONORABLE BLUE'

KEY NOTES

RamCam
670 E. Parkridge Avenue, #101
Corona, California 92879
Tel 951-734-6330
ramcam@ramcamgroup.com

SEAL-ENGINEER

REGISTERED PROFESSIONAL ENGINEER
HAMID ABU-GHAZALEH
No. RCE 62001
EXP. 12-31-14
CIVIL
STATE OF CALIFORNIA

LOMA LINDA CARWASH
24965 REDLANDS BLVD.
Loma Linda, CA 92354

PROJECT NUMBER
RC-13503

09.09.2014

REVISIONS

PROPOSED BUILDING EXTERIOR ELEVATIONS

A3.0

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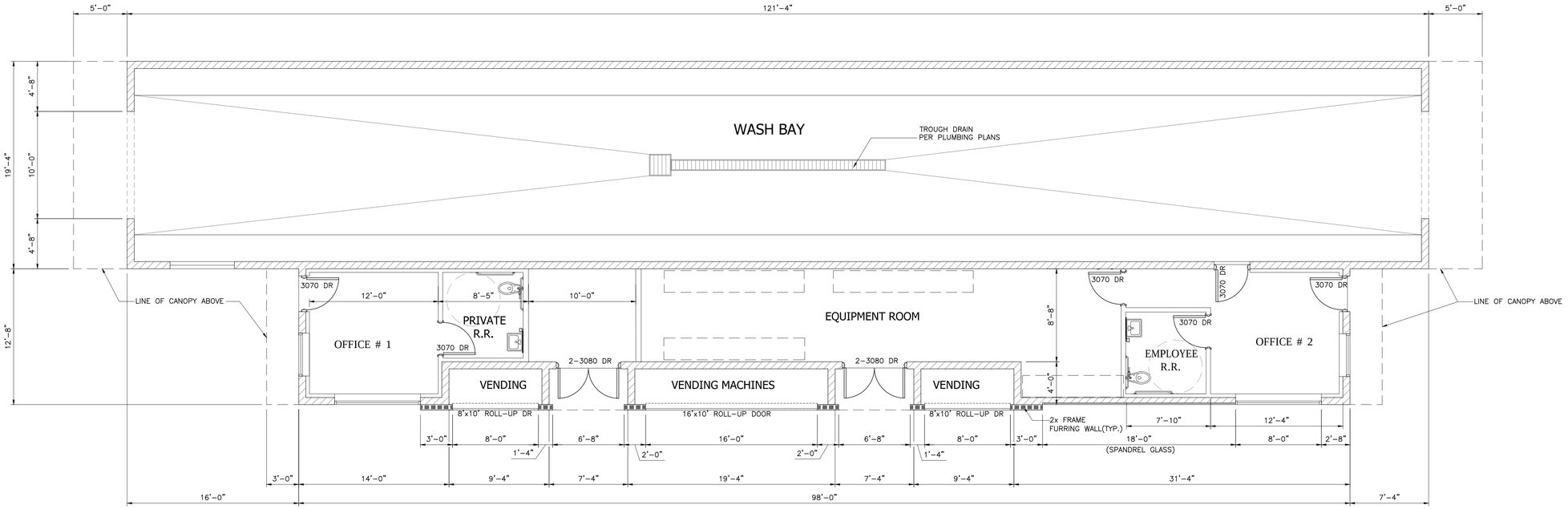
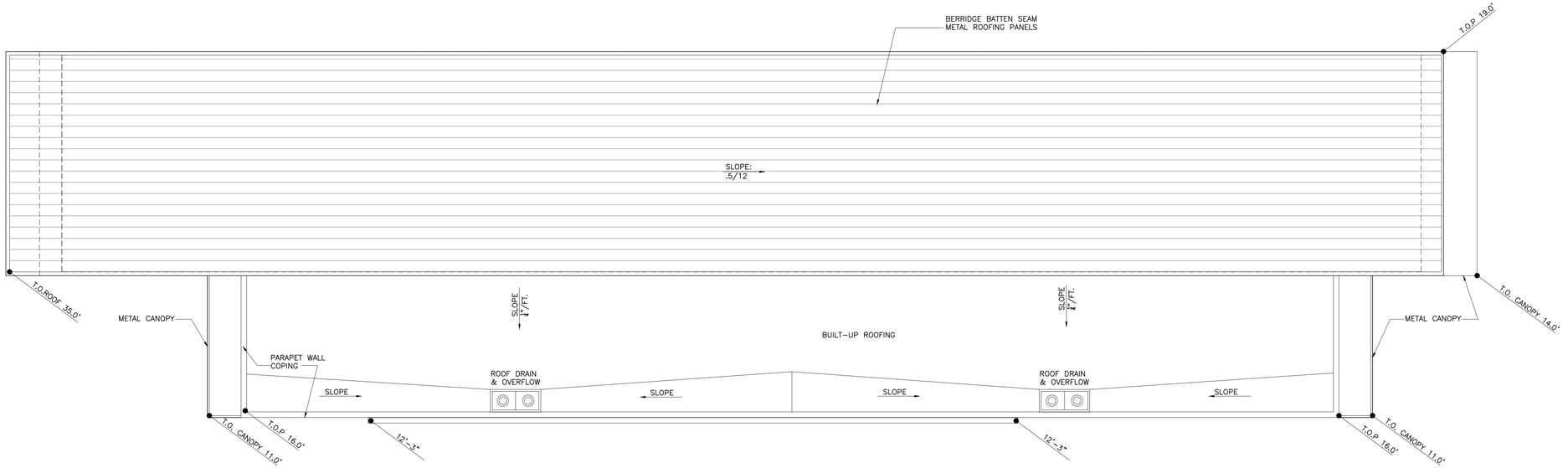


FLOOR PLAN

SCALE: 3/16"=1'-0" | 1



ROOF PLAN

SCALE: 3/16"=1'-0" | 2

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No. RCE 62001
EXP. 12-31-14
CIVIL
STATE OF CALIFORNIA

LOMA LINDA CARWASH
24965 REDLANDS BLVD.
Loma Linda, CA 92354

PROJECT NUMBER
RC-13503
09.09.2014
REVISIONS

PROPOSED CARWASH BLDG.
FLOOR & ROOF PLANS

A2.0

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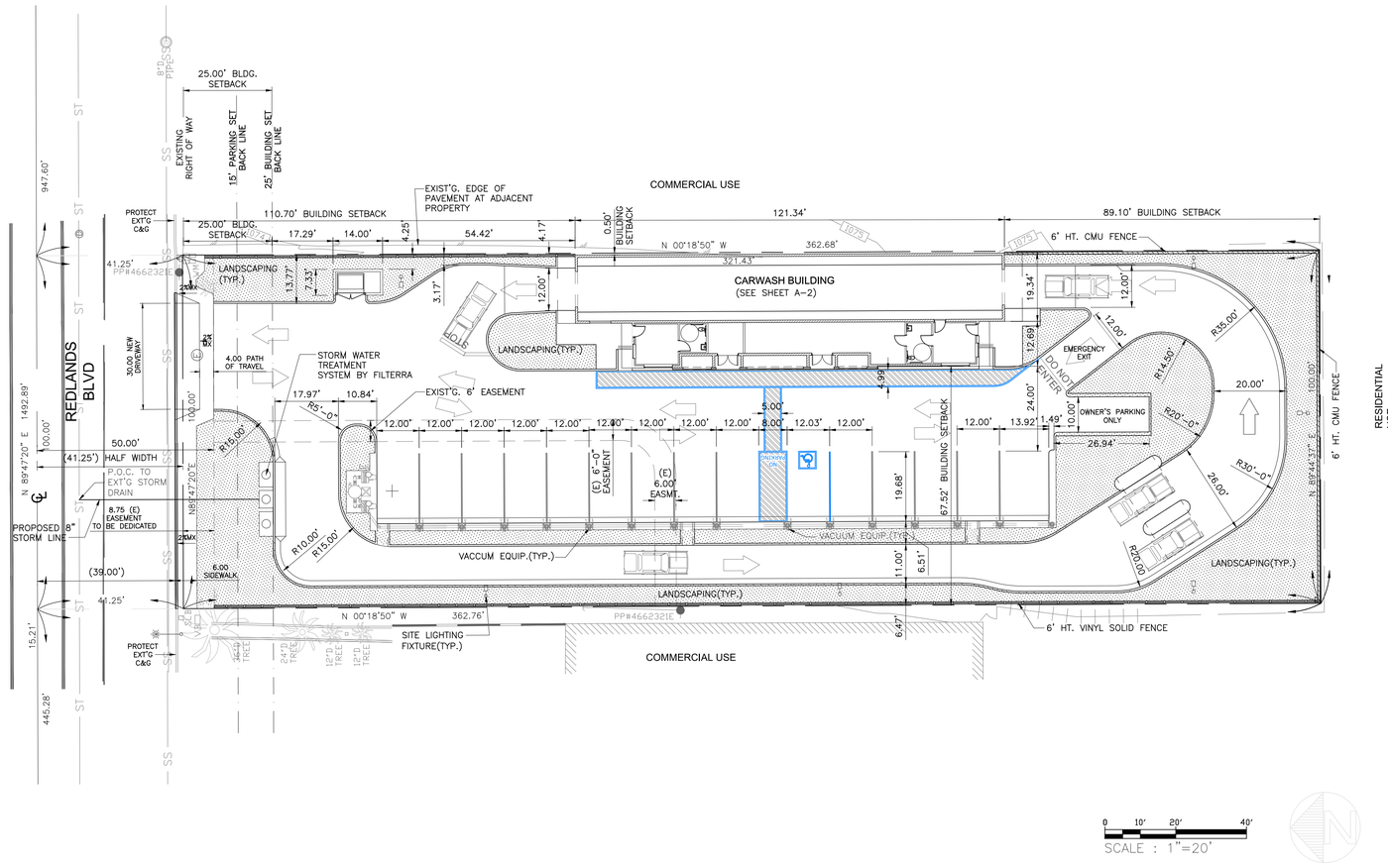


PROPOSED SITE PLAN

SCOPE OF WORK

1. CONSTRUCT A NEW AUTOMATIC CAR WASH FACILITY AND ITS CORRESPONDING EQUIPMENT ROOM, OFFICE, RESTROOMS & WAITING AREA
2. BUILT ANCILLARY SERVICES SUCH AS TRASH ENCLOSURE, DETAIL AND VACCUM STALLS.

NOTES

1. PWQMP IS PART OF THIS SUBMITTAL. FINAL WQMP WILL BE SUBMITTED WITH FINAL SUBMITTAL.
2. TOTAL PROJECT AREA IS UNDER ONE ACRE. WDID NUMBER IS NOT REQUIRED BUT SITE WILL ADHERE TO EROSION CONTROL STANDARDS.
3. ALL DEMOLITION AND NEW CONSTRUCTION SHALL MEET CITY OF LOMA LINDA STANDARDS.
4. ALL OFF-SITE IMPROVEMENTS SHALL MEET CITY OF LOMA LINDA STANDARDS.
5. SIDEWALK, CURB AND GUTTER, AND PAVING SHALL MEET CITY OF LOMA LINDA STANDARDS.
6. ALL UTILITY LINES TO BE UNDERGROUNDED AND SHALL MEET CITY OF LOMA LINDA STANDARDS.

FACILITY OPERATION HOURS

FACILITY DAYS & HOURS: 12 HOURS (7AM TO 7PM) 7 DAYS. A WEEK
NUMBER OF EMPLOYEES: 2
NUMBER OF EMPLOYEES PER SHIFT: 1

PROJECT SUMMARY

BUILDING USE	CALCULATED AREA	OCCUPANCY	CONST. TYPE
CAR WASH BUILDING	3,058 SQ.FT.(Gross)	M	V-B SPRINKLER'D
OFFICE & WAITING AREA	503 SQ.FT.(Gross)	M	V-B SPRINKLER'D
OCCUP. LOAD: EQUIP. ROOM CAR WASH BLDG.		555 S.F.(NET)/300	2
OCCUP. LOAD: OFFICE AND WAITING AREA		503 S.F.(NET)/100	5
TOTAL COMBINED OCCUP. LOAD			7

	TOTAL AREA	LOT COVERAGE
TOTAL PROJECT AREA	0.74 AC(32,147 SQ.FT.)	100 %
BUILDING GROOS AREA	3,058 SQ.FT.	9.51 %
TRASH ENCLOSURE	103 SQ.FT.	0.32 %
TOTAL LANDSCAPE AREA	8,663 SQ.FT.	26.94 %
SIDEWALKS	1,692 SQ.FT.	5.26 %
TOTAL PAVED AREAS	18,631 SQ.FT.	57.95 %
TOTAL	32,147 SQ.FT.	100 %

PARKING REQUIREMENT

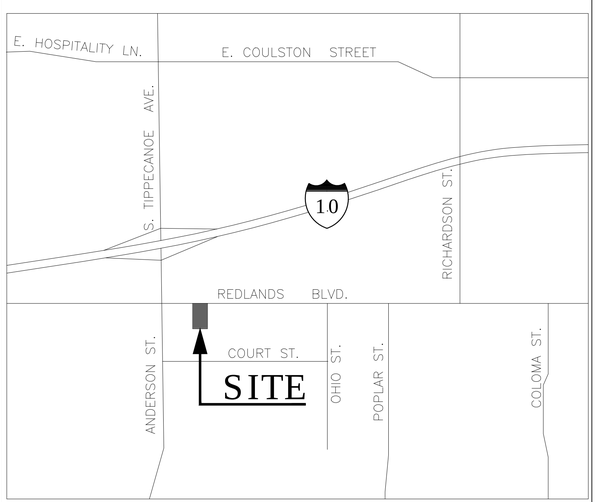
BUILDING USE	CALCULATED AREA	PARKING RATIO USED	REQ'D SPACES
CAR WASH BUILDING	3,058	1 SPACE/CAR IN CUE	5 SPACES
OFFICE/WAITING AREA	503	1 SPACE/100	5 SPACES
TOTAL SPACES REQUIRED			10 SPACES
TOTAL SPACES PROVIDED			16 SPACES
TOTAL SPACES PROVIDED			16 SPACES

CALCULATED PARKING

THE ENTIRE PROJECT

PARKING COUNT	REQUIRED PARKING	PROVIDED PARKING
REGULAR PARKING STALLS	10 STALLS	15 STALLS
ADA COMPLIANCE STALLS	1 STALLS	1 STALLS
OVERALL STALLS	11 STALLS	16 STALLS

PROJECT DATA



VICINITY MAP

SCALE : N.T.S.

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REGISTERED PROFESSIONAL ENGINEER
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STATE OF CALIFORNIA

LOMA LINDA CARWASH
24965 REDLANDS BLVD.
Loma Linda, CA 92354

PROJECT NUMBER
RC-13503

09.09.2014
REVISIONS

SITE PLAN
PROJECT DATA/ KEY NOTES

A1.0

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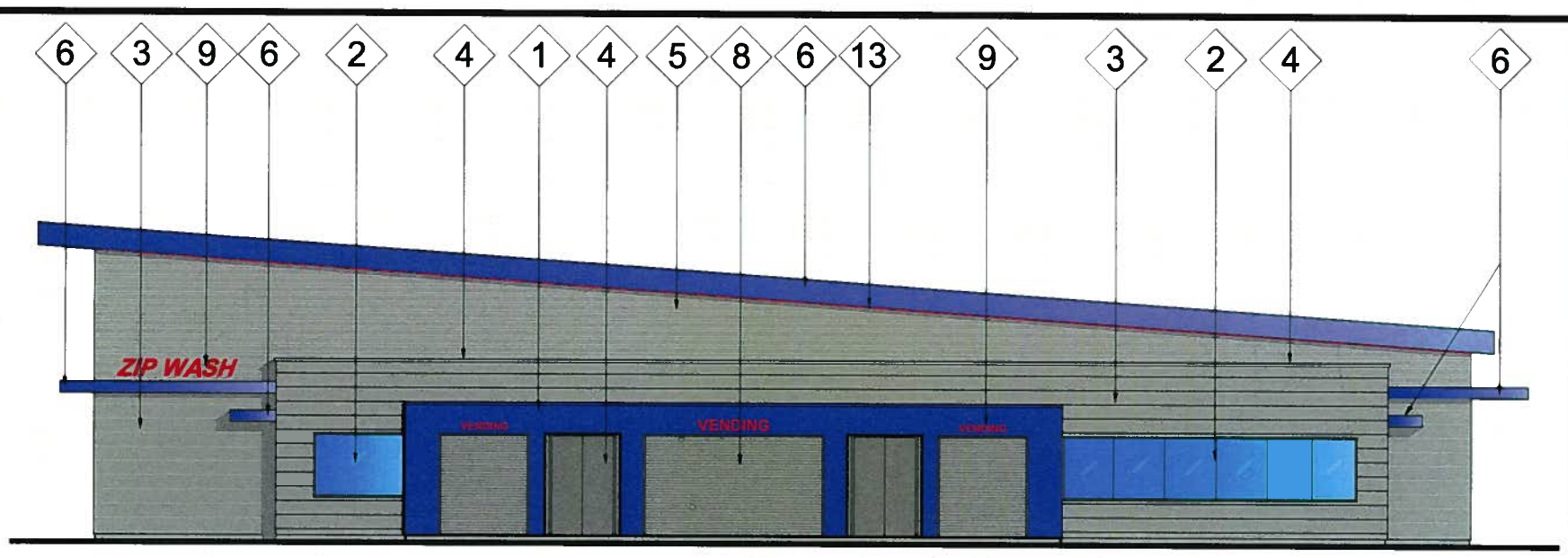


MATERIALS & COLORS

1 LAHABRA STUCCO: COLOR "BLUE MED" 3038(12)
STEEL TROWEL SMOOTH SURFACE.
PAINT WITH EXT. PAINT: HONORABLE BLUE, SW 6811
BY SHERWIN–WILLIAMS OR SIMILAR

2 BLUE–TINTED BUTTED GLASS WITH CLEAR ANODIZED ALUM. FRAMING MOUNTED ON BACK

3 CONCRETE GREY CMU PRECISION BLOCK WITH VERTICAL JOINTS SMOOTH FLUSH.

4 WALL MTL. COPING, AND FRAMES: PAINT:
SW 6256 SERIOUS GRAY, BY SHERWIN–WILLIAMS OR SIMILAR

5 PRE–FINISH CORRUGATED METAL 'S' PANEL SIDING, BY BERRIDGE OR SIMILAR. COLOR: ZINC GREY

6 PRE–FINISH METAL PANEL FASCIA, BY BERRIDGE OR SIMILAR. COLOR: ROYAL BLUE

7 BATTEN SEAM METAL ROOFING PANEL, BY BERRIDGE OR SIILAR. COLOR: ZINC GREY

8 CLEAR ANODIZED ALUMINUM ROLL–UP MOTORIZED DOOR

9 WALL SIGN: MOLD LETTERS WITH LED LIGHT BACK ILLUMINATION (PER SIGN PROGRAM)

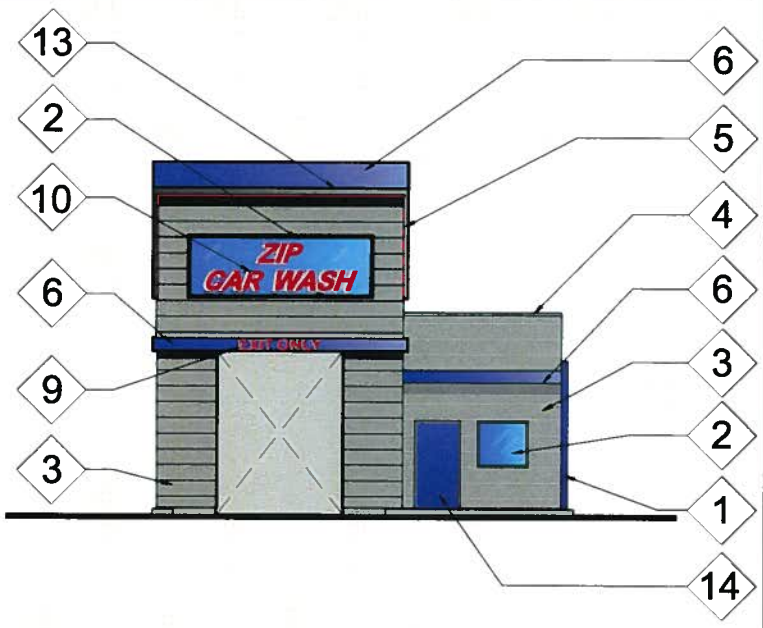
10 STICK–ON BUSINESS SIGN ON GLASS
(PER SIGN PROGRAM)

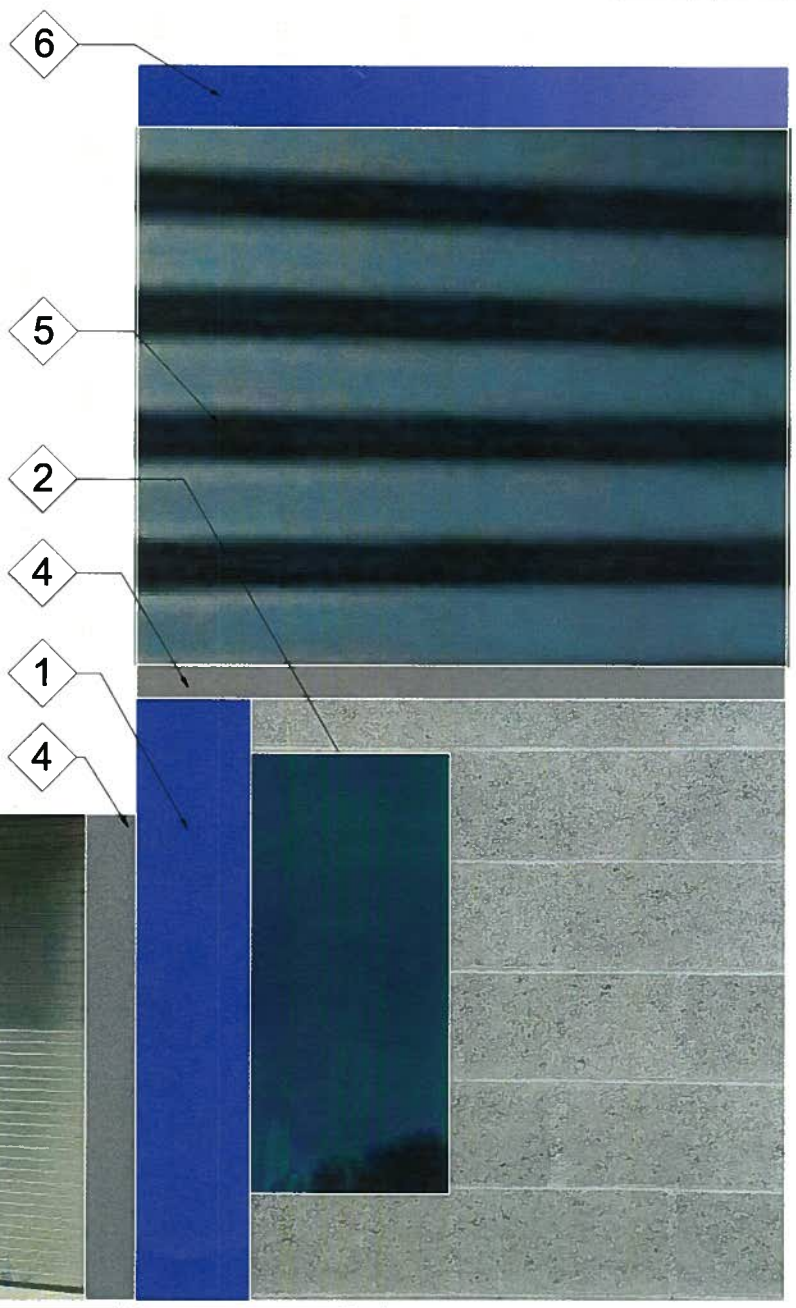
11 SOLID VINYL FENCE: COLOR WHITE PER FACTORY FINISH

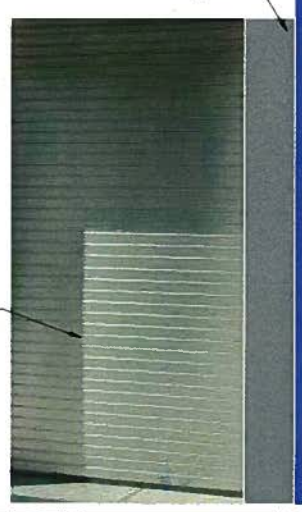
12 WROUGHT IRON FENCE. COLOR BLACK POWDER PAINT

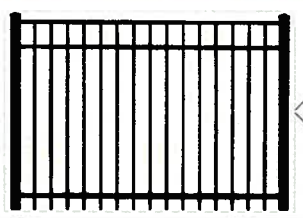
13 HIGH QUALITY NEON LIGHT SUITABLE FOR OUTDOOR BUILDING. COLOR: RED.

14 FRONT AND BACK METAL DOORS. PAINT: HONORABLE BLUE, SW 6811 BY SHERWIN–WILLIAMS OR SIMILAR.









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PROJECT No: RC13503

CAR WASH FACILITY EXPRESS

24965 REDLANDS BLVD.
LOMA LINDA, CA 92354

09.09.2014

COLORS & MATERIAL BOARD

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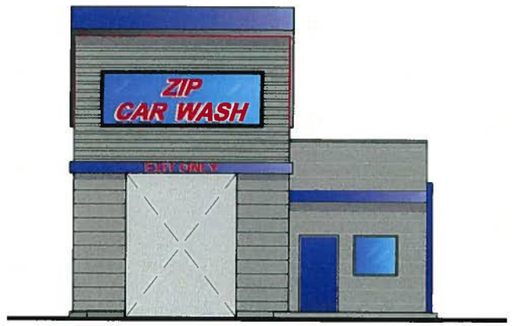
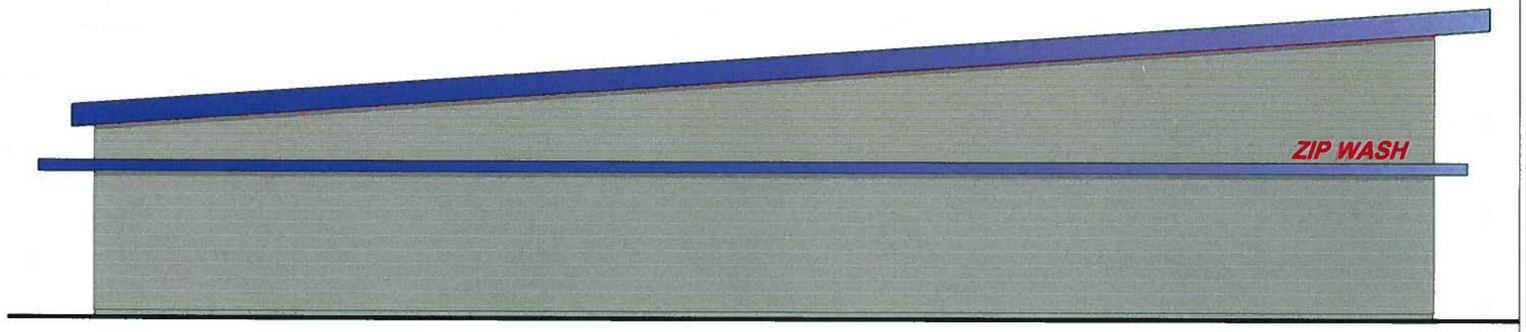


NORTH ELEVATION N.T.S. | 1

WEST ELEVATION N.T.S. | 2

SOUTH ELEVATION N.T.S. | 4



EAST ELEVATION (@ P.L.) N.T.S. | 5

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STATE OF CALIFORNIA

LOMA LINDA CARWASH
24965 REDLANDS BLVD.
Loma Linda, CA 92354

PROJECT NUMBER
RC-13503
09.09.2014
REVISIONS

PROPOSED BUILDING EXTERIOR ELEVATIONS

A3.0

LOMA LINDA CAR WASH

TRAFFIC IMPACT ANALYSIS

DRAFT REPORT

Prepared for:

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8338 Garden Street
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October 29, 2015

_____ _____

Gordon Lum, TE
Traffic Engineer II

Date

EXHIBIT - E

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	Analysis Scenarios	4
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LOMA LINDA CAR WASH
TRAFFIC IMPACT ANALYSIS
CITY OF LOMA LINDA

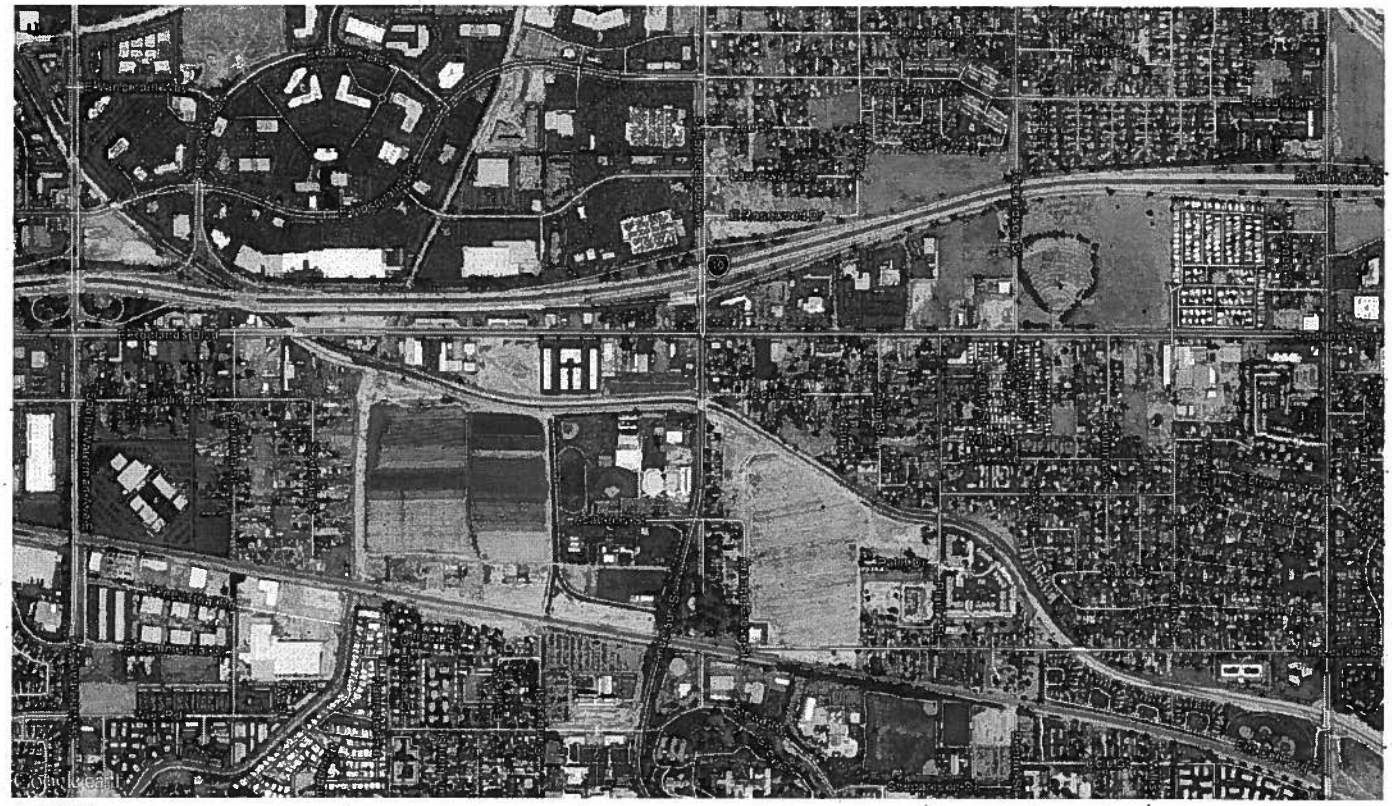
I. INTRODUCTION

This report, prepared by Willdan Engineering, provides a summary of the traffic impact analysis (TIA) for the proposed Loma Linda Car Wash located on the south side of Redlands Boulevard between Anderson Street and Ohio Street in the City of Loma Linda. The development of a car wash will replace a currently vacant lot. The overall objective of the study was to assess the impact of the proposed project on the surrounding circulation system and determine what mitigation measures, if any, would be required.

Exhibit 1 is a vicinity map, illustrating the project location in relationship to the area street system, including the Interstate-10 (I-10) interchange at Tippecanoe Avenue. ***Exhibit 2*** shows the project study area, including the specific project location, and the study intersections. The below aerial photo (***Photo 1***, Source: Google Earth) shows the Project Site and the nearby land uses.

Photo 1: Project Area bounded by Redlands Blvd and Anderson St, South of I-10.

No Scale



Legend

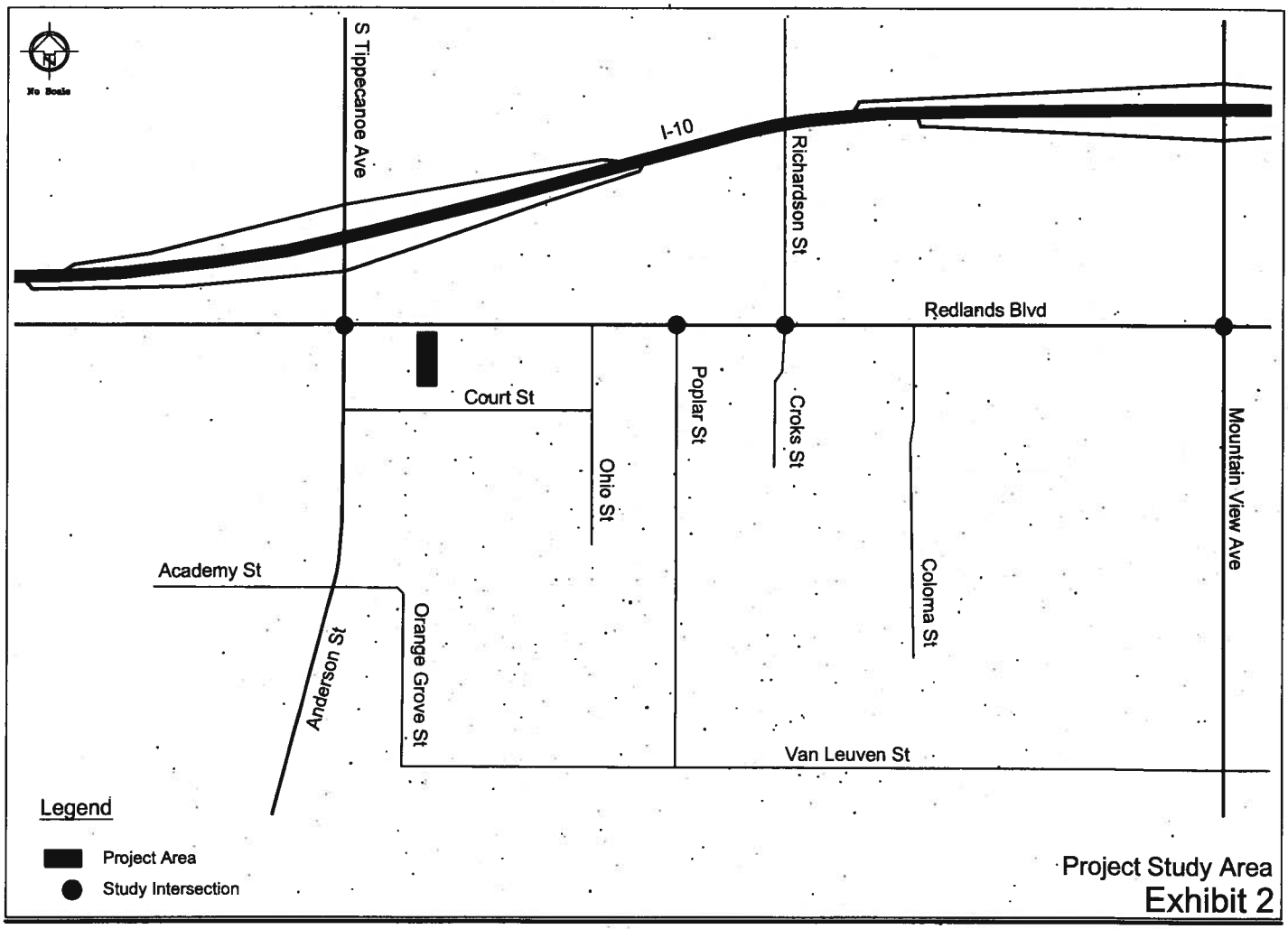
Project Area

Project Location and Vicinity Map

Exhibit 1

WILLDAN Engineering

Loma Linda Car Wash TIA
(#106327)
City of Loma Linda



Project Study Area

Exhibit 2

WILLDAN Engineering

Loma Linda Car Wash TIA
(#105327)
City of Loma Linda

This traffic impact analysis was prepared in accordance with City policies and direction from City staff.

Study Intersections

The study area, as defined by City staff, consists of the following four signalized intersections, depicted on ***Exhibit 2***:

- Redlands Blvd / Anderson St-Tippecanoe Ave
- Redlands Blvd / Poplar St-Holiday Inn Express Driveway
- Redlands Blvd / Richardson St-Crooks St
- Redlands Blvd / Mountain View Ave

Analysis Scenarios

To evaluate the project's potential traffic impacts on the study intersections, the following six scenarios were analyzed:

- Existing (2015) Conditions
- Existing (2015) with Project Conditions
- Opening Year (2016) Pre-Project Conditions
- Opening Year (2016) with Project Conditions
- Horizon Year (2035) without Project Conditions
- Horizon Year (2035) with Project Conditions

Traffic Analysis Methodology

Based on average vehicular delays (in seconds per vehicle) calculated for each movement at the study intersections, a corresponding Level of Service (LOS) was assigned to each intersection by peak hour. These average delay calculations (based on the Highway Capacity Manual methodology) was supplemented with a Volume-to-Capacity (V/C) calculation. The V/C value is calculated based upon a comparison of peak hour intersection volumes to available roadway capacity for the critical intersection movements. Both the average delay and V/C values are then related to a LOS, which are qualitative descriptions of intersection operations and can range from "A" (the best level) to "F" (the worst). A more detailed explanation of the average delay and V/C values, and their relationship to LOS is contained in ***Appendix A***.

Determination of Significant Impacts

Level of Service (LOS) D is the minimum acceptable service level in the City of Loma Linda. Based on this standard, a significant impact in the City of Loma Linda would occur when an intersection that is operating/would operate at LOS D or better, would operate at LOS E or F when project trips are added. The project would also have a significant impact if an intersection that is currently operating/would operate at LOS E or F without the project, would increase the V/C by 0.001 or more. If a project is found to have a significant intersection impact, the impact must be mitigated to a level of insignificance or the current/forecast LOS.

II. PROJECT DESCRIPTION

Proposed Project

The proposed Project, as shown on ***Exhibit 2***, is located on the south side of Redlands Boulevard to the east of Anderson Street and just south of I-10. The Project consists of an automatic car wash with some office space and 16 parking spots.

Site Access

The Project will be served by a full-access driveway on Redlands Boulevard. The Project is expected to be built and occupied by the end of 2016.

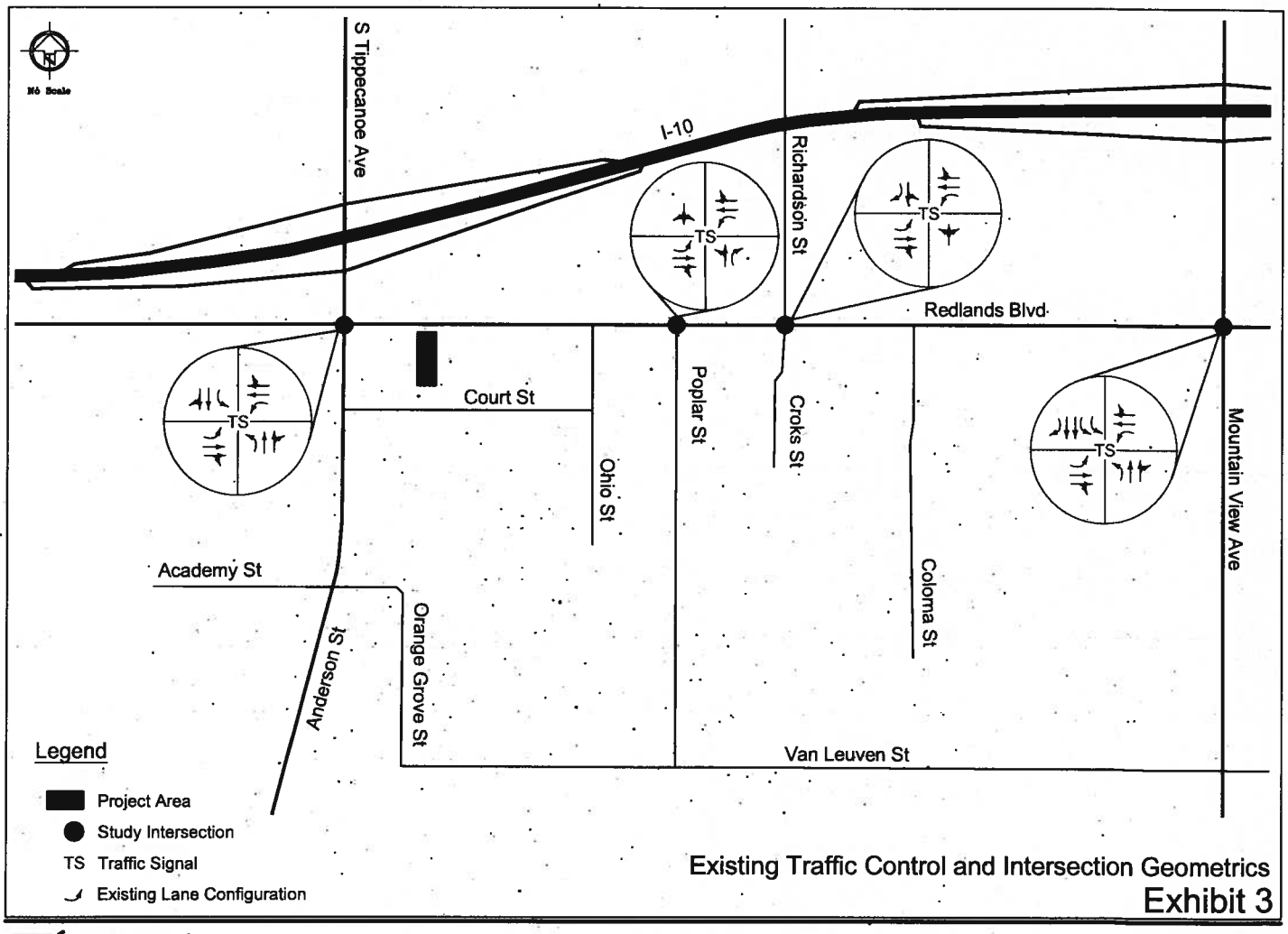
III. EXISTING CONDITIONS

Study Area Roadway and Intersection Configurations

The area surrounding the project along Redlands Boulevard consists of car dealerships and small shopping plazas. Redlands Boulevard is a 4 lane undivided roadway with a speed limit of 45 mph. ***Exhibit 3*** presents the existing lane configurations at the study intersections.

Existing Traffic Volumes

The existing AM and PM peak hour traffic volumes for the study intersections are shown on ***Exhibit 4***. The traffic counts were collected on Thursday, September 24, 2015, during the peak periods of 7:00 AM - 9:00 AM and 4:00 PM – 6:00 PM with vehicle classifications. The traffic count data can be referenced in ***Appendix B.***



Existing Traffic Control and Intersection Geometrics

Exhibit 3

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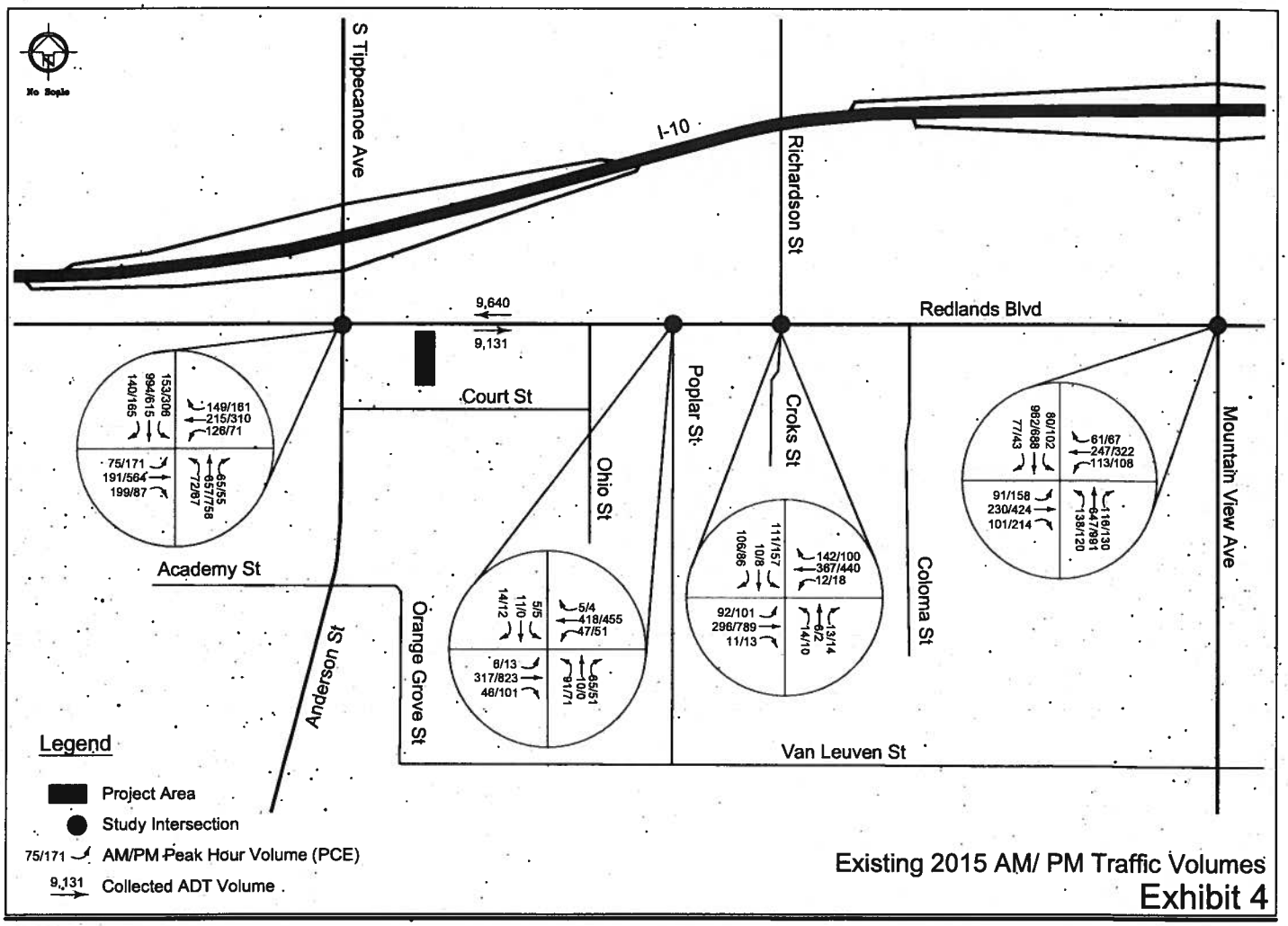
Loma Linda Car Wash TIA
(#105327)
City of Loma Linda



Existing 2015 AM/ PM Traffic Volumes

Exhibit 4

WILLDAN Engineering

24-hour two-way daily counts were collected on Redlands Boulevard between Anderson Street and Ohio Street shown in ***Exhibit 4***. The daily counts were collected on September 24, 2015, with vehicle classifications, and can be found in ***Appendix B.*** The vehicle classifications were used in the conversion of trucks to Passenger Car Equivalent's (PCE). These PCE volumes were used in the project impact analysis and SBTAM post-processing effort.

Average Daily Traffic (ADT) volumes were calculated to assess the project's future impact. A peak-to-daily conversion factor of 11.5 was applied to the PM peak hour volumes to analyze the approach ADT at the four study intersections. This conversion factor is consistent with a recent traffic study for another proposed development in the area.

Existing Conditions Intersection Analysis

Operating conditions at the study intersections were analyzed during the AM and PM peak hours (i.e., a one hour period falling between 7:00 – 9:00 AM and 4:00 -6:00 PM) using the Highway Capacity Manual (HCM) methodology (see ***Appendix A*** for an explanation). The results of the intersection analyses for the study intersections under existing conditions are summarized in ***Table 1***. As noted in ***Table 1***, all four of the study intersections are currently operating at LOS B or better. The intersection analysis worksheets can be referenced in ***Appendix C***.

Table 1: Existing Conditions Level-of-Service Results

SIGNALIZED INTERSECTION	EXISTING CONDITIONS			
	AM PK HR		PM PK HR	
	Delay/ LOS	ICU V/C	Delay/ LOS	ICU V/C
Redlands Blvd & Anderson St/ Tippecanoe Ave	10.0 / A	0.698	16.3 / B	0.779
Redlands Blvd & Poplar St	14.9 / B	0.394	14.2 / B	0.52
Redlands Blvd & Crooks St/ Richardson St	10.0 / B	0.439	10.7 / B	0.534
Redlands Blvd & Mountain View Ave	9.6 / A	0.651	10.9 / B	0.753

IV. PROJECT TRIP GENERATION AND ASSIGNMENT

Project Trip Generation

As shown on the Site Plan (see ***Exhibit 5***), the car wash will be served by a driveway on the south side of Redlands Boulevard. The trip generation rates for the proposed land use are shown in ***Table 2***.

ITE's Trip Generation Handbook's trip generation rates for an Automated Car Wash (Land Use: 948) does not include rates for the AM peak hour or daily traffic, and the rate for the PM peak hour is based on only one study. The ITE trip generation rate is 14.12 PM peak hour trips per 1,000 square feet of gross floor area, which results in 43 trips when applied to 3,058 square feet. This is very close to the SanDAG result, with 3 trips or more with the SanDAG rate. Since the SanDAG rate is based on more data, is local, and has rates for Daily and AM peak hour, the SanDAG rates were used instead of the ITE rates.

Table 2: Project Trip Generation

Trip Generation Rates [1]

Land Use	Source	Unit[2]	Daily Rate	AM Peak Hour Rates			PM Peak Hour Rates		
				In	Out	Total	In	Out	Total
Automatic Car Wash	SanDAG	AC	600	12.00 [50%]	12.00 [50%]	24	27.00 [50%]	27.00 [50%]	54

Project Trip Generation

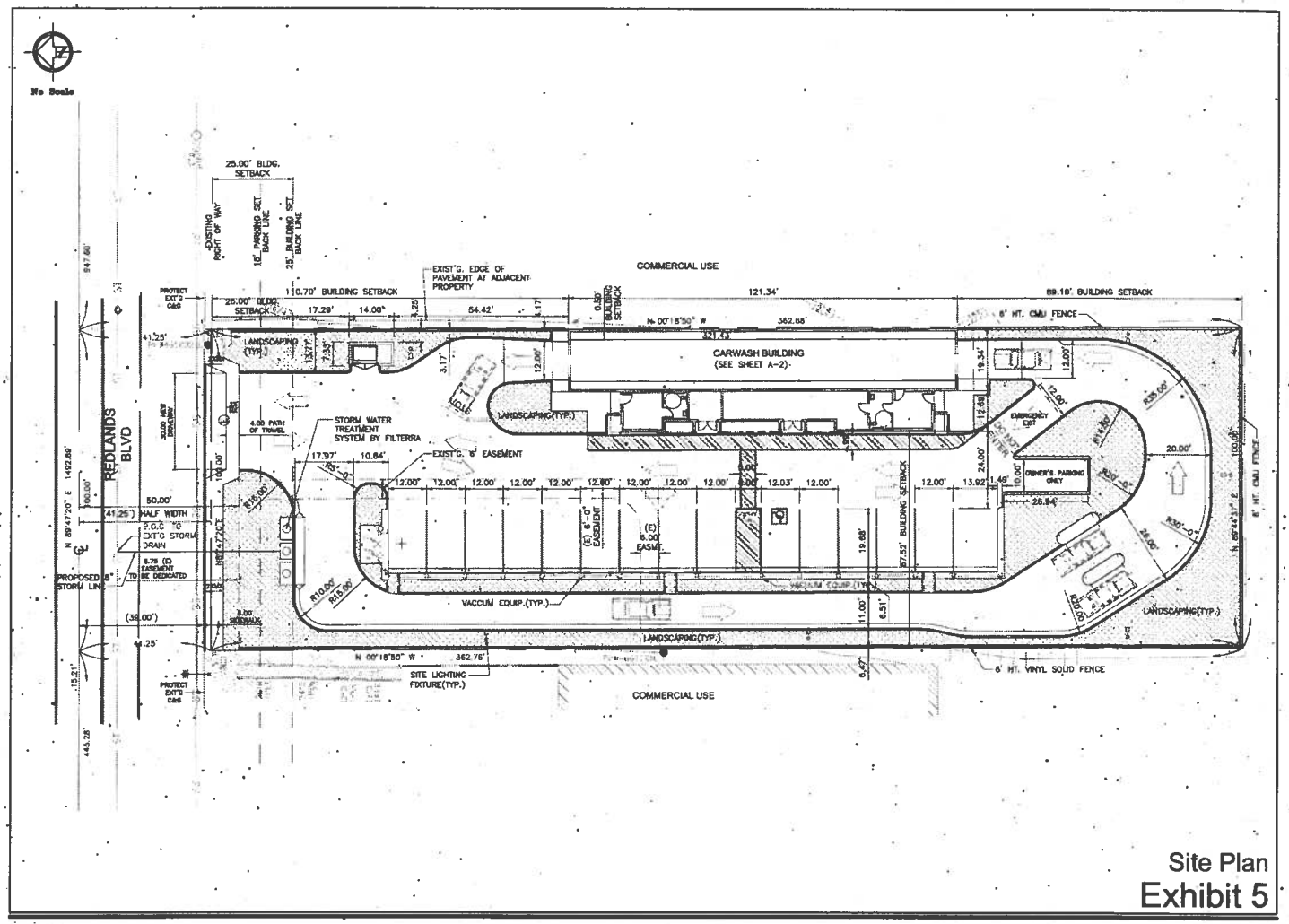
Land Use	Source	Quantity[2]	Daily Trips	AM Peak Hour Trips			PM Peak Hour Trips		
				In	Out	Total	In	Out	Total
Automatic Car Wash	SanDAG	0.738 AC	443	9	9	18	20	20	40
Estimated External Project Trips			**443**	**9**	**9**	**18**	**20**	**20**	**40**

[1] Source: San Diego Assn. of Governments (SanDAG), *Guide of Vehicular Traffic Generation Rates for the San Diego Region*, 2002

[2] AC = Acre

Project Trip Distribution and Assignment

The proposed project outbound trips are expected to be distributed onto the study area roadways as shown on ***Exhibit 6***. In general, the inbound trips are assumed to be the reverse of the outbound trips. The trip assignment for the proposed project was determined by applying the trip distribution to trips that would be generated by the project. The project's AM and PM peak hour trip assignments at the four study intersections are shown on ***Exhibit 7***.

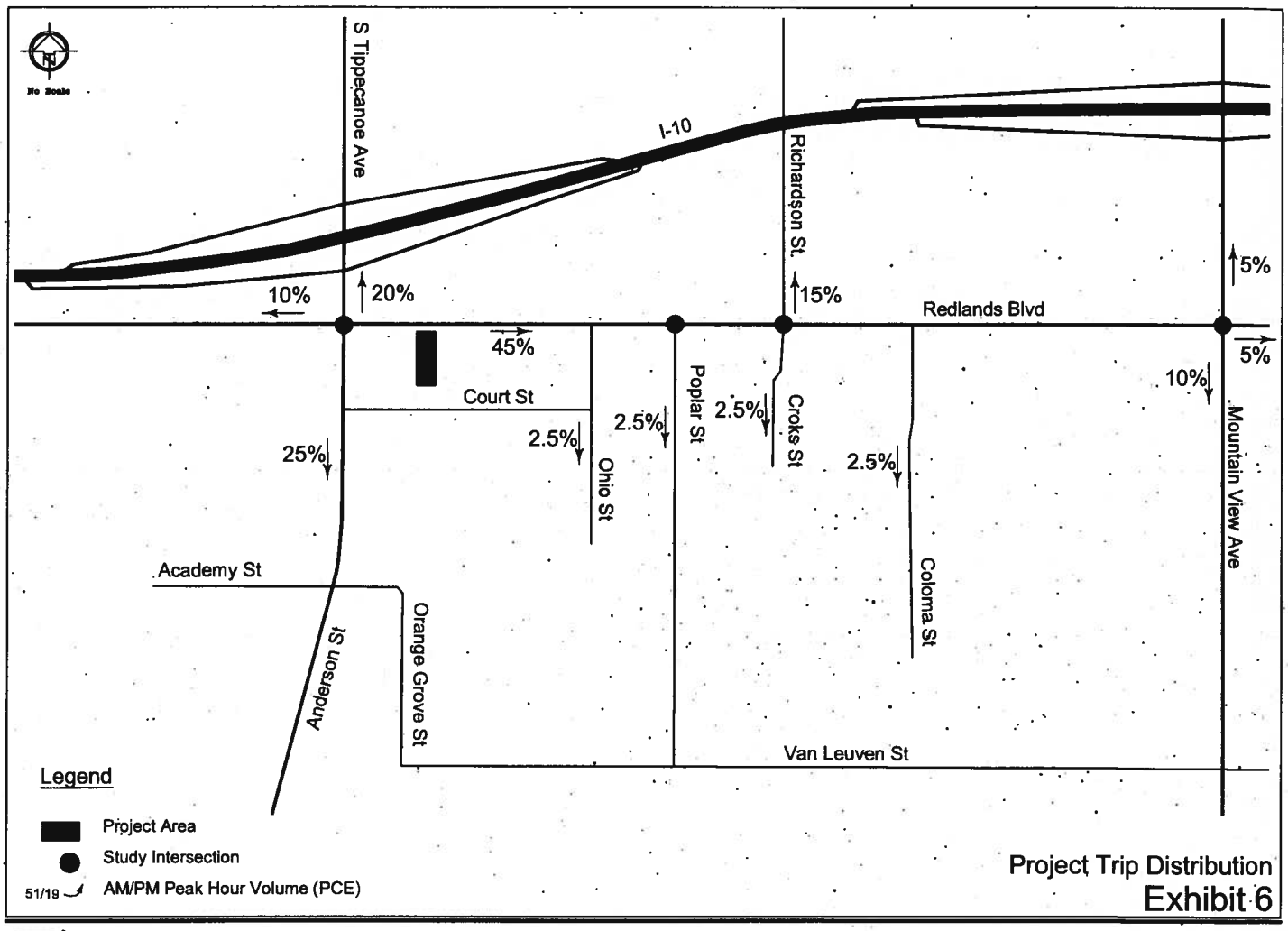


Site Plan

Exhibit 5

WILLDAN Engineering

Loma Linda Car Wash TIA
(#105327)
City of Loma Linda

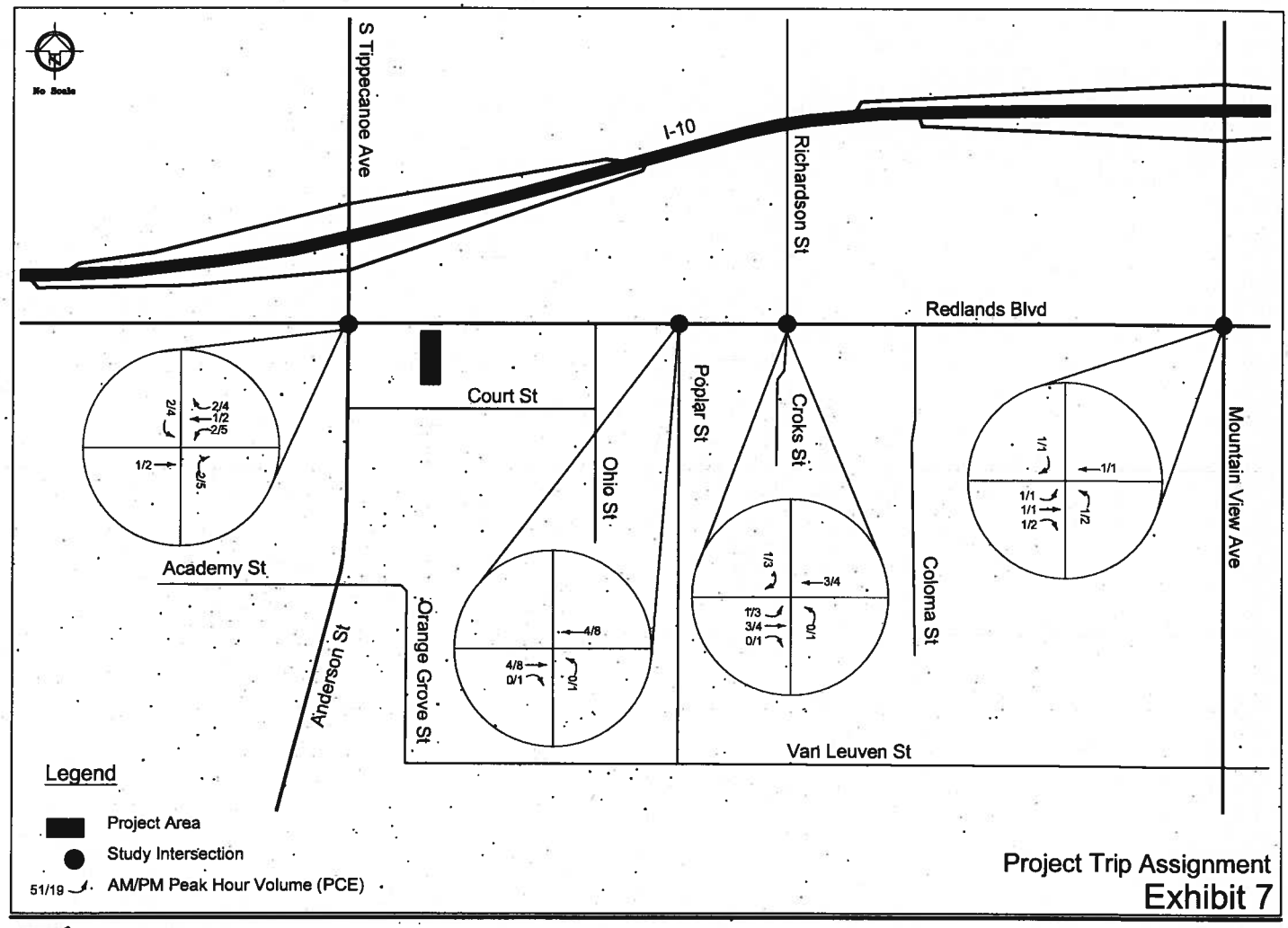


Project Trip Distribution

Exhibit 6

WILLDAN Engineering

Loma Linda Car Wash TIA
(#105327)
City of Loma Linda



Project Trip Assignment

Exhibit 7

WILLDAN Engineering

Loma Linda Car Wash TIA
(#105327)
City of Loma Linda

V. EXISTING PLUS PROJECT CONDITIONS ANALYSIS

The impact of adding project traffic to existing traffic was assessed. Existing plus Project AM/PM peak hour traffic volumes are shown on ***Exhibit 8***. The resulting LOS at the project study intersections are shown in ***Table 3***, all four intersections are expected to continue to operate at LOS B or better. The supporting intersection analysis worksheets can be referenced in ***Appendix C***.

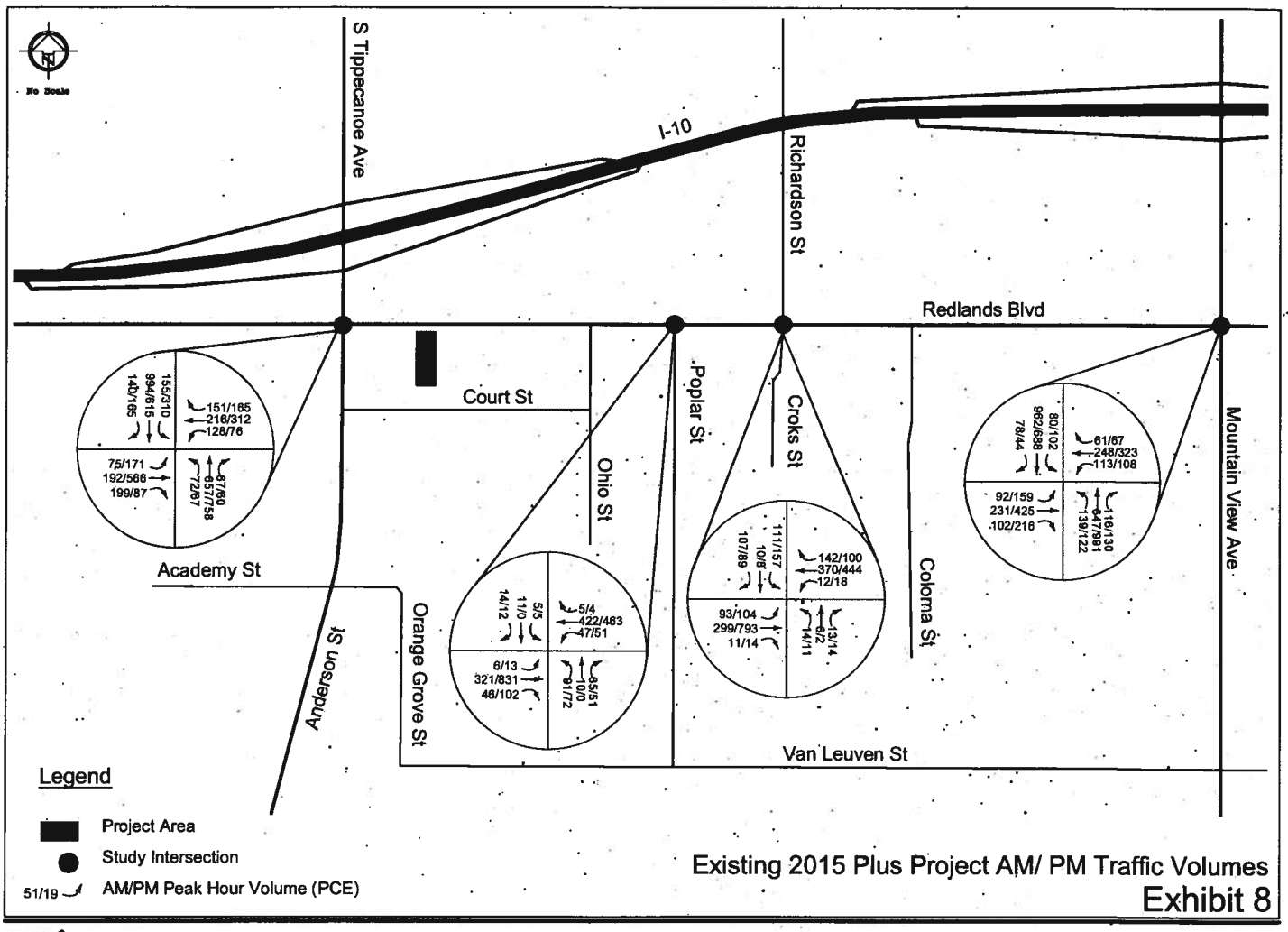
Table 3 also contains a comparison of peak hour LOS values for Existing conditions without and with the project. This comparison is used to determine if the addition of project traffic at each study intersection would exceed the thresholds of significant impact. As indicated in ***Table 3***, the project is expected to change the average delay by a negligible amount at all of the study intersections during both peak hours and is not expected to have a significant impact on any of the four study intersections.

Table 3: Existing vs. Existing plus Project Conditions LOS Comparison

SIGNALIZED INTERSECTION	EXISTING CONDITIONS				EXISTING PLUS PROJECT CONDITIONS			
	AM PK HR		PM PK HR		AM PK HR		PM PK HR	
	Delay/ LOS	ICU V/C	Delay/ LOS	ICU V/C	Delay/ LOS	ICU V/C	Delay/ LOS	ICU V/C
Redlands Blvd & Anderson St/ Tippecanoe Ave	10.0 / A	0.698	16.3 / B	0.779	10.0 / B	0.699	16.8 / B	0.784
Redlands Blvd & Poplar St	14.9 / B	0.394	14.2 / B	0.52	15.0 / B	0.395	14.3 / B	0.523
Redlands Blvd & Crooks St/ Richardson St	10.0 / B	0.439	10.7 / B	0.534	10.1 / B	0.44	10.7 / B	0.536
Redlands Blvd & Mountain View Ave	9.6 / A	0.651	10.9 / B	0.753	9.6 / A	0.652	10.9 / B	0.753

VI. FUTURE GROWTH

To properly assess the project's future impact, the San Bernardino Transportation Analysis Model (SBTAM) output data for 2008 and 2035 was post-processed using the methodology in NCHRP Report 255, and calibrated based on existing 2015 traffic count data. The recalibrated daily and peak hour forecast traffic volumes provided the basis for estimating future 2016 and 2035 traffic volumes. The SBTAM post-processing worksheets are provided in ***Appendix D.***



Existing 2015 Plus Project AM/ PM Traffic Volumes

Exhibit 8

The post-processed volumes have been factored to reflect the forecast growth for the one-year period just prior to the scheduled opening in late 2016. For this purpose, linear growth between the base year (2008) and the forecast year (2035) was assumed. Since the increment between year 2015 and year 2016 is 1 year of the 27-year time frame, a factor of 0.04 (i.e., 1/27) was applied to the 2015 forecast traffic volumes to arrive at the estimated 2016 traffic volumes without project.

For the future 2035 conditions, our analysis reflected the forecast growth between the years 2015 and 2035. For this purpose, linear growth between the 2008 base condition and the forecast 2035 condition was assumed. Since the increment between year 2015 and year 2035 is 20 years of the 27-year time frame, a factor of 0.74 (i.e., 20/27) was applied to the 2015 forecast traffic volumes to arrive at the estimated 2035 traffic volumes.

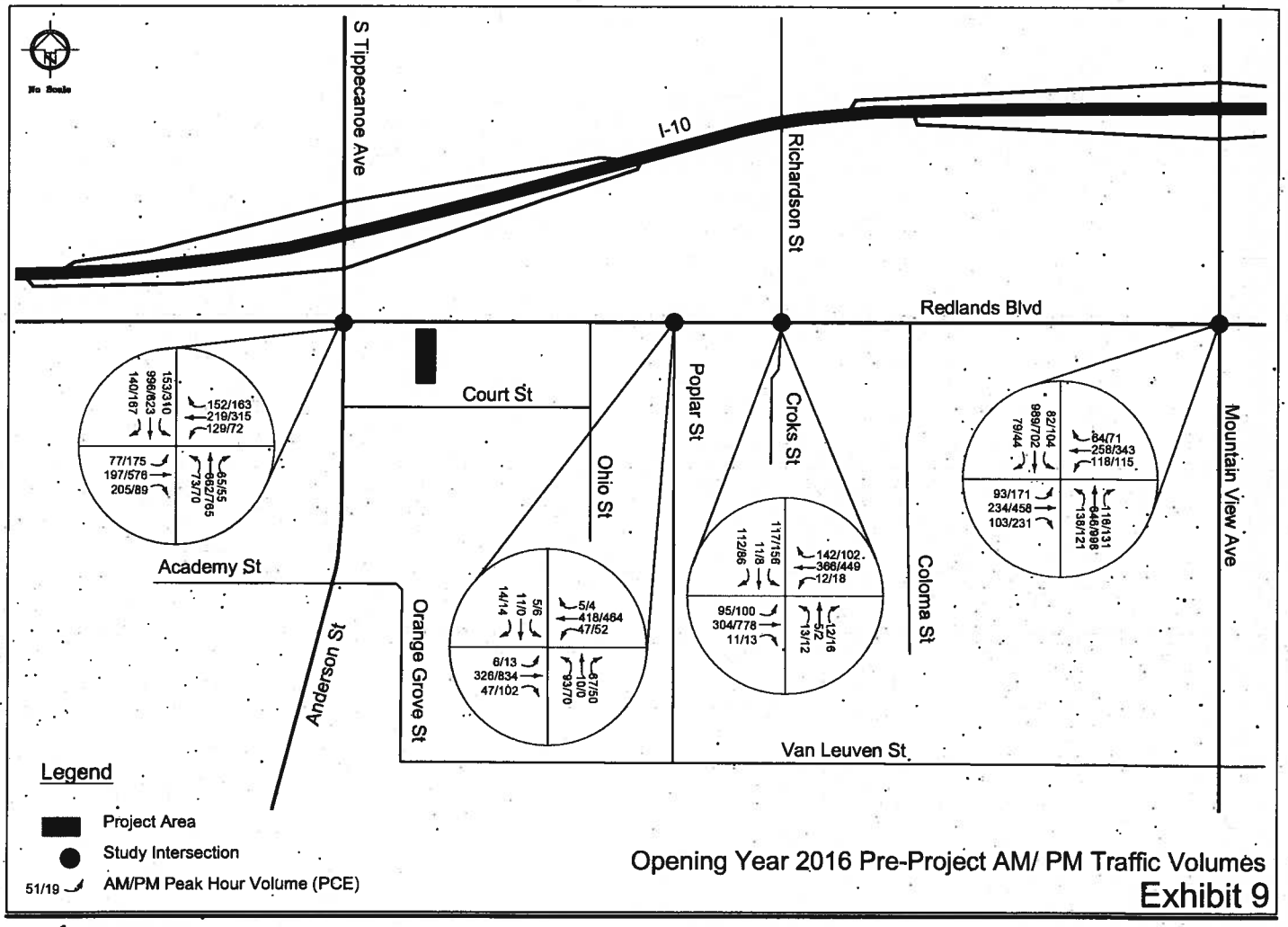
VII. FUTURE YEARS CONDITIONS ANALYSIS

Opening Year (2016) Without Project Conditions Intersection Analysis

Opening Year (2016) Without Project Conditions provide a baseline level of service for the Opening Year for comparison purposes. A growth factor of 0.04 was applied to existing traffic volumes to extrapolate 2016 traffic from 2015 volumes. The Opening Year (2016) conditions AM/PM peak hour traffic volumes (see ***Exhibit 9***) were used to estimate the level of service for the study intersections at a future baseline condition. The levels of service for the study intersections for Opening Year (2016) Conditions are shown in ***Table 4***.

Table 4: Opening Year (2016) Without Project Conditions LOS Summary

SIGNALIZED INTERSECTION	*2016 WITHOUT PROJECT CONDITIONS*			
	AM PK HR		*PM PK HR*	
	Delay/ LOS	*ICU V/C*	*Delay/ LOS*	*ICU V/C*
Redlands Blvd & Anderson St/ Tippecanoe Ave	10.2 / B	0.703	17.1 / B	0.787
Redlands Blvd & Poplar St	15.0 / B	0.395	14.3 / B	0.523
Redlands Blvd & Crooks St/ Richardson St	10.1 / B	0.445	10.7 / B	0.531
Redlands Blvd & Mountain View Ave	9.8 / A	0.663	11.4 / B	0.774



Opening Year 2016 Pre-Project AM/ PM Traffic Volumes

Exhibit 9

WILLDAN Engineering

Loma Linda Car Wash TIA
(#105327)
City of Loma Linda

The results in ***Table 4*** indicate that all four of the study intersections are expected to continue to operate at LOS B or better without the project during the Opening Year. The intersection analysis worksheets can be referenced in ***Appendix C***.

Opening Year (2016) with Project Conditions Intersection Analysis

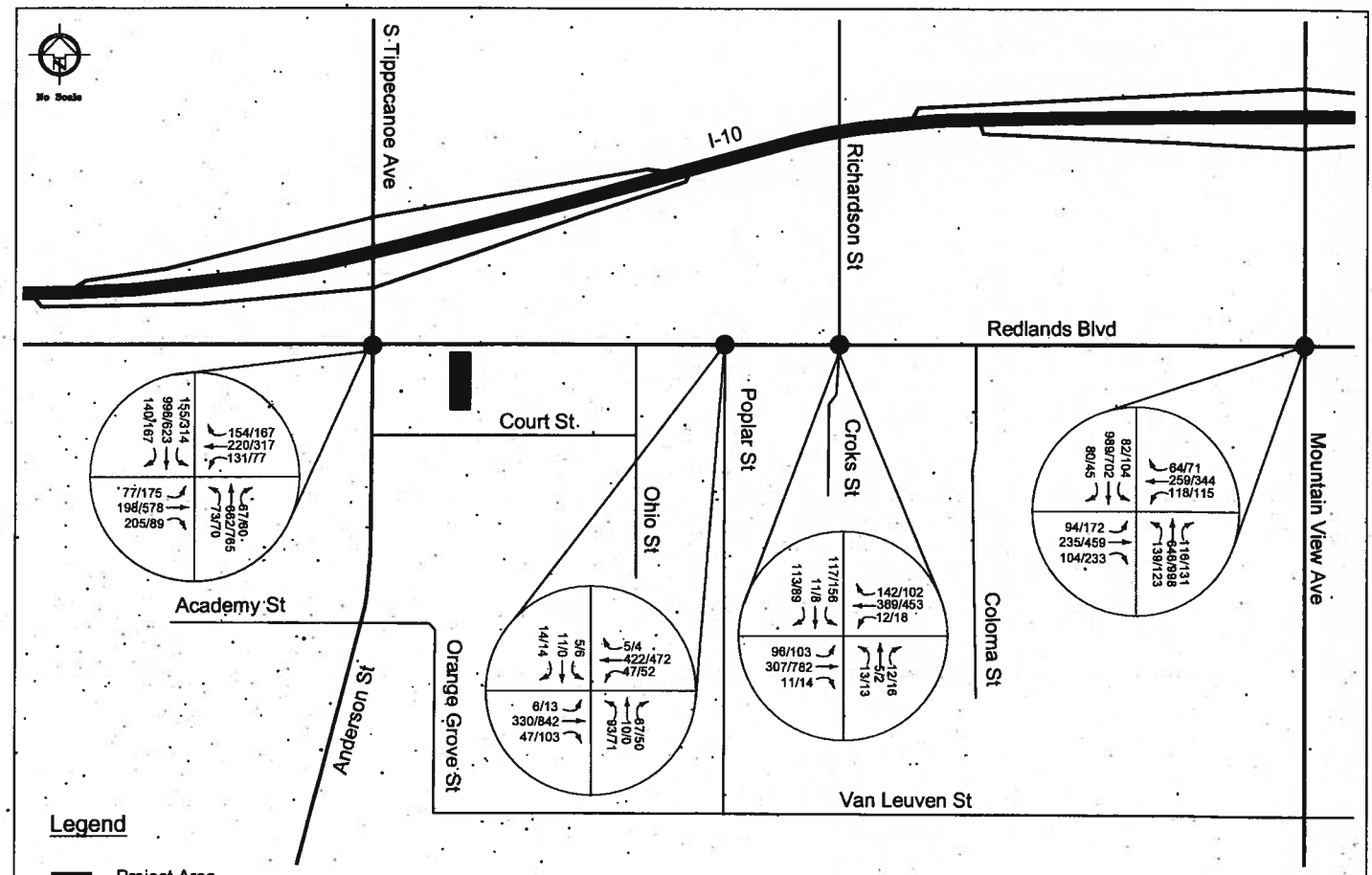
Opening Year (2016) with Project conditions consist of the addition of project traffic volumes to the Opening Year (2016) Without Project conditions. The Opening Year with Project conditions AM/PM peak hour traffic volumes are shown on ***Exhibit 10***, and were used to estimate the level of service for the study intersections. The results of the peak hour analysis are summarized in ***Table 5*** and they show that with the project, all four study intersections are expected to continue to operate at LOS B or better. Therefore, the Project is not expected to have a significant impact on any of the four study intersections under Opening Year conditions. The supporting HCM intersection analysis worksheets can be referenced in ***Appendix C***.

Table 5: 2016 Without Project vs. With Project Conditions LOS Comparison

SIGNALIZED INTERSECTION	2016 WITHOUT PROJECT CONDITIONS				2016 WITH PROJECT CONDITIONS			
	AM PK HR		PM PK HR		AM PK HR		PM PK HR	
	Delay/ LOS	ICU V/C	Delay/ LOS	ICU V/C	Delay/ LOS	ICU V/C	Delay/ LOS	ICU V/C
Redlands Blvd & Anderson St/ Tippecanoe Ave	10.2 / B	0.703	17.1 / B	0.787	10.2 / B	0.705	17.6 / B	0.793
Redlands Blvd & Poplar St	15.0 / B	0.395	14.3 / B	0.523	15.0 / B	0.396	14.3 / B	0.526
Redlands Blvd & Crooks St/ Richardson St	10.1 / B	0.445	10.7 / B	0.531	10.1 / B	0.446	10.7 / B	0.532
Redlands Blvd & Mountain View Ave	9.8 / A	0.663	11.4 / B	0.774	9.8 / A	0.664	11.4 / B	0.774

Horizon Year (2035) Without Project Conditions Intersection Analysis

Horizon Year (2035) Without Project Conditions provide a baseline level of service of the traffic conditions 20 years in the future for comparison purposes. A growth factor of 0.74 was applied to existing traffic volumes to extrapolate 2035 traffic from 2015 volumes. The 2035 without Project Conditions AM and PM peak hour traffic volumes are shown on ***Exhibit 11*** and were used to estimate the level of service for the study intersections. The results of the intersection LOS analysis are summarized in ***Table 6.***

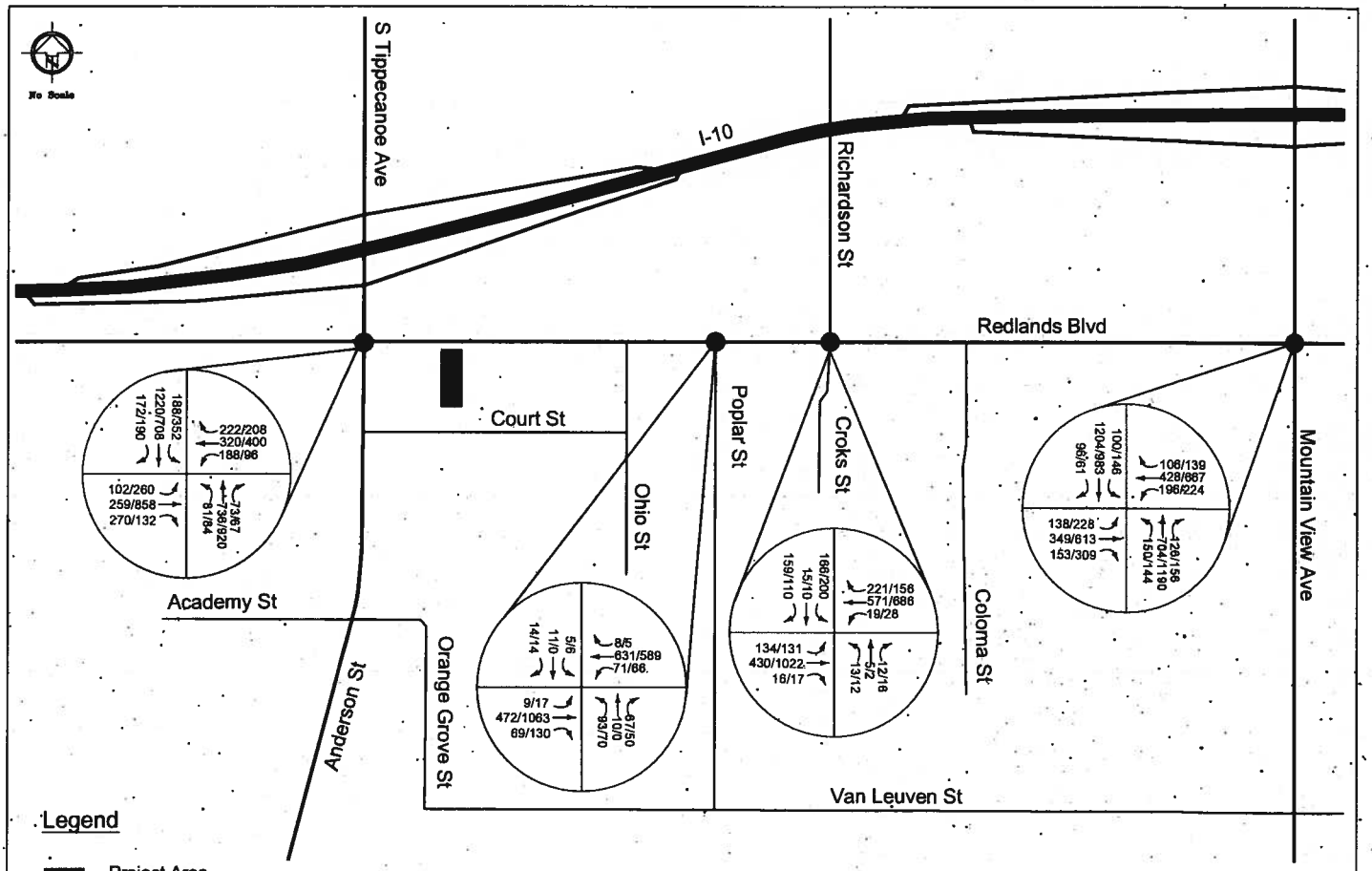


Opening Year 2016 With Project AM/ PM Traffic Volumes

Exhibit 10

WILLDAN Engineering

Loma Linda Car Wash TIA
(#105327)
City of Loma Linda



Horizon Year 2035 Without Project AM/ PM Traffic Volumes

Exhibit 11

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Loma Linda Car Wash TIA
(#105327)
City of Loma Linda

Table 6: 2035 Without Project Conditions LOS Summary

SIGNALIZED INTERSECTION	2035 WITHOUT PROJECT CONDITIONS			
	AM PK HR		PM PK HR	
	Delay/ LOS	ICU V/C	Delay/ LOS	ICU V/C
Redlands Blvd & Anderson St/ Tippecanoe Ave	14.3 / B	0.849	49.8 / D	0.953
Redlands Blvd & Poplar St	15.8 / B	0.455	17.2 / B	0.595
Redlands Blvd & Crooks St/ Richardson St	11.6 / B	0.582	12.8 / B	0.625
Redlands Blvd & Mountain View Ave	16.2 / B	0.820	35.0 / D	0.963

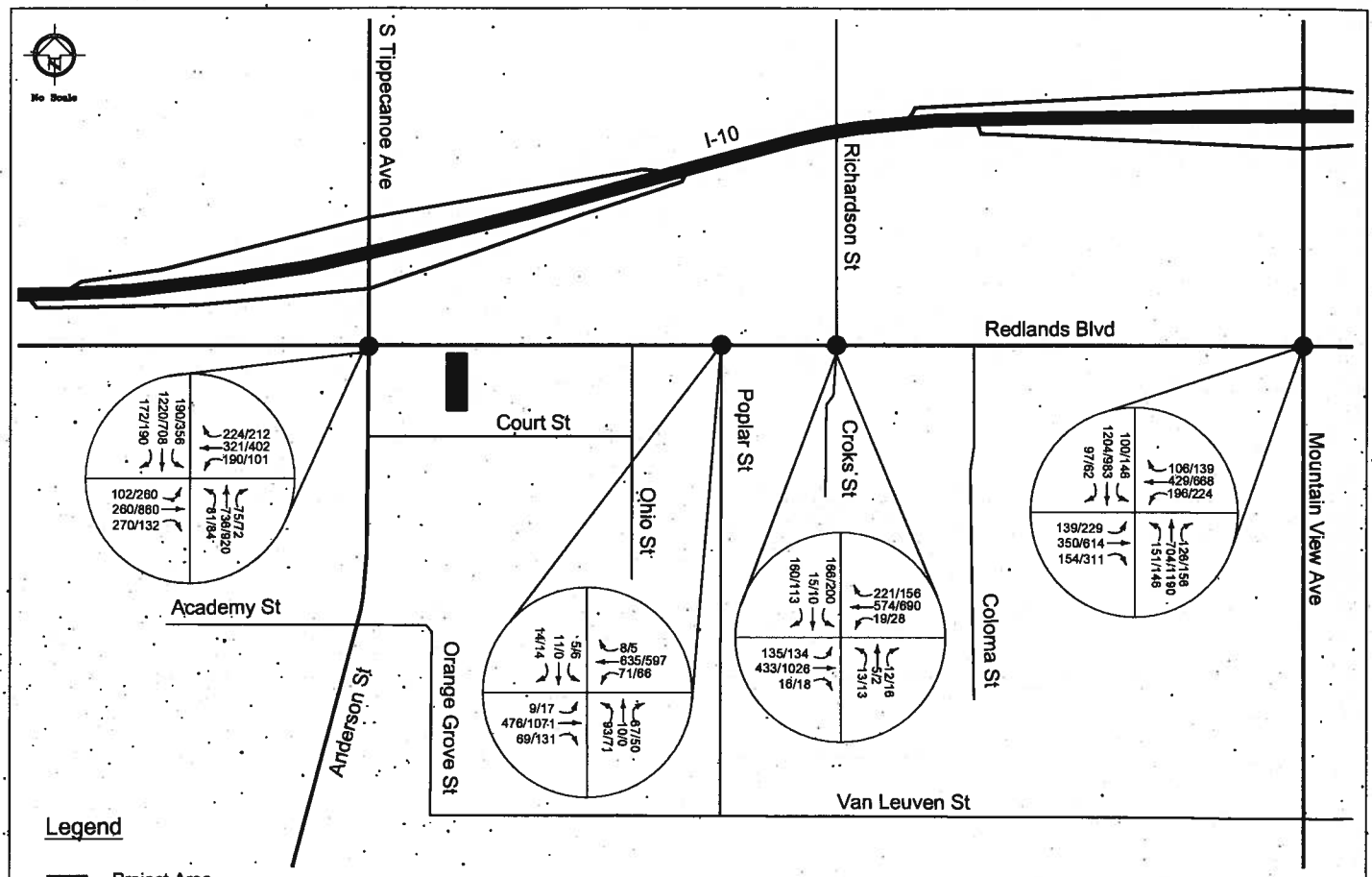
The above results in ***Table 6*** indicate that all four of the study intersections are expected to continue to operate at LOS D or better without the project in the year 2035. The supporting HCM intersection analysis worksheets can be referenced in ***Appendix C.***

Horizon Year (2035) With Project Conditions Intersection Analysis

The horizon year (2035) with project conditions consist of the addition of project traffic volumes to the Horizon Year (2035) without project conditions. The Horizon Year with Project conditions AM/PM peak hour traffic volumes are shown on ***Exhibit 12***, and were used to estimate the level of service for the study intersections. The results of the peak hour analysis summarized in ***Table 7*** show that with the project, all four study intersections are expected to continue to operate at LOS D or better. Since the significance criteria are for intersections that operate at a LOS of E or F, the Project is not expected to have a significant impact on any of the four study intersections. The supporting HCM intersection analysis worksheets can be referenced in ***Appendix C.***

Table 7: 2035 Without Project vs. With Project Conditions LOS Comparison

SIGNALIZED INTERSECTION	2035 WITHOUT PROJECT CONDITIONS				2035 WITH PROJECT CONDITIONS			
	AM PK HR		PM PK HR		AM PK HR		PM PK HR	
	Delay/ LOS	ICU V/C	Delay/ LOS	ICU V/C	Delay/ LOS	ICU V/C	Delay/ LOS	ICU V/C
Redlands Blvd & Anderson St/ Tippecanoe Ave	14.3 / B	0.849	49.8 / D	0.953	14.5 / B	0.851	51.7 / D	0.96
Redlands Blvd & Poplar St	15.8 / B	0.455	17.2 / B	0.595	15.9 / B	0.456	17.5 / B	0.598
Redlands Blvd & Crooks St/ Richardson St	11.6 / B	0.582	12.8 / B	0.625	11.7 / B	0.583	12.9 / B	0.626
Redlands Blvd & Mountain View Ave	16.2 / B	0.820	35.0 / D	0.963	16.3 / B	0.821	35.2 / D	0.964



Horizon Year 2035 With Project AM/ PM Traffic Volumes

Exhibit 12

WILLDAN Engineering

Loma Linda Car Wash TIA
(#105327)
City of Loma Linda

VIII. CONCLUSION

The Project is not expected to have a significant impact at any of the four study intersections for Existing (2015) conditions, Opening Year (2016) conditions or Horizon Year (2035) conditions. Therefore, no traffic mitigation measures are recommended.

Staff Report City of Loma Linda

From the Department of Community Development

PLANNING COMMISSION MEETING OF MARCH 2, 2016

TO: **PLANNING COMMISSION**

FROM: **KONRAD BOLOWICH, ASSISTANT CITY MANAGER**

SUBJECT: **PRECISE PLAN OF DESIGN (PPD) NO. 14-154 –** A PROPOSAL TO CONSTRUCT A 15,880 SQUARE FOOT MEDICAL OFFICE BUILDING ON A VACANT LOT LOCATED AT 25925 BARTON ROAD WITHIN THE INSTITUTIONAL (I) ZONE.

SUMMARY

The Applicant is requesting Precise Plan of Design approval to construct a new two story medical office building upon a vacant lot with 36,590 square feet of land (Exhibit A). The project site is located on the southwest corner of Newport Avenue and Barton Road.

RECOMMENDATION

Staff recommends that the Planning Commission deny Precise Plan of Design No.14-154 based on the required Findings, identified in the City of Loma Linda Municipal Code.

PERTINENT DATA

Owner/Applicant:	Nancy Chen, Link World Investment, and LLC
General Plan:	Office
Zoning:	Institutional
Site:	.84 acres
Topography:	Generally Flat
Vegetation:	Vacant, existing trees

EXISTING SETTING

The Project Site is presently vacant with a commercial use to the north, and to the south a post office, and to the east medium density residential and to the west a Southern California Edison Easement.

CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) STATUS

The construction of the 15,880 square foot medical office building is subject to the California Environmental Quality Act and a Mitigated Negative Declaration of Environmental Impact has been prepared (Exhibit B). The Initial Study Checklist determined that the proposed Project would result in potentially significant impacts to the following issue areas:

- Biological Resources
- Cultural Resources
- Noise
- Transportation/Traffic

PUBLIC COMMENTS

Public hearing notices for this project were mailed to property owners within 300 feet of the project site on February 8, 2016. On February 24, 2016, Staff received written comments from the Applicant's traffic consultant regarding the traffic section of the Environmental Initial Study. Staff has included the letter as an exhibit to this report (Exhibit C), but staff has not had time to adequately address the issues brought up by the Applicant in this staff report.

PROJECT ANALYSIS

The applicant proposal is to construct a new two-story, medical office building, totaling 15,880 square feet (Exhibit D). The new medical building will be located on an existing .84 acre of vacant land with frontage along Barton Road. In addition, 62 off-street parking spaces will be provided to support the new medical office building. Finally, landscaping will be provided throughout the project site totaling 8,415 square feet. The project is proposing primary access to the site from Barton Road, located directly north of the project site. An emergency access only is proposed off United State Postal Service facility access road. During the Planning Department's review of the development plans submitted by the applicant, staff discovered there were several deficiencies that clearly show the applicant's project at did not comply with the development standards established for the Institutional Zone District, however, those issues were addressed, with the exception of the proposed driveway off Barton Road. This was due to the fact that the City had concerns regarding traffic exiting the subject site off Barton Road.

General Plan, Zoning and Existing Land Use

	General Plan	**Zoning**	**Existing Use**
Subject Site	Office	Institutional	Vacant Land
North	Commercial	Commercial Manufacturing	Self-Storage Facility
South	Office	Institutional	Post Office
East	Medium Density Residential 0-9 dwelling units/acre	Planned Community PC	Residential
West	Public Open Space	Neighborhood Business C1	Southern California Edison Easement

Development Standards

Institutional Zone Development Standards

	Required	**Proposed**	**Complies**
Front	25 Feet	33 Feet	Yes

Side - East P.L. - West P.L.	10 Feet 10 Feet	10 Feet ~ 57 Feet	Yes Yes
Rear	10 Feet	52 Feet	Yes
Lot Size – Minimum	Shall be determined by Precise Plan Process	36, 590 Square Feet	Yes
Lot Width – Minimum	Shall be determined by Precise Plan Process	236 Feet Approximately	Yes
Building Coverage – Maximum	Fifty Percent	8,034 Sq. Ft. 22 %	Yes
Maximum – Building Height	No Height Maximum in the Institutional (I) Zone	40 Feet	Yes
Parking	Medical Office: 1 parking stall per 300sq.ft. Required: 53 stalls	On-Site: 52 Stalls Off-Site: 10 Stalls	Yes. Subject to approval of an approved and recorded Parking Agreement
Open Area Landscaping	Minimum 4% of Parking Area: 23% 668 sq. ft.	19.5%% 3,255 sq. ft. (23% of total site landscaped)	Yes
Trash Enclosure	Required	Proposed	Yes
Block Wall	None Required	No block wall proposed	Yes

Architecture and Design

The proposed medical building will include a modern architectural style, which extends around the four sides of the building. The proposed medical office building will have smooth finished painted walls, including dark bronze store front framing with solar bronze low E glass and with a decorative parapet that will screen the roofing area.

Landscaping

The applicant has provided 8,416 square feet of landscaping throughout the site. The conceptual landscape plans submitted for the project calls for the use of trees, shrubs and ground cover. The plants selected appear to be a combination of moderate and low water usage types.

Noise and Vibration Impact Analysis

LSA Associates, Incorporated prepared the noise and vibration impact analysis for the proposed medical office building. The study was an evaluation of noise and vibration impacts associated with the proposed project that included the following:

- Determination of the short-term construction noise and vibration levels at off-site, noise sensitive uses and then comparison of the City Noise Ordinance requirements and the construction vibration damage criteria identified by the Federal Transit Administration and the California Department of Transportation.
- Determination of long-term noise levels from vehicular traffic using the Federal Highway Administration approved method and off-site stationary sources using empirical noise data obtained by the Federal Highway Administration surveys and at on-site noise sensitive uses and then comparison of the levels to the City's pertinent noise standards.
- Determination of required mitigation measures (for example, mechanical ventilation or building façade enhancements) to reduce long-term, on-site noise impacts from all sources.

Short-term noise impacts would be associated with excavation, grading, paving and interior improvements inside the building during construction of the proposed project. Construction related short-term levels would be higher than existing ambient noise levels in the project area today, but would cease to occur once construction of the project is completed.

Construction of the proposed project is expected to require the use of heavy-duty construction equipment such as earthmovers, bulldozers, and water and pickup trucks. This equipment would be use on the project site. The nearest residential uses are approximately 160 feet to the east of the project site exposed to the construction noise up to 77 dBA Lmax. This range of construction noise levels would be similar to or lower than vehicles pass-by noise along Barton Road. Although this range of construction noise would be higher than the ambient noise, it would cease to occur once the project construction is completed.

Vibration levels from standard construction equipment are shown below for various pieces of construction equipment that are expected to be used on the project site:

- Rollers, scrapers, excavators (94 VdB at 25 ft.)
- Large dozers, front end loaders, grader, backhoe (87 VdB at 25 ft.)
- Loaded trucks (86VdB at 25 ft)
- Jackhammers, forklift (79 VdB at 25 ft.)

The Noise and Vibration Impact Analysis Identified the following:

Traffic Noise Impacts. Provide mechanical ventilation, such as an air-conditioning system, to all frontline medical offices along Barton Road.

Stationary Noise Impacts. No mitigation measures are required.

Level of Significance after Mitigation: Construction activities associated with the proposed project would elevate daytime noise levels in the vicinity of noise-sensitive receptors within the project area. Consequently, impacts associated with the proposed project would not differ significantly from the analysis contained in the General Plan Environmental Impact Report (EIR). The project would prepare a construction noise mitigation plan prior to the issuance of grading permits that identifies ways to mitigate construction, including vibration, noise. Construction noise impacts would be less than significance with compliance of the City's noise ordinance.

Traffic

The Initial Study Checklist prepared for the applicant's project identified the following:

In 2006, the City of Loma Linda voters passed Ballot Measure V, which amended the City General Plan by the addition of a new Growth Management Element that states:

Traffic levels of service throughout the City of Loma Linda shall be maintained at current levels and new development shall be required to fully mitigate any impact on traffic resulting from the development.

Section 3.16 Transportation/Traffic (Assessment):

All intersections are projected to operate at satisfactory Levels of Service except for the intersection of the driveway on Barton Road, which is projected to operate at Level of Service "D" in the P.M. peak hour. The un-signalized intersection of the proposed driveway on Barton Road will operate at unsatisfactory LOS under Year 2035 with Project conditions. The project creates this deficiency; therefore, it has a direct significant impact at this location and a significant and unavoidable impact will occur at this location.

Pursuant to the California Environmental Quality Act (CEQA), the City of Loma Linda is requiring that an Environmental Impact Report (EIR) be prepared because the Project as proposed will result in Level of Service "D" in the P.M. hour for the Year 2035 with Project Traffic Conditions which exceeds City standards and will also result in unsafe traffic movements from vehicles exiting the site onto Barton Road.

The Traffic Impact Analysis, prepared by LSA Associates, Incorporated (Exhibit E), has also been included as an exhibit to this report. It provides an assessment of the potential circulation impacts associated with the Loma Linda Medical Office Project to locate at 25915 Barton Road in the City of Loma Linda.

Level of Service Analysis

In 2006, the City of Loma Linda voters passed Ballot Measure V, which amended the City's General Plan by the addition of a new growth management element. Accordingly, Chapter 2A was incorporated into the General Plan. Principle Six of the Growth Management Element states:

Traffic levels of service throughout the City of Loma Linda shall be maintained at current levels and new development shall be required to fully mitigate any impact on traffic resulting from the development.

Further clarification is provided in subsection 2. *Levels of Service throughout the City Shall Be Maintained,* under Principle Six, as follows:

To assure the adequacy of various public services and to prevent degradation of the quality of life experience by the resident of Loma Linda, all new development projects shall assure by implementation of appropriate mitigation measures that, at a minimum, traffic levels of service (LOS) are maintained at a minimum of LOS C throughout the City, except where the current level of service is lower than LOS C.

In any location where the level of service is below LOS C at the time an application for development project is submitted, mitigation measures shall be imposed on that development project to assure, at a minimum, that the level of traffic service is maintained at levels of service that are no worse than those existing at the time an application for development is filed. In any location where the Level of Service is LOS F at the time an application for a development project is submitted, mitigation measures shall be imposed on that development project to assure, at a minimum, that the volume to capacity ratio is maintained at a volume to capacity ratio that is no worse than that existing at the time an application for development is filed. Projects where sufficient mitigation to achieve the above stated objectives is infeasible shall not be approved unless and until the necessary mitigation measures are identified and implemented. The summary table below shows the level of service for each intersection scenario for the applicant's project, as well as the impacts expected for the present and the future.

Summary of Intersection Level of Service (LOS) and Impacts

Scenario	**1**		**2**		**3**		**4**		**5**		**6**		**7**		**8**	
	Existing		**Existing with Project**		**Opening Year without Project**		**Opening Year with Project**		**Cumulative without Project**		**Cumulative with Project**		**Year 2035 without Project**		**Year 2035 with Project**	
Intersection	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**
Barton Road Driveway	---	---	B	C	**---**	---	B	C	---	---	B	C	---	---	B	**D***
Newport Avenue/Barton Road	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C

Source: *Traffic Impact Analysis, LSA Associates, November 5, 2015*

***D = Significant Impact**

As shown on the table above, the signalized intersection at Newport Avenue and Barton Road complies with the level of service requirement in Measure V.

The unsignalized intersection of the proposed driveway on Barton Road is not subject to Measure V. It will however operate at unsatisfactory LOS under year 2035 with Project conditions. The Project creates this deficiency; therefore, it has a direct significant impact at this location and a significant and unavoidable impact will occur at this location.

Weaving Analysis for Proposed Driveway on Barton Road

A weaving analysis was conducted for the proposed driveway access off Barton Road to determine if a potential safety/operational issue would occur on Barton Road. Weaving distance is the distance needed for a vehicle exiting the driveway to maneuver across the travel lanes and into the left-turn lane at the downstream intersection of Newport Avenue/Barton Road.

Exiting right-turn traffic from the proposed driveway trying to make a left turn/u-turn at Newport Avenue/Barton Road will require vehicles to turn into the closest lane, followed by signaling and changing lanes until positioned in the left-turn lane at Newport Avenue/Barton Road. When the

distance to accomplish these weaving maneuvers is not adequate, vehicles may make abrupt lane changes, cross multiple lanes in one movement, stop, or partially block a through lane, resulting in potential vehicle conflicts.

For a posted speed above 35 mph, the minimum weaving distance is determined from the number of lane changes and the design vehicle type as shown in the table below. For the weaving path from the proposed driveway to Newport Avenue, vehicles would require three lane changes. As shown in the table below, the minimum weaving distance for three lane changes is 260 feet for passenger cars, measured from the proposed driveway approach centerline to the back of the queue in the left-turn lane. Since the distance from the centerline of the driveway approach to the back of queue is approximately 50 feet, which is significantly less than the minimum 260 feet, the available weaving distance is not sufficient.

Urban Weaving Distance

Number of Lane Changes	Weaving Distance from Proposed Approach to Back of Queue or Start of Ramp Taper		
	Passenger Car	Single Unit Truck	WB-67 Truck
1	130	160	205
2	195	225	270
3	260	290	335

The *TIA* prepared for the Project by LSA Associates on behalf of the City recommends not providing access via the proposed Barton Road driveway due to anticipated safety and operational concerns.

Traffic and Circulation Conclusions

As noted in the preceding analysis, the access driveway off Barton Road would result in two significant impacts:

1) Result in Level of Service "D" in the P.M. peak hour for the Year 2035 with Project Traffic Conditions.

2) Result in unsafe traffic movements from vehicles exiting the site onto Barton Road. The TIA recommends not providing access via the proposed Barton Road driveway due to anticipated safety and operational concerns.

FINDINGS

Precise Plan of Design Findings

According to LLMC Section 17.30.290, Precise Plan of Design (PPD), Application Procedure, PPD applications shall be processed using the procedure for a variance (as outlined in LLMC Section 17.30.030 through 17.30.060) but excluding the grounds (or findings). As such, no specific findings are required. However, LLMC Section 17.30.280, states the following:

> "If a PPD would substantially depreciate property values in the vicinity or would unreasonably interfere with the use or enjoyment of property in the vicinity by the occupants thereof for lawful purposes or would adversely affect the public peace,

> health, safety or general welfare to a degree greater than that generally permitted by this title, such plan shall be rejected or shall be so modified or conditioned before adoption as to remove the said objections."

In an effort to ensure that the foregoing project is consistent with the General Plan, compliant with the zoning and other City requirements, compatible with the surrounding area, and appropriate for the site, staff and the City Attorney have opted to apply the Conditional Use Permit Findings in LLMC §17.30.210 to this project, as follows:

1. *That the use applied for at the location set forth in the application is properly one for which a conditional use permit is authorized by this title.*

   The project is consistent with the Commercial land use designation and is compliance with the Institutional Zone, which permits medical facilities such as the one proposed. The proposed medical office building is a permitted use generally found in the Institutional Zone.

2. *That the said use is necessary or desirable for the development of the community is in harmony with the various elements and objectives of the general plan, and is not detrimental to existing uses specifically permitted in the zone in which the proposed use is to be located.*

   The project is not consistent with the goals of the City of Loma Linda General Plan, which seeks to promote and facilitate high-quality commercial development that would not be detrimental to existing uses permitted in the Institutional zone. In addition, the proposed driveway on Barton for the project creates a significant level of service concerns, which are described as follows:

3. *That the site for the intended use is adequate in size and shape to accommodate said use and all of the yards, setbacks, walls, or fences, landscaping and other features required in order to adjust said use to those existing or permitted future uses on land in the neighborhood.*

   The subject parcel is adequate in size and shape to accommodate the proposed development of the site. The project will be developed on an approximate .84-acre site (36,590 square feet). The lot coverage of the site (approximately 8,034 square feet) will be approximately 22 percent of the overall site, which conforms to the requirements of the Institutional Zone Chapter 17.60. Therefore, the project site can accommodate the proposed development, which will be compatible with the existing, and future land uses.

4. *That the site or the proposed use related to streets and highways is properly designed and improved to carry the type and quantity of traffic generated or to be generated by the proposed use.*

   First, the project site proposes to have direct access by one driveway for ingress/egress located on Barton Road that will not meet the City of Loma Linda's Level of Service standards in Year 2035. Secondly, there are safety hazard concerns with the proposed driveway locations. The issue is discussed under 3.16 Transportation/Traffic in the Mitigated Negative Declaration of Environmental Impact prepared for this project. The proposed use would result in Level of Service "D" in the P.M. peak hour for the Year 2035 with Project Traffic Conditions. Furthermore, the project would Result in unsafe traffic movements from vehicles exiting the site onto Barton Road. The TIA recommends not providing access via the proposed Barton Road driveway due to anticipated safety and operational concerns.

5. *That the conditions set forth in the permit and shown on the approved site plan are deemed necessary to protect the public health, safety and general welfare.*

The public health, safety and general welfare will not be protected at this time based upon the project's proposed driveway access on Barton Road. The proposed use would result in Level of Service "D" in the P.M. peak hour for the Year 2035 with Project Traffic Conditions. Furthermore, the project would Result in unsafe traffic movements from vehicles exiting the site onto Barton Road. The TIA recommends not providing ingress/egress via the proposed Barton Road driveway due to anticipated safety and operational concerns.

CONCLUSION

Staff recommends denial of the project at this time for two reasons. Firstly, ingress/egress from the Barton Road driveway approach will be at a LOS D in Year 2035 and will present unsafe conditions at that location. Secondly, the project as proposed creates significant safety hazard concerns regarding weaving into traffic from the driveway off Barton Road. Staff has included possible conditions of approval (Exhibit F) as well as mitigation measures and a mitigation monitoring program (Exhibit G) which have been prepared and included with this report. If these mitigation measures are implemented, they will not alleviate the traffic or weaving conditions. Therefore, even with these measures, staff recommends denial of the project. As always, the Commission has the latitude to modify these conditions.

Report prepared by:
Romo Planning Group, Inc.

EXHIBITS

A. Vicinity Map
B. Mitigated Negative Declaration of Environmental Impact
C. Applicant's Rebuttal
D. Project Plans
E. Traffic Impact Analysis
F. Conditions of Approval
G. Mitigation Monitoring Program

VICINITY MAP

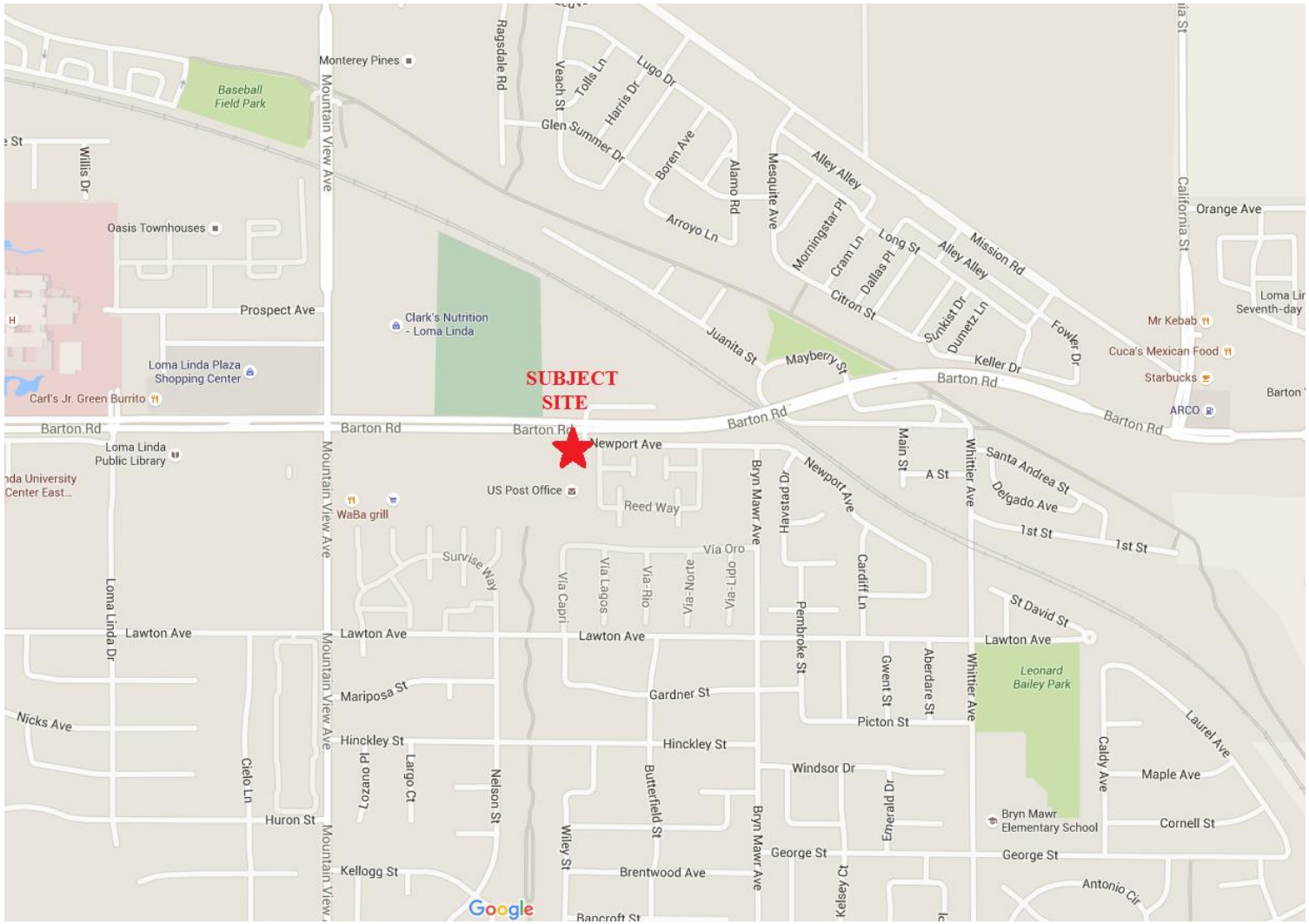


EXHIBIT – A

Initial Study Checklist/ Mitigated Negative Declaration

Precise Plan of Design No. 14-154
Medical Office Building
25915 Barton Road
Loma Linda, CA

City of Loma Linda
25541 Barton Road
Loma Linda, CA 92354
Contact: Guillermo Arreola, Senior Planner
(909) 799-2839
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Prepared By:

Romo Planning Group, Inc.
8338 Garden Street
Alta Loma, CA 91701
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January 21, 2016

EXHIBIT - B

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INTRODUCTION

1.1 Purpose of an Initial Study Checklist

The California Environmental Quality Act (CEQA) requires that before a public agency makes a decision to approve a project that could have one or more adverse effects on the physical environment, the agency must inform itself about the project's potential environmental impacts, give the public an opportunity to comment on the environmental issues, and take feasible measures to avoid or reduce potential harm to the physical environment.

The purpose of an Initial Study Checklist is to provide a preliminary analysis of a proposed action to determine whether a Negative Declaration, Mitigated Negative Declaration, or an Environmental Impact Report should be prepared for a project. An Initial Study Checklist also enables an applicant or the City of Loma Linda to modify a project, mitigating adverse impacts in lieu of preparing an Environmental Impact Report, thereby potentially enabling the project to qualify for a Negative Declaration or a Mitigated Negative Declaration.

The Initial Checklist Study provides a factual basis for a Negative Declaration. Mitigated Negative Declaration, or serves to focus an Environmental Impact Report on the significant effects of a project.

1.2 Purpose of a Mitigated Negative Declaration

A Mitigated Negative Declaration is a written statement by the City of Loma Linda that the Initial Study Checklist identified potentially significant environmental effects of the Project but the Project is revised or mitigation measures are required to eliminate or mitigate impacts to less than significant levels.

1.3 Initial Study Checklist/Mitigated Negative Declaration Document

This document in its entirety is an Initial Study Checklist/Mitigated Negative Declaration prepared in accordance with the California Environmental Quality Act (CEQA), including all criteria, standards, and procedures of CEQA (California Public Resource Code Section 21000 et seq.) and the *CEQA Guidelines* (California Code of Regulations, Title 14, Division 6, Chapter 3, Section 15000 et seq.).

As permitted under the *CEQA Guidelines* (Section 15084[d-e]), the Romo Planning Group Inc. (RPG) has prepared this Initial Study Checklist/Mitigated Negative Declaration under the direction of the City of Loma Planning Department. The City is undertaking an independent review of this Initial Study Checklist/Mitigated Negative Declaration by having the City of Loma Linda Planning Department work with RPG on the document. If adopted by the City, the information included in this Initial Study Checklist/Mitigated Negative Declaration will therefore represent the City's independent judgment.

1.4 Public Review and Processing of the Initial Study Checklist/Mitigated Negative Declaration

This Initial Study Checklist/Mitigated Negative Declaration and a Notice of Intent to adopt the Mitigated Negative Declaration was distributed to the following entities for a 20-day public review period:

1) Organizations and individuals who have previously requested such notice in writing to the City of Loma Linda;

2) Responsible and trustee agencies (public agencies that have a level of discretionary approval over some component of the proposed Project); and

3) The San Bernardino County Clerk.

The Notice of Intent was also noticed to the general public in a primary newspaper of circulation in the areas affected by the project.

Following the public review period, the City of Loma Linda Planning Department will review any comment letters received during to determine whether any substantive comments were provided that may warrant revisions or recirculation to the Initial Study Checklist/Mitigated Negative Declaration document. If recirculation is not required (as defined by CEQA Guidelines §15073.5(b)), written and/or oral responses will be provided to the City of Loma Linda Planning Commission for review as part of their deliberations concerning the Project.

At the conclusion of the public hearing process, the Planning Commission will take action to approve, conditionally approve, or deny the proposed Project. If approved, the Planning Commission will adopt findings relative to the Project's environmental effects as disclosed in the Initial Study Checklist/Mitigated Negative Declaration and a Notice of Determination will be filed with the Riverside County Clerk.

1.5 Initial Study Checklist/Mitigated Negative Declaration Findings and Conclusions

Section 3.0 of this document contains the Environmental Checklist/Initial Study that was prepared for the proposed Project pursuant to CEQA and City of Loma Linda requirements.

The Initial Study Checklist determined that implementation of the proposed Project would result in **no impacts or less than significant** impacts with implementation of Plans, Policies, Programs, or Project Design Features to the environment under the following issue areas:

- Agriculture and Forestry Resources
- Air Quality
- Geology and Soils
- Greenhouse Gas Emission
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Mineral Resources

- Population and Housing
- Public Services
- Recreation
- Utilities and Service Systems

The Initial Study Checklist determined that the proposed Project would result in **potentially significant impacts** to the following issue areas, but the Project Applicant will incorporate mitigation measures that would avoid or mitigate effects to a point where clearly no significant environmental impacts on the environment would occur:

- Biological Resources
- Cultural Resources
- Noise
- Transportation/Traffic

The Initial Study Checklist determined that, with the incorporation of mitigation measures, there is no substantial evidence, in light of the whole record before the Lead Agency (City of Loma Linda), that the Project as revised may have a significant effect on the environment. Therefore, based on the findings of the Initial Study Checklist, the City of Loma Linda determined that a Mitigated Negative Declaration is the appropriate CEQA determination for the Project pursuant to CEQA Guidelines § 15070(b).

2.0 PROJECT BACKGROUND

2.1 Project Location

The City of Loma Linda covers approximately 10.4 square miles within the County of San Bernardino. The City is bordered by the City of Redlands and City of San Bernardino to the north, the City of Redlands and unincorporated San Bernardino County to the east; unincorporated Riverside and San Bernardino Counties to the south; and unincorporated San Bernardino County and the Cities of Colton and San Bernardino to the west Specifically, the Project is located at 25915 Barton Road approximately 1,300 feet east of Mountain View Avenue. (Refer to Exhibit 1).

The Project site includes the following Assessor Parcel Number:

- 0293-011-24

2.2 Existing Site Conditions/Environmental Setting

CEQA Guidelines §15125 establishes requirements for defining the environmental setting to which the environmental effects of a proposed project must be compared. The environmental setting is defined as "…the physical environmental conditions in the vicinity of the project, as they exist at the time the Notice of Preparation is published, or if no Notice of Preparation is published, at the time the environmental analysis is commenced…" (CEQA Guidelines §15125[a]).

In the case of the proposed Project, the Initial Study Checklist determined that a Mitigated Negative Declaration is the appropriate form of CEQA compliance document, which does not require a Notice of Preparation. Thus, the environmental setting for the Project is the approximate date that the Project's Initial Study Checklist commenced in July 2015.

The Project site consists of approximately 0.84 acres. The Project site is heavily disturbed by human activities and is void of vegetation except for several trees along the northern and eastern boundary of the site. Topography of the site is relatively flat and generally slopes toward the northwest. The elevation of the site ranges from approximately 1,193 feet above mean sea level to 1,182 above mean sea level. Barton Road, a 4-lane roadway with a raised median borders the northern boundary of the site. Newport Avenue which provides access to a residential community to the east of the site is located at the northeast corner of the site. A private access road serving the Loma Linda Post Office borders the eastern boundary of the site. Surrounding land uses are shown on Table 1.

Table 1. Existing Land Uses

Location	Existing Use
Site	Vacant
North	Barton Road (vacant land and a mini-storage located across Barton Road).
South	Loma Linda Post Office
East	Single-Family Homes
West	Vacant Land (SCE Easement)
Source: Field Inspection, July 2015.	

2.3 Existing General Plan Land Use and Zoning Designations

The *General Plan* designates the subject site as Office and the zoning classification is Institutional. This land use category provides primarily for professional or medical office uses. A summary of the existing General Plan land use and zoning designations for the Project site and surrounding properties is provided in Table 2.

Table 2. Existing General Plan and Zoning Designations

Location	General Plan Designation	Zoning Designation
Site	Office	Institutional (I)
North	Commercial (across Barton Road)	Commercial Manufacturing (CM) (across Barton Road)
South	Low Density Residential (0-4 du/ac)	Single Residence (R1)
East	Medium Density Residential (0-9 du/ac)	Planned Community (PC)
West	Public Open Space (Riding & Hiking Trails)	Neighborhood Business (C1)
Source: City of Loma Linda-General Plan Land Use Map, City of Loma Linda Zoning Map		

2.4 Project Description

The proposed Project consists of a new medical office building. Table 3 provides a summary of the proposed Project.

Table 3. Project Summary

Project Component	Size /Number
Building Area:	1st floor:-8,034 square feet 2nd Floor-7846 square feet **Total-15,880 square feet**
Parking Spaces	63 spaces
Landscaped Area	8,415 square feet
Source: Design Systems, Site Plan, July 2015	

Street Improvements and Access

The Applicant is proposing access to the Project site off Barton Road by one right-in/right-out driveway. As discussed under issue 3.16 Transportation/Traffic, the proposed Barton Road Driveway will not meet the City's Level of Service standards in Year 2035 and there are safety hazard concerns with the proposed driveway location. No additional roadway improvements are required except for construction of the driveway approaches.

Parking

63 parking spaces are proposed.

On-Site Water, Sewer and Drainage Improvements

Water and Sewer

Water and sewer service to the Project site will be provided by the City of Loma Linda. Water is available to serve the Project site from an existing 12-inch diameter water line in Barton Road adjacent to the northern boundary of the site. Sewer service is available for the Project from an existing 8-inch diameter sewer line in Barton Road.

Drainage

Overflow runoff from most of the proposed parking lot south of the proposed building will discharge easterly before its ultimate discharge point to the existing Loma Linda Post Office driveway. Overflow runoff from the western portion of the site, and from the building roof drains will discharge to Barton Road via the proposed under sidewalk drain that conveys overflow from the proposed bio-retention area north of the proposed building.

D. Off-Site Improvements

The Project will connect to existing facilities adjacent to the site. No off-site improvements are proposed.

E. Construction Schedule

Construction is expected to commence sometime in 2016 and would occur in several general phases until completion, approximately 6 months after commencement of construction. The following time durations for the construction process are anticipated, which would be somewhat sequential but overlap in some cases:

- Site Preparation 1 - day
- Grading 2 - days
- Building Construction 100 - days
- Paving 10 – days
- Architectural Coating 10 - days

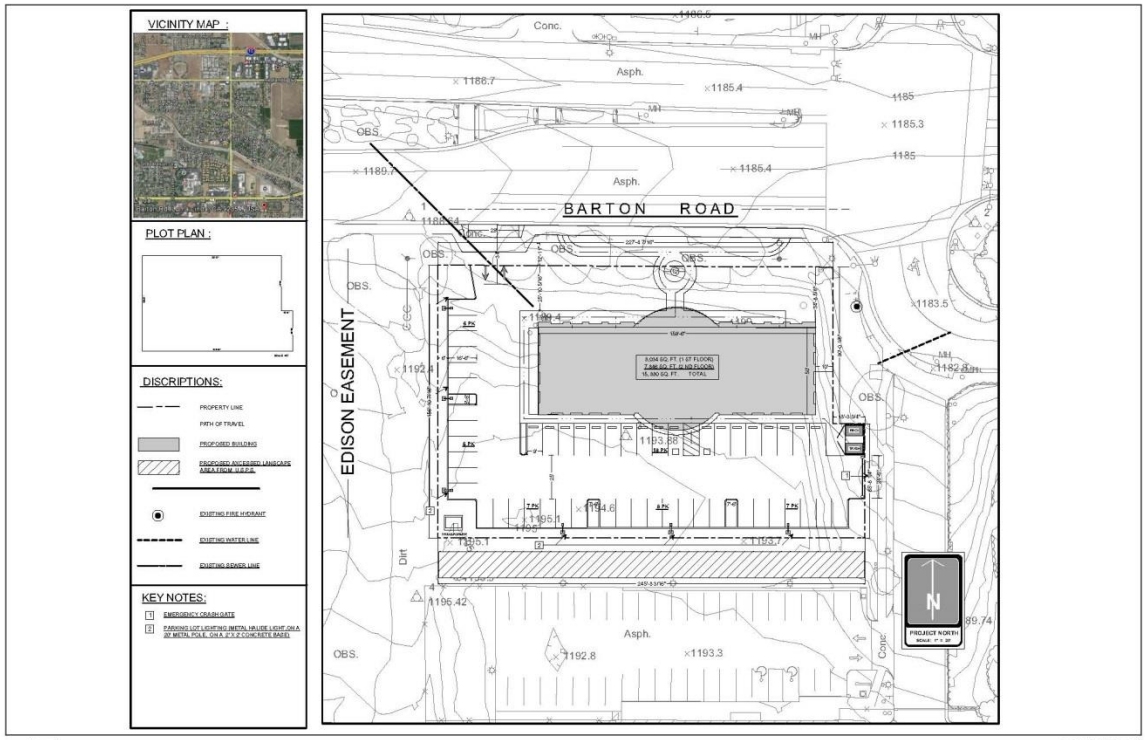
F. Earthwork and Grading

Earthwork and grading details are based on proposed Grading and WQMP Plan prepared by Goodman & Associates. Estimated cut is 1,975 cubic yards and estimated fill is 550 cubic yards. No import or export of soil is required and the Project will balance on-site.

G. Operational Characteristics

The Project would be operated as a medical office building. As such, typical operational characteristics include patients traveling to and from the site, delivery of supplies to the site, and maintenance activities.

Medical Office Building **25915 Barton Road**	**Project Location Map**	**Exhibit 1**



LSA

FIGURE 2

Loma Linda Medical Office
Focused Traffic Impact Study
Conceptual Site Plan

SOURCE: Design Systems, 2015

I:\RMO1501\Reports\Traffic\fig2_SitePlan.cdr (07/14/2015)

Medical Office Building **25915 Barton Road**	**Site Plan**	**Exhibit 2**

3.0 INITIAL STUDY/ENVIRONMENTAL CHECKLIST

Evaluation Format

This Initial Study Checklist has been prepared in compliance with the California Environmental Quality Act (CEQA) Guidelines. The Project is evaluated based on its potential effect on seventeen (17) environmental factors categorized as follows, as well as Mandatory Findings of Significance:

1. Aesthetics
2. Agriculture & Forestry Resources
3. Air Quality
4. Biological Resources
5. Tribal Cultural Resources
6. Geology & Soils
7. Greenhouse Gas Emissions
8. Hazards & Hazardous Materials
9. Hydrology & Water Quality
10. Land Use & Planning
11. Mineral Resources
12. Noise
13. Population & Housing
14. Public Services
15. Recreation
16. Transportation & Traffic
17. Utilities & Service Systems
18. Mandatory Findings of Significance

Each factor is analyzed by responding to a series of questions pertaining to the impact of the Project on the particular factor in the form of a checklist. This Initial Study Checklist provides a manner to analyze the impacts of the Project on each factor in order to determine the severity of the impact and determine if mitigation measures can be implemented to reduce the impact to less than significant without having to prepare an Environmental Impact Report.

CEQA also requires Lead Agencies to evaluate potential environmental effects based to the fullest extent possible on scientific and factual data (CEQA Guidelines §15064[b]). A determination of whether or not a particular environmental impact will be significant must be based on substantial evidence, which includes facts, reasonable assumptions predicated upon facts, and expert opinion supported by facts (CEQA Guidelines §15064f[5]).

The effects of the Project are then placed in the following four categories, which are each followed by a summary to substantiate why the Project does not impact the particular factor with or without mitigation. If "Potentially Significant Impacts" that cannot be mitigated are determined, then the Project does not qualify for a Mitigated Negative Declaration and an Environmental Impact Report must be prepared:

Potentially Significant Impact	***Less Than Significant Impact with Mitigation Incorporated***	***Less Than Significant Impact***	***No Impact***
Potentially significant impact(s) have been identified or anticipated that cannot be mitigated to a level of insignificance. An Environmental Impact Report must therefore be prepared.	Potentially significant impact(s) have been identified or anticipated, but mitigation is possible to reduce impact(s) to a less than significant category. Mitigation measures must then be identified.	No "significant" impact(s) identified or anticipated. Therefore, no mitigation is necessary.	No impact(s) identified or anticipated. Therefore, no mitigation is necessary.

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

Determination

On the basis of this initial evaluation:

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

Signature

Guillermo Arreola, Senior Planner
Printed Name/Title

Date

Appendices (On Compact Disk)

Appendix A. California Emissions Estimator Model Air Quality/Greenhouse Gas Outputs (Romo Planning Group July 29, 2015...

Appendix B. Soils & Foundation Evaluations (Soils Southwest, Inc.) September 8, 2014.

Appendix C. Water Quality Management Plan (Goodman & Associates) October 3, 2014.

Appendix D. Noise Impact Analysis (LSA Associates) November 2015.

Appendix E. Traffic Impact Study (LSA Associates) November 5, 2015.

3.1 AESTHETICS

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

3.1 (a) Have a substantial adverse effect on a scenic vista?

Determination: Less Than Significant Impact.

Sources: Loma Linda General Plan, Google Earth, Project Application Materials.

Impact Analysis

The Project site is approximately 0.84 acres in size and is located in an area largely characterized by residential and commercial development. To the north, the site is bordered by Barton Road and a vacant land and a self-storage facility across Barton Road. To the south, the site is bordered by the Loma Linda Post Office. To the east, the side is bordered by a residential community of single-family detached homes. To the west is an open space area with hiking and riding trails. Further to the west is a medical office complex.

According to the General Plan Conservation and Open Space Element, the hillside portions of the City ("South Hills'), and particularly the Hillside Conservation Area, as important visual resources within the City.

The Project site is located approximately ½ mile north of the South Hills in an area that is predominantly developed with urban uses. The office building covers approximately 21% of the site and has a maximum height of 36-feet 8-inches. As such, it would not block or completely obstruct views from surrounding public vantage points to the South Hills visible in the horizon under existing conditions.

Based on the analysis above, impacts to scenic vistas would be less than significant.

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

Determination: No Impact.

Sources: California Department of Transportation

Impact Analysis

California's Scenic Highway Program was created by the Legislature in 1963. Its purpose is to protect and enhance the natural scenic beauty of California highways and adjacent corridors, through special conservation treatment. The state laws governing the Scenic Highway Program are found in the Streets and Highways Code, Sections 260 through 263.

According to the California Department of Transportation, the project site is not located within a State Scenic Highway. Therefore, construction and the long-term operation of the project would have no impact on scenic resources within a scenic highway.

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

Determination: Less Than Significant Impact.

Sources: Project Application Materials.

Impact Analysis

The Project site consists of 0.84 acres of vacant land. Topography of the site is relatively flat and generally slopes toward the northwest. The elevation of the site ranges from approximately from approximately 1,103 feet above mean sea level to 1,182 above mean sea level.

As noted above, the Project site is located in an area largely characterized by residential and commercial development. To the north, the site is bordered by Barton Road and a vacant land and a self-storage facility across Barton Road. To the south, the site is bordered by the Loma Linda Post Office. To the east, the side is bordered by a residential community of single-family detached homes. To the west is an open space area with hiking and riding trails. Further to the west is a medical office complex.

Construction Impacts

During the Project's temporary construction period, construction equipment, supplies, and activities would be visible on the subject property from immediately surrounding areas. Construction activities are a common occurrence in the developing Inland Empire region of Southern California and are not considered to substantially degrade the area's visual quality. All construction equipment would be removed from the Project site following completion of the construction activities. For these reasons, the temporary visibility of construction equipment and activities at the Project site would not substantially degrade the visual character of the surrounding area.

Operational Impacts

At buildout of the proposed Project, the visual character of the Project site would change from disturbed, vacant land to a medical office. A project is generally considered to have a significant impact on visual character if it substantially changes the character of the project site such that it becomes visually incompatible or visually unexpected when viewed in the context of its surroundings.

The Project site is located in a commercially developed area of the City along a major thoroughfare. It is adjacent to commercial and residential development and is considered to be an in-fill development site.

The design standards within the General Plan Community Design Element have been established by the City to ensure that both new development projects and existing land uses are visually compatible. The City's approval of the proposed Project's final design plans will ensure that the Project's design compliments the existing land uses in the Project area and is consistent with the design standards contained in the General Plan Community Design Element to ensure that the Project blends into the existing visual character and quality of its surroundings. (See Exhibit 3 for the building's architectural perspective rendering).

Based on the analysis above, impacts would be less than significant.

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

Determination: Less Than Significant Impact.

Source: Project Application Materials

Impact Analysis

The Project would increase the amount of light in the area above what is being generated by the vacant site by directly adding new sources of illumination including building and parking lot lighting.

Section 17.24.310 of the City's Zoning Ordinance requires that parking lot lighting shall be arranged so that it is directed onto the parking area and reflected away from any residential property. In addition, the building elevations show that LED "can down" lighting will be used for the building. This type of lighting is designed to reduce glare and light intrusion onto adjacent properties. Thus, all lighting used by the proposed Project will not impact adjacent land uses, including the residential uses located east of the project site. Therefore, impacts associated with lighting will be less than significant.

The proposed building materials consist primarily of stucco with store front framing and Solar Bronze Low E glass (glare-reducing tinted glass). These materials are non-reflective and would not contribute to glare.

Based on the analysis above, impacts would be less than significant with mandatory compliance with the Section 17.24.310 of the City's Zoning Ordinance.

Medical Office Building **25915 Barton Road**	**Architectural Perspective**	**Exhibit 3**

3.2 AGRICULTURE AND FORESTRY RESOURCES

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the Project:	**Potentially Significant Impact**	**Less Than Significant Impact With Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?				■
b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?				■
c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?				■
d. Result in the loss of forest land or conversion of forest land to non-forest use?				■
e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?				■

3.2 (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? .

Determination: No Impact

Sources: California Department of Conservation "Farmland Mapping and Monitoring Program.

Impact Analysis

The site does not contain any lands designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance as mapped by the State Department of Conservation Farmland Mapping and Monitoring Program. As such, the Project has no potential to convert such lands to a non-agricultural use and no impact would occur.

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

Determination: No Impact.

Sources: General Plan Land Use Map, Zoning Ma, San Bernardino County Assessor.

Impact Analysis

Agricultural Zoning

The Project site is zoned Institutional (I) which allows a variety of institutional uses. The Institutional Zone does not allow agricultural uses as a primary use. Thus the Project does not conflict with existing zoning for agricultural use.

Williamson Act

Pursuant to the California Land Conservation Act of 1965, a Williamson Act Contract enables private landowners to voluntarily enter into contracts with local governments for the purpose of restricting specific parcels of land to agricultural or related open space use. In return, landowners receive lower property tax assessments based upon farming and open space uses as opposed to full market value. According to the San Bernardino County Assessor, the site is not under a Williamson Act Contract. As such, there is no impact.

3.2 (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)?

Determination: No Impact.

Sources: General Plan Land Use Map, Zoning Map.

Impact Analysis

The Project site is zoned Institutional (I). The Project site does not contain any forest lands, timberland, or timberland zoned as Timberland Production, nor are any forest lands or timberlands located on or nearby the Project site. Because no lands on the Project site are zoned for forestland or timberland, the project has no potential to impact such zoning. No impact would.

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

Determination: No Impact.

Source: Field Survey.

Impact Analysis

The Project site and surrounding properties do not contain forest lands, are not zoned for forest lands, nor are they identified as containing forest resources by the *General Plan*. Because forest land is not present on the Project site or in the immediate vicinity of the project site, the project has no potential to result in the loss of forest land or the conversion of forest land to non-forest use. No impact would occur.

3.2 (e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?

Determination: No Impact.

Sources: General Plan Land Use Map, Field Survey.

Impact Analysis

The Project site is approximately 0.84 acres in size and is located in an area largely characterized by residential and commercial development. There is no land being used primarily for agricultural purposes in the vicinity of the site. As such, the Project would not result in conversion of Farmland to non-agricultural use and no impacts would occur.

3.3 AIR QUALITY

Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the Project:	Potentially Significant Impact	Less Than Significant Impact With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Conflict with or obstruct implementation of the applicable air quality plan?			■	
b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation?			■	
c. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?			■	
d. Expose sensitive receptors to substantial pollutant concentrations?			■	
e. Create objectionable odors affecting a substantial number of people?			■	

3.3 (a) Conflict with or obstruct implementation of the applicable air quality plan (South Coast Air Quality Management District)?

Determination: Less Than Significant Impact.

Sources: California Emissions Estimator Model, Outputs (Appendix A), South Coast Air Quality Management District, Air Quality Management Plan, CEQA Air Quality Handbook.

Impact Analysis

Federal Air Quality Standards

Under the Federal Clean Air Act, the Federal Environmental Protection Agency establishes health-based air quality standards that California must achieve. These are called "national (or federal) ambient air quality standards" and they apply to what are called "criteria pollutants." Ambient (i.e. surrounding) air quality standard establish a concentration above which a criteria pollutant is known to cause adverse health effects to people. The national ambient air quality standards apply to the following criteria pollutants:

- Ozone (8-hour standard)
- Respirable Particulate Matter (PM_{10})
- Fine Particulate Matter ($PM_{2.5}$)
- Carbon Monoxide (CO)
- Nitrogen Dioxide (NOx)
- Sulphur Dioxide (SO_2), and

- Lead.

State Air Quality Standards

Under the California Clean Air Act, the California Air Resources Board also establishes health-based air quality standards that cities and counties must meet. These are called "state ambient air quality standards" and they apply to the following criteria pollutants:

- Ozone (1-hour standard)
- Ozone (8-hour standard)
- Respirable Particulate Matter (PM_{10})
- Fine Particulate Matter ($PM_{2.5}$)
- Carbon Monoxide (CO)
- Nitrogen Dioxide (NOx)
- Sulphur Dioxide (SO_2), and
- Lead

Regional Air Quality Standards

The City of Loma Linda is located within the South Coast Air Basin which is under the jurisdiction of the South Coast Air Quality Management District. The District develops plans and regulations designed to achieve these both the national and state ambient air quality standards described above.

Attainment Designation

An "attainment" designation for an area signifies that criteria pollutant concentrations did not exceed the established standard. In contrast to attainment, a "nonattainment" designation indicates that a criteria pollutant concentration has exceeded the established standard.

Table 3 shows the attainment status of criteria pollutants in the South Coast Air Basin.

Table 4. Attainment Status of Criteria Pollutants in the South Coast Air Basin.

Criteria Pollutant	State Designation	Federal Designation
Ozone – 1 hour standard	Nonattainment	No Standard
Ozone – 8 hour standard	Nonattainment	Nonattainment
Respirable Particulate Matter (PM_{10})	Nonattainment	Nonattainment
Fine Particulate Matter ($PM_{2.5}$)	Nonattainment	Nonattainment
Carbon Monoxide (CO)	Attainment	Attainment
Nitrogen Dioxide (N0x)	Nonattainment	Attainment
Sulfur Dioxide (SO_2)	Attainment	Attainment
Lead	Attainment	Attainment
Source: South Coast Air Quality Management District, 2014		

Air Quality Management Plan

The South Coast Air Quality Management District is required to produce air quality management plans directing how the South Coast Air Basin's air quality will be brought into attainment with the national and state ambient air quality standards. The most recent air quality management plan is 2012 Air Quality Management Plan and it is applicable to City of Loma Linda. The purpose of the 2012 Air Quality Management Plan is to achieve and maintain both the national and state ambient air quality standards described above.

In order to determine if a project is consistent with the *2012 Air Quality Management Plan*, the South Coast Air Quality Management District has established consistency criterion which are defined in Chapter 12, Sections 12.2 and 12.3 of the South Coast Air Quality Management District's *CEQA Air Quality Handbook* and are discussed below.

Consistency Criterion No. 1: *The proposed project will not result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations, or delay the timely attainment of air quality standards or the interim emissions reductions specified in the 2012 Air Quality Management Plan.*

Consistency Criterion No. 1 refers to violations of the California Ambient Air Quality Standards and National Ambient Air Quality Standards. As evaluated under Issues 3.3 (b), (c), and (d) below, the Project would not exceed regional or localized significance thresholds for any criteria pollutant during construction or during long-term operation. Accordingly, the Project's regional and localized emissions would not contribute substantially to an existing or potential future air quality violation or delay the attainment of air quality standards.

Consistency Criterion No. 2: *The proposed project will not exceed the assumptions in the 2012 Air Quality Management Plan.*

The growth forecasts used in the 2012 Air Quality Management Plan to estimate future emissions levels are based on the projections of the Regional Transportation Model utilized by the Southern California Association of Governments, which incorporates land use data provided by city and county General Plans, as well as assumptions regarding population number, location of population growth, and a regional housing needs assessment.

The *General Plan* land use designation currently assigned to the Project site is Office. The future emission forecasts contained in the 2012 Air Quality Management Plan are primarily based on demographic and economic growth projections provided by the Southern California Association of Governments. The project was designated for office development at the time the 2012 Air Quality Management Plan adopted. Therefore, the Project will not exceed the growth forecast estimates used in the 2012 Air Quality Management Plan.

For the reasons stated above, the Project would not result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations, delay the timely attainment of air quality standards or the interim emissions reductions specified in the 2012 Air Quality Management Plan. In addition, the Project would not exceed the growth assumptions in the 2012 Air Quality Management Plan. As such, the Project would be consistent with the 2012 Air Quality Management Plan and impacts would be less than significant and no mitigation measures are required.

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

Determination: Less Than Significant Impact.

Sources: California Emissions Estimator Model, Outputs (Appendix A), South Coast Air Quality Management District, Air Quality Management Plan, CEQA Air Quality Handbook

Impact Analysis

As shown in Table 4 above, the South Coast Air Basin, in which the Project is located, is considered to be in "non-attainment" status for several criteria pollutants.

The South Coast Air Quality Management District has developed regional and localized significance thresholds for regulated pollutants. Any project in the South Coast Air Basin with daily emissions that exceed any of the indicated regional or localized significance thresholds would be considered to contribute to a projected air quality violation. The Project's regional and localized air quality impacts are discussed below.

Regional Impact Analysis

As with any new development project, the Project has the potential to generate pollutant concentrations during both construction activities and long-term operation. The following provides an analysis based on the applicable regional significance thresholds established by the South Coast Air Quality Management District in order to meet national and state air quality standards.

Table 5. South Coast Air Quality Management District Air Quality Regional Significance Thresholds

Pollutant	Emissions (Construction) (pounds/day)	Emissions (Operational) (pounds/day)
NOx	100	55
VOC	75	55
PM_{10}	150	150
$PM_{2.5}$	55	55
SOx	150	150
CO	550	550
Lead	3	3

Source: South Coast Air Quality Management District CEQA Air Quality Significance Thresholds (2009)

Both construction and operational emissions for the Project were estimated by using the California Emissions Estimator Model which is a statewide land use emissions computer model designed to provide a uniform platform for government agencies to quantify potential criteria pollutant emissions associated with both construction and operations from a variety of land use projects. The model can be used for a variety of situations where an air quality analysis is necessary or desirable such as California Environmental Quality Act (CEQA) documents and is authorized for use by the South Coast Air Quality Management District.

Construction Related Impacts

Construction activities associated with the project will result in emissions of CO, VOCs, NOx, SOx, PM_{10}, and $PM_{2.5}$. Construction related emissions are expected from the following onsite and offsite construction activities:

- Site Preparation
- Grading
- Building Construction
- Paving
- Architectural Coatings (Painting)

Assumptions for equipment use and duration used to estimate air quality emissions are shown in Table 6.

Table 6. Construction Equipment List

Phase	Equipment Type	Number of Units	Hours /Day	Horse Power
Site Preparation	Grader	1	8	174
Site Preparation	Tractor/Loader/Backhoe	1	8	97
Grading	Concrete Industrial Saw	1	6	81
Grading	Rubber Tired Dozer	1	1	255
Grading	Tractor/Loader/Backhoe	2	6	97
Bldg Construction	Crane	1	4	226
Bldg Construction	Forklift	2	6	89
Bldg Construction	Tractor/Loader/Backhoe	2	8	97
Paving	Paver	1	1	125
Paving	Rollers	1	7	80
Paving	Tractor/Loader/Backhoe	1	7	97
Paving	Cement & Mortar Mixers	4	6	9
Architectural Coating	Air Compressor	1	6	78
Source: Romo Planning Group, CalEEMod Outputs, (Appendix A).				

Table 7 shows the South Coast Air Quality Management District Regional Thresholds for construction emissions compared to the project's maximum emissions without utilizing the standard Best Available Control Measures contained in South Coast Air Quality Management District regulatory requirements.

Table 7. Construction Emissions (without Best Available Control Measures)

Maximum Daily Emissions	Emissions (pounds per day)					
	NOx	**VOC**	**CO**	**SOx**	**PM10**	**PM2.5**
	14.39	40.59	10.54	0.017	1.67	1.21
Regional Threshold	**100**	**75**	**550**	**150**	**150**	**55**
Exceeds Regional Threshold?	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**
Source: SCAQMD and CalEEMod Outputs (appendix A).						

As shown in Table 7 above, construction related emissions would not exceed South Coast Air Quality Management District regional construction criteria thresholds without Best Available Control Measures. However, The Project is required to comply with the provisions of South Coast Air Quality Management District Rule 403, "*Fugitive Dust*." Rule 403 requires implementation of Best Available Control Measures during construction activities that generate fugitive dust, such as earth moving and stockpiling activities, grading, and equipment travel on unpaved roads. With adherence to Rule 403 PM_{10} emissions are reduced by 28. % and $PM_{2.5}$ emissions are reduced by 23% as shown on Table 8 below.

Table 8. Construction Emissions (mitigated)

Maximum Daily Emissions	Emissions (pounds per day)					
	NOx	VOC	CO	SOx	PM10	PM2.5
	14.38	40.58	10.53	0.017	1.19	0.96
Regional Threshold	**100**	**75**	**550**	**150**	**150**	**55**
Exceeds Regional Threshold?	**NO**	**NO**	**NO**	**NO**	**NO**	**NO**
Source: SCAQMD and CalEEMod Outputs (Appendix A).						

Based on the above, the Project would not emit substantial concentrations of these pollutants during construction and would not contribute to an existing or projected air quality violation, on a direct or cumulative basis.

Long-Term Regional Operation Related Impacts

The Project would be operated as an office building. Typical operational characteristics include visitors traveling to and from the site, delivery of goods to the site, and maintenance activities.

Table 9 shows the South Coast Air Quality Management District Regional Thresholds for operational emissions compared to the project's maximum daily emissions.

Table 9. Maximum Daily Operational Emissions

Maximum Daily Emissions	Emissions (pounds per day)					
	NOx	VOC	CO	SOx	PM10	PM2.5
	5.02	6.28	21.09	0.05	3.23	0.91
Regional Threshold	**55**	**55**	**550**	**150**	**150**	**55**
Exceeds Regional Threshold?	NO	NO	NO	NO	NO	NO
Source: SCAQMD and CalEEMod Outputs (Appendix A).						

As shown in Table 9 above, operational related emissions would not exceed South Coast Air Quality Management District regional operational criteria thresholds. Accordingly, the Project would not emit substantial concentrations of these pollutants during operation and would not contribute to an existing or projected air quality violation, on a direct or cumulative basis.

Based on the analysis above, regional air quality impacts would be less than significant.

Localized Impact Analysis

As previously discussed, the South Coast Air Quality Management District has established that impacts to air quality are significant if there is a potential to contribute or cause localized exceedances of the national and/or state ambient air quality standards. The South Coast Air Quality Management District has established Localized Significance Thresholds which were developed in response to environmental justice and health concerns raised by the public regarding exposure of individuals to criteria pollutants in local communities.

Localized Significance Thresholds are only applicable to the following criteria pollutants: oxides of nitrogen (NO_X), carbon monoxide (CO), particulate matter less than 10 microns in aerodynamic diameter (PM_{10}) and particulate matter less than 2.5 microns in aerodynamic diameter ($PM_{2.5}$). Localized Significance Threshold's represent the maximum emissions from a project that are not expected to cause or contribute to an exceedance of the most stringent applicable national or state ambient air quality standard, and are developed based on the ambient concentrations of that pollutant for each source receptor area and distance to the nearest sensitive receptor which are the single-family homes to the east.

Construction-Related Localized Emissions

Table 10 below shows the South Coast Air Quality Management's Localized Significance Thresholds for construction emissions compared to the project's maximum localized emissions at 25 meters (83 feet) from the site boundary.

Table 10. LST Analysis (1 acre - Receptor @ 25 meters)

Pollutant	LST Significance Threshold Lbs/Day*	Project Emissions (mitigated)	Exceeds Threshold?
(NO_X) for Construction	118	14.38	**NO**
(NO_X) for Operation	118	0.016	**NO**
(CO) for Construction	775	10.53	**NO**
(CO) for Operation	775	0.021	**NO**
PM 10 for Operation	1	0.0012	**NO**
PM10 for Construction	4	1.19	**NO**
PM 2.5 for Operation	1	0.0012	**NO**
PM2.5 for Construction	4	0.96	**NO**
**Based on LST SRA #35 1-acre @ 25 meters*			

As shown on Table 10 above, Localized Significance Thresholds will not be exceeded.

CO Hot Spots

CO Hot Spots are typically associated with idling vehicles at extremely busy intersections (i.e., intersections with an excess of 100,000 vehicle trips per day). There are no intersections in the vicinity of the Project site which exceed the 100,000 vehicle per day threshold typically associated with CO Hot Spots. In addition, the South Coast Air Basin has been designated as an attainment area for CO since 2007. Therefore, Project-related vehicular emissions would not create a CO Hot Spot and would not substantially contribute to an existing or projected CO Hot Spot.

Based on the analysis above, impacts would be less than significant.

3.3(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)?

Determination: Less Than Significant Impact.

Sources: California Emissions Estimator Model Outputs (Appendix A), South Coast Air Quality Management District, Air Quality Management Plan, CEQA Air Quality Handbook.

Impact Analysis

If an area is in nonattainment for a criteria pollutant, then the background concentration of that pollutant has historically been over the ambient air quality standard. It follows if a project exceeds the regional threshold for that nonattainment pollutant, then it would result in a cumulatively considerable net increase of that pollutant and result in a significant cumulative impact.

As discussed in Issue 3.3(b) above, the Project would not exceed the regional or localized significance thresholds for construction or operational activities and therefore will not result in a cumulatively considerable net increase of any criteria pollutant.

In addition, the following apply to the Project and other projects in the South Coast Air Basin which would reduce impacts related to a cumulatively considerable net increase of any criteria pollutant.

- The Project is required to comply with the provisions of South Coast Air Quality Management District Rule 403, "*Fugitive Dust*." Rule 403 requires implementation of best available dust control measures during construction activities that generate fugitive dust, such as earth moving and stockpiling activities, grading, and equipment travel on unpaved roads.

- The Project is required to comply with California Code of Regulations Title 13, Division 3, Chapter 1, Article 4.5, Section 2025, "*Regulation to Reduce Emissions of Diesel Particulate Matter, Oxides of Nitrogen and Other Criteria Pollutants from In-Use Heavy-Duty Diesel-Fueled Vehicles*" and California Code of Regulations Title 13, Division 3, Chapter 10, Article 1, Section 2485, "*Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling*."

- The Project is required to comply with the provisions of South Coast Air Quality Management District Rule 1113, "*Architectural Coatings*" and Rule 431.2, "*Sulfur Content of Liquid Fuels*." Adherence to Rule 1113 limits the release of volatile organic compounds (VOCs) into the atmosphere during painting and application of other surface coatings. Adherence to Rule 431.2 limits the release of sulfur dioxide (SO_X) into the atmosphere from the burning of fuel.

- The Project is required to comply with the provisions of South Coast Air Quality Management District Rule 1186 "*PM_{10} Emissions from Paved and Unpaved Roads and Livestock Operations*" and Rule 1186.1, "*Less-Polluting Street Sweepers*." Adherence to Rule

1186 and Rule 1186.1 reduces the release of criteria pollutant emissions into the atmosphere during construction]

Based on the analysis above, impacts would be less than significant.

3.3(d) Expose sensitive receptors to substantial pollutant concentrations?

Determination: Less Than Significant Impact.

Sources, South Coast Air Quality Management District, CALLEMod Outputs (Appendix A).

Impact Analysis

Sensitive receptors (i.e., children, senior citizens, and acutely or chronically ill people) are more susceptible to the effects of air pollution than the general population. Land uses that are considered sensitive receptors typically include residences, schools, playgrounds, childcare centers, hospitals, convalescent homes, and retirement homes. To the east of the site are single-family homes which are considered sensitive receptors.

As indicated above under the discussion of Issue 3.3 (b), the Project would not exceed any of the South Coast Air Quality Management District's Localized Significance Thresholds during near-term construction or long-term operation. In addition, the Project would not create a CO Hot Spot. Accordingly, Project-related localized emissions would not expose sensitive receptors to substantial pollutant concentrations during construction or long-term operation and impacts would be less than significant.

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

Determination: Less Than Significant Impact.

Source: CEQA Air Quality Handbook, Project Application Materials.

Impact Analysis

According to the South Coast Air Quality Management District *CEQA Air Quality Handbook*, land uses associated with odor complaints typically include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. The Project is a medical office building and does not include any of the above identified uses and therefore would not produce objectionable odors during operation.

Construction activities both onsite and offsite could produce odors from equipment exhaust, application of asphalt, and/or the application of architectural coatings. However, any odors emitted during construction would be temporary, short-term, and intermittent in nature, and would cease upon completion of construction activities.

Based on the analysis above, impacts would be less than significant.

3.4 BIOLOGICAL RESOURCES

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

3.4(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?

Determination: No Impact.

Source: General Plan Conservation and Open Space Element, Site Inspection.

Impact Analysis

The Project site is located in a predominantly developed setting and has been heavily disturbed by human activities. The site contains little vegetation except for several trees along the northern and eastern boundary of the site.

According to the General Plan Conservation and Open Space Element, Critical Habitat identifies specific areas that are essential to the conservation of a listed species and may require special management considerations or protection As shown on Figure 9.4 Critical Habitat of the General Plan Conservation and Open Space Element, the Project site is not located in an area designated as Critical Habitat. The biological resources in the City are found mainly on the hillsides and include 2,492 acres of sensitive coastal sage scrub community/non-native grasslands, 21 acres of riparian habitat, and 558 areas of ruderal areas which may contain endangered or sensitive species. In the Planning Area, 1,910 acres are designated critical habitat for the federally threatened coastal California gnatcatcher and 158 acres are proposed as critical habitat for the federally endangered San Bernardino Kangaroo rat. The Project site is located approximately ½ mile north of this biologically sensitive area of the City.

Based on the above, the Project will not have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species.

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

Determination: No Impact.

Source: General Plan Conservation and Open Space Element, Site Inspection.

Impact Analysis

No indication of riparian habitat or other sensitive natural communities was noted during the site inspection due to the highly disturbed nature of the site. In addition, Figure 9.3 Land Use and Vegetation of the General Plan Conservation and Open Space Element does not show any riparian features on the site. As such, there is no impact to any riparian habitat or other sensitive natural community.

3.4(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?

Determination: No Impact.

Source: General Plan Conservation and Open Space Element, Site Inspection.

Impact Analysis

No indication of wetland was noted during the site inspection due to the highly disturbed nature of the site. In addition, Figure 9.3 Land Use and Vegetation of the General Plan Conservation and Open Space Element does not show any wetland features on the site As such, there are no impacts to wetlands.

3.4(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?

Determination: Less Than Significant Impact with Mitigation Incorporated.

Source: General Plan Conservation and Open Space Element, Site Inspection.

Impact Analysis

The Project site consists of approximately 0.84 gross acres and is predominantly surrounded by existing development. According to Figures 9.3 Land Use and Vegetation and 9.4 Critical Habitat of the General Plan Conservation and Open Space Element, there is no Critical Habitat or other biological features on the site that would support wildlife corridors. However, the Project site contains trees along the northern and eastern boundary which contain suitable nesting and foraging habitat for a number of common, trees and ground-nesting avian species which are protected under the Migratory Bird Treaty Act. Therefore, the following mitigation measure is required.

Mitigation Measures (MM)

MM BIO-1a *Because of the presence of suitable nesting habitat on the project site, all construction activities shall occur outside the general nesting season from February through August. If construction activities must occur within the nesting season, the Applicant shall retain the services of a qualified biologist to survey the project site no more than 30 days prior to start of any construction activities. The biologist shall survey the project site for nesting birds. In the event that the biologist determines that such species occur on the project site, MM BIO-1b shall also be required.*

MM BIO-1b *In the event that nesting birds protected under the Migratory Bird Treaty Act of 1918 (MBTA); candidate, sensitive, or special status species; or any other species of note are determined to occur on the project site, no construction activities shall occur within the vicinity of the nest until all fledglings have left the nest and the biologist has evidence that the nest is no longer active. If construction activities must occur within 200-feet of an active nest, the Applicant shall procure the services of a biological monitor to ensure that no direct take of the active nest occurs.*

With implementation of Mitigation Measures BIO-1a and BIO-1b, impacts will be less than significant.

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

Determination: Less Than Significant Impact.

Source: Municipal Code, Landscape Plans.

Impact Analysis

Several trees are currently located along the northern and eastern boundaries of the Project site. To facilitate construction and operation of the proposed Project as designed, these existing trees will likely be removed during the construction phase of the Project, and replaced as part of the new landscaping proposed by project.

Chapter 17.74-Tree Placement, Landscape Materials, and Tree Removal of the Loma Linda Municipal Code regulates the removal of certain trees, including street trees located within the public right-of-way, parkways, and easements, and landmark trees growing on private property. A permit is required to remove any such tree, as established in Section 17.74.070-Permit Required of the Municipal Code which states:

"*To ensure proper street tree selection and protection of the urban forest, no person shall excavate within the drip line or ten feet of a tree (whichever is greater), or install, replace, or alter any tree designated as a landmark (on private property with owner's consent) or any tree located within city parkways, (street rights-of-way), or street tree easements, without first obtaining a permit as specified in Section 17.74.080 - 17.74.100. (Ord. 468 § 1 (part), 1992*)."

According to Section 17.74.040 of the Municipal Code, "Landmark tree" means "*any tree on private property which is voluntarily nominated by the property owner, or any tree on public property which is designated by the city council to be particularly valuable due to its species, condition and/or age, or due to its cultural or historical significance.*" The existing trees on the site are not identified as "Landmark Trees."

There are no other ordinances in place protecting biological resources that are applicable to the Project that have not already been discussed in this section.

Based on the above analysis, impacts are less than significant.

3.4(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?

Determination: No Impact.

Sources: U.S. Fish and Wildlife Service, California Department of Fish and Wildlife.

Impact Analysis

The Project site is not located within an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. As such, there are no impacts.

3.5 TRIBAL CULTURAL RESOURCES

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

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

Determination: No Impact.

Source: General Plan.

Impact Analysis

Historic resources generally consist of buildings, structures, improvements, and remnants associated with a significant historic event or person(s) and/or have a historically significant style, design, or achievement. Damaging or demolition of historic resources is typically considered to be a significant impact. Impacts to historic resources can occur through direct impacts, such as destruction or removal, and indirect impacts, such as a change in the setting of a historic resource.

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

1. A resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register of Historical Resources.

2. A resource included in a local register of historical resources, as defined in section 5020.1(k) of the Public Resources Code or identified as significant in an historical resource survey meeting the requirements [of] section 5024.1(g) of the Public Resources Code.

3. Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California.

The Project site has been heavily disturbed by human activities. The site contains no buildings or structures. Based on the General Plan Conservation and Open Space Element (2009), there are no potential historical resources identified on the Project site. As such, there is no impact.

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

Determination: Less Than Significant Impact with Mitigation Incorporated.

Source: General Plan Conservation and Open Space Element (2009)

Impact Analysis

Archaeological sites are locations that contain resources associated with former human activities, and may contain such resources as human skeletal remains, waste from tool manufacture, tool concentrations, and/or discoloration or accumulation of soil or food remains.

Although the site has been heavily disturbed by human activities, and the potential to encounter sub-surface archaeological resources during grading is considered low, but cannot be ruled out. Therefore, Mitigation Measure MM CR-1 and CR-2 is required.

Mitigation Measures (MM)

MM- CR-1: Archaeological Monitoring. *If archaeological resources are encountered during implementation of the project, ground-disturbing activities will be temporarily redirected from the vicinity of the find and the Applicant and/or the Applicants representative shall immediately contact the City. The City shall then contact a qualified archaeologist to determine whether the find requires further study. The City shall include a note on the grading plan to inform contractors of this requirement... The Project Archaeologist will be allowed to temporarily divert or redirect grading or excavation activities in the vicinity in order to make an evaluation of the find. If the resource is significant, Mitigation Measure CR-2 shall apply.*

MM- CR-2: Archeological Treatment Plan*. If a significant archaeological resource(s) is discovered on the property, ground disturbing activities shall be suspended 100 feet around the resource(s). The archaeological monitor and a representative of the appropriate Native American Tribe(s), the Project Proponent, and the City Planning Department shall confer regarding mitigation of the discovered resource(s). A treatment plan shall be prepared and implemented by the archaeologist to protect the identified archaeological resource(s) from damage and destruction. The treatment plan shall contain a research design and data recovery program necessary document the size and content of the discovery such that the resource(s) can be evaluated for significance under CEQA criteria. The research design shall list the sampling procedures appropriate to exhaust the research potential of the archaeological resource(s) in accordance with current professional archaeology standards (typically this sampling level is two (2) to five (5) percent of the volume of the cultural deposit). The treatment plan shall require monitoring by the appropriate Native American Tribe(s) during data recovery excavations of archaeological resource(s) of prehistoric origin, and shall require that all recovered artifacts undergo laboratory analysis. At the completion of the laboratory analysis, any recovered archaeological resources shall be processed and curated according to current professional repository standards. The collections and associated records shall be donated to an appropriate curation facility,*

or, the artifacts may be delivered to the appropriate Native American Tribe(s) if that is recommended by the City of Loma Linda. A final report containing the significance and treatment findings shall be prepared by the archaeologist and submitted to the City of Loma Linda Planning Department and the San Bernardino County Museum.

With implementation of Mitigation Measures CR-1 and CR-2, impacts will be less than significant.

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

Determination: Less Than Significant Impact.

Sources: General Plan Conservation and Open Space Element (2009), Soils Report (Appendix B).

Impact Analysis

Paleontological resources are the preserved fossilized remains of plants and animals. Fossils and traces of fossils are preserved in sedimentary rock units, particularly fine- to medium grained marine, lake, and stream deposits, such as limestone, siltstone, sandstone, or shale, and in ancient soils. They are also found in coarse-grained sediments, such as conglomerates or coarse alluvium sediments. Fossils are rarely preserved in igneous or metamorphic rock units. Fossils may occur throughout a sedimentary unit and, in fact, are more likely to be preserved subsurface, where they have not been damaged or destroyed by previous ground disturbance, amateur collecting, or natural causes such as erosion.

According to the General Plan Conservation and Open Space Element (2009), previous geological mapping of the City indicated the presence of four sedimentary units, with two of the sedimentary units having a high potential for paleontological resources. The proposed Project may require grading excavation that could disturb subsurface paleontological resources. Therefore, Mitigation Measures CR-3 and CR-4 are required.

Mitigation Measures (MM)

MM-CR-3: Paleontological Monitoring. *If paleontological resources are encountered during implementation of the project, ground-disturbing activities will be temporarily redirected from the vicinity of the find and the Applicant and/or the Applicants representative shall immediately contact the City. The City shall then contact a qualified paleontologist to determine whether the find requires further study. The City shall include a note on the grading plan to inform contractors of this requirement. The Project Paleontologist will be allowed to temporarily divert or redirect grading or excavation activities in the vicinity in order to make an evaluation of the find. If the resource is significant, Mitigation Measure CR-2 shall apply.*

MM-CR-4: Paleontological Treatment Plan.

If a significant paleontological resource(s) is discovered on the property, in consultation with the Project proponent and the City, the qualified paleontologist shall develop a plan of mitigation which shall include salvage excavation and removal of the find, removal of sediment from around the specimen (in the laboratory), research to identify and categorize the find, curation in the find a local qualified repository, and preparation of a report summarizing the find.

Based on the analysis above, with implementation of Mitigation Measure CR-3 and CR-4, impacts are less than significant.

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

Determination: Less Than Significant Impact.

Sources: California Health and Safety Code §7050.5, Public Resources Code §5097 et. seq.

Impact Analysis

The Project site does not contain a cemetery and no known formal cemeteries are located within the immediate site vicinity. The Project site has been heavily disturbed by human activity so the potential for uncovering human remains at the Project site is considered low. Nevertheless, the remote potential exists that human remains may be unearthed during grading and excavation activities associated with Project construction.

In the event that human remains are discovered during Project grading or other ground disturbing activities, the Project would be required to comply with the applicable provisions of California Health and Safety Code §7050.5 as well as Public Resources Code §5097 et. seq. California Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the County Coroner has made the necessary findings as to origin. Pursuant to California Public Resources Code Section 5097.98(b), remains shall be left in place and free from disturbance until a final decision as to the treatment and disposition has been made by the Coroner.

If the Coroner determines the remains to be Native American, the California Native American Heritage Commission (NAHC) must be contacted and the NAHC must then immediately notify the "most likely descendant(s)" of receiving notification of the discovery. The most likely descendant(s) shall then make recommendations within 48 hours, and engage in consultations concerning the treatment of the remains as provided in Public Resources Code Section 5097.98.

Based on the analysis above, impacts would be less than significant with compliance with the mandatory requirements of California Health and Safety Code §7050.5 as well as Public Resources Code §5097 et. seq.

3.6 GEOLOGY AND SOILS

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

3.6 (a) (1) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

Determination: No Impact.

Source: California Department of Conservation, Soils Report (Appendix B).

Impact Analysis

The Project site is not located within an Alquist-Priolo Earthquake Fault Zone, and no known faults underlie the site. Because there are no faults located on the Project site, there is no potential for the Project to expose people or structures to adverse effects related to ground rupture of a known earthquake fault.

3.6 (a) (2) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: Strong seismic ground shaking?

Determination: Less Than Significant Impact.

Source: Soils Report (Appendix B).

Impact Analysis

The Project site is located in a seismically active area of Southern California and is expected to experience moderate to severe ground shaking during the lifetime of the project. This risk is not considered substantially different than that of other similar properties in the southern California area. As a mandatory condition of Project approval, the Project would be required to construct the proposed structures in accordance with the *California Building Standards Code* also known as *California Code of Regulations Title 24* and the *City Building Code*.

Based on the analysis above, impacts would be less than significant.

3.6 (a) (3) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: Seismic-related ground failure, including liquefaction?

Determination: Less Than Significant Impact.

Source: Soils Report (Appendix B).

Impact Analysis

Liquefaction is a phenomenon in which loose, saturated, relatively cohesion-less soil deposits lose shear strength during strong ground motions. The factors controlling liquefaction are:

- Seismic ground shaking of relatively loose, granular soils that are saturated or submerged can cause soils to liquefy and temporarily behave as a dense fluid. For liquefaction to occur, the following conditions have to occur:
    - Intense seismic shaking;
    - Presence of loose granular soils prone to liquefaction; and
    - Saturation of soils due to shallow groundwater.

Based on the *Soils Report* prepared for the project, groundwater was not encountered within the maximum forty-one (41) feet depth explored. Historical groundwater is reported to about one-hundred twenty-five (125) feet below grade. Based on the depth of groundwater and the presence of gravelly sandy soils with rocks, the potential for liquefaction is considered remote. Therefore, impacts are less than significant.

3.6 (a) (4) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: Landslides?

Determination: No Impact.

Source: Soils Report (Appendix B).

Impact Analysis

Generally, a landslide is defined as the downward and outward movement of loosened rock or earth down a hillside or slope. Landslides can occur either very suddenly or slowly, and frequently accompany other natural hazards such as earthquakes, floods, or wildfires. Landslides can also be induced by the undercutting of slopes during construction, improper artificial compaction, or saturation from sprinkler systems or broken water pipes.

The site is relatively flat and contains no slopes that may be subject to landslides. Therefore the site is not considered susceptible to seismically induced landslides. There are no impacts.

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

Determination: Less Than Significant Impact.

Source: Project Application Materials,

Note: A comprehensive discussion of erosion can be found in Section 3.9, Hydrology and Water Quality.

Impact Analysis

The Project site is heavily disturbed by human activity. Therefore, the loss of topsoil is not a significant impact.

Soils in the Project area are particularly prone to erosion during the grading phase, especially during heavy rains. Reduction of the erosion potential will be accomplished through implementation of a Storm Water Pollution Prevention Plan, which specifies best management practices for temporary erosion controls. Such measures typically include temporary catch basins and/or sandbagging to control runoff and contain sediment transport within the Project site.

Based on the analysis above, impacts would be less than significant.

3.6(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 offsite landslide, lateral spreading, subsidence, liquefaction or collapse?

Determination: Less Than Significant Impact.

Source: Soils Report (Appendix B).

Impact Analysis

Landslide

The site is relatively flat and contains no slopes that may be subject to landslides.

Lateral Spreading

Lateral spreading is a term referring to landslides that commonly form on gentle slopes and that have rapid fluid-like flow horizontal movement. Most lateral spreading is caused by earthquakes but it is also caused by landslides. The site is relatively flat and contains no slopes that may be subject to landslides or lateral spreading.

Subsidence

Subsidence is the downward movement of the ground caused by the underlying soil conditions. Certain soils, such as clay soils are particularly vulnerable since they shrink and swell depending on their moisture content. Subsidence is an issue if buildings or structures sink which causes damage to the building or structure. Subsidence is usually remedied by excavating the soil the depth of the underlying bedrock and then recompacting the soil so that it is able to support buildings and structures. Impacts related to subsidence can be attenuated through compliance with the *California Building Standards Code* and *City Building Code.*

Liquefaction or Collapse

As noted in the response to Issue 3.6 (a) (3) above, the Project site's potential for exposure to liquefaction is considered "remote" because the depth of historical groundwater is approximately one-hundred twenty-five (125) feet and test borings to a depth of forty-one (41) feet encountered no groundwater. In addition, the soil composition consists of gravelly sandy soils with rocks which are not conducive to liquefaction.

Collapse occurs in saturated soils in which the space between individual particles is completely filled with water. This water exerts a pressure on the soil particles that influences how tightly the particles themselves are pressed together. The soils lose their strength beneath buildings and other structures.

As noted above, the Project site's potential for exposure to collapse is considered remote because the historical depth of groundwater is approximately one-hundred twenty-five (125) feet and test borings to a depth of forty-one (41) feet encountered no groundwater. In addition, the soil composition consists of gravelly sandy soils with rocks which are not conducive to collapse.

Based on the analysis above, impacts are considered less than significant for landslides, lateral spreading, subsidence, liquefaction or collapse.

3.6(d) Be located on expansive soil, as defined in the Uniform Building Code, creating substantial risks to life or property?

Determination: Less than Significant Impact.

Source: Soils Report (Appendix B).

Impact Analysis

Expansive soils are those that undergo volume changes as moisture content fluctuates; swelling substantially when wet or shrinking when dry. Soil expansion can damage structures by cracking foundations, causing settlement and distorting structural elements.

Based on the *Soils Report* prepared for the Project, the onsite near surface soils are sandy and gravelly in nature and contain rocks. In general, these soils are considered to possess a "very low" to "low" expansion potential.

Based on the analysis above, impacts would be less than significant and no mitigation measures are required.

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

Determination: No Impact.

Source: Project Application Materials.

Impact Analysis

The Project does not propose the use of septic tanks or alternative waste water disposal systems. The Project would install domestic sewer infrastructure and connect to the City's sewer system. As such, there are no impacts.

3.7 GREENHOUSE GAS EMISSIONS

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

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

Determination: Less Than Significant Impact.

Source: California Emissions Estimator Model, Outputs (Appendix A).

Impact Analysis

An individual project cannot generate enough GHG emissions to influence global climate change. The Project participates in this potential impact by its incremental contribution combined with the cumulative increase of all other sources of greenhouse gas emissions, which when taken together may have a significant impact on global climate change.

A final numerical threshold for determining the significance of greenhouse gas emissions in the South Coast Air Basin has not been established by the South Coast Air Quality Management District. The City of Loma Linda in previous CEQA documents has been using the following as interim threshold for commercial projects proposed by the South Coast Air Quality Management District staff:

1) Generate greenhouse gas emissions that exceeds a screening threshold of 3,000 MTCO2e per year. Projects that emit less stationary source greenhouse gas emissions less than 3,000 MTCO2e per year are not considered a substantial greenhouse gas emitter and the impact is less than significant. Projects that emit in excess of 3,000 MTCO2e per year require additional analysis and mitigation.

For purposes of this analysis, the 3,000 MTCO2e per year threshold is used. A summary of the Project's projected annual operational greenhouse gas emissions, including amortized construction-related emissions, is provided in Table 11.

Table 11. Total Project Greenhouse Gas Emissions (Annual) (Metric Tons Per Year)

Source		GHG Emissions MT/yr		
	N2O	CO2	CH4	CO2e
Mobile Sources	0.000	499.27	0.02	499.71
Area	0.000	.002	0.00001	.002
Energy	0.0005	58.01	0.002	58.25
Solid Waste	0.000	34.81	2.05	78.01
Water/Wastewater	0.001	9.26	0.06	11.13
30-year Amortized Construction GHG				2.59
TOTAL				*649.69*
SCAQMD Threshold				**3,000**
Exceed Threshold?				**NO**
Source: CalEEMod Outputs (Appendix A).				

As shown in Table 11 above, the Project is estimated to emit approximately 649.69 MTCO2e per year, including amortized construction-related emissions which is below the threshold used by the City to determine if greenhouse gas emissions are significant. Therefore, impacts are less than significant.

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

Determination: Less Than Significant Impact.

Source: General Plan Conservation and Open Space Element (2009), First Update to the Climate Change Scoping Plan, May 22, 2014.

Impact Analysis

The General Plan Conservation and Open Space Element (2009), addresses global climate change with the following Guiding Policy:

"9.8.1 Guiding Policy

Minimize greenhouse gas emissions that are reasonably attributable to the City's discretionary land use decisions and internal government operations, with the goal of reducing Loma Linda's greenhouse gas emissions to 1990 levels by 2020."

Guiding Policy 9.8.1 is consistent with California Assembly Bill 32 which created a comprehensive, multi-year program to reduce greenhouse gas emissions to 1990 levels by 2020, and to maintain and continue reductions beyond 2020. The California Air Resources Board has adopted the *First Update to the Climate Change Scoping Plan*, *May 22, 2014* and, together with other State and local agencies, has developed and implemented specific greenhouse gas emission reduction measures in California's major economic sectors: Transportation; Electricity and Natural Gas; Water; Green

Buildings; Industry; Recycling and Waste Management; Forest; High Global Warming Potential Gases; and Agriculture.

Key elements of the *Scoping Plan* included the following:

- Expand and strengthen energy efficiency programs, including building and appliance standards.

- Increase electricity generation from renewable resources to at least 33 percent of the statewide electricity mix by 2020.

- Establish targets for passenger vehicle-related GHG emissions for regions throughout California and pursue policies and incentives to achieve those targets. Included with this strategy is support for the development and implementation of a high speed rail system to expand mobility choices and reduce GHG emissions.

- Adopt and implement measures pursuant to existing State laws and policies, including California's clean car standards and the Low Carbon Fuel Standard.

- Develop a cap-and-trade program to ensure the target is met, while providing flexibility to California businesses to reduce emissions at low cost.

The Project's is consistent with the *Scoping Plan* because its individual greenhouse gas emissions are below significance thresholds as noted in the response to Issue 3.7 (a) above and the project is required to implement such greenhouse reduction measures as energy efficient appliances, water efficient landscaping, and compliance with Title 24 energy efficiency requirements.

Based on the analysis above, impacts would be less than significant.

3.8 HAZARDS AND HAZARDOUS MATERIALS

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

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

Determination: Less than Significant Impact.

Source: State of California, Project Application Materials.

Impact Analysis

Short-Term Construction Impacts

Heavy equipment (e.g., dozers, excavators, tractors) would be operated on the subject property during construction of the Project. This heavy equipment would likely be fueled and maintained by petroleum-based substances such as diesel fuel, gasoline, oil, and hydraulic fluid, which is considered hazardous if improperly stored or handled. In addition, materials such as paints, adhesives, solvents, and other substances typically used in building construction would be located on the Project site during construction. Improper use, storage, or transportation of hazardous materials can result in accidental releases or spills, potentially posing health risks to workers, the public, and the environment. This is a standard risk on all construction sites, and there would be no greater risk for improper handling, transportation, or spills associated with the proposed Project than would occur on any other similar construction site.

Construction contractors would be required to comply with all applicable federal, state, and local laws and regulations regarding the transport, use, and storage of hazardous construction-related materials, including, but not limited, requirements imposed by the Environmental Protection Agency, the California Department of Toxic Substances Control, the South Coast Air Quality Management District, and the Santa Ana Regional Water Quality Control Board. As such, impacts from construction related activities would be less than significant.

Long-term Operational Impacts

The Project site would be developed with medical offices which is a land use not typically associated with the transport, use, or disposal of significant amounts of hazardous materials. Although the medical office uses may utilize cleaning products that contain toxic substances, such as cleansers, paints, adhesives, and solvents, these products are usually in low concentration and small in amount and would not pose a significant risk to humans or the environment during transport to/from or use at the project site. Any medical waste is required to be handled pursuant to California's Medical Waste Management Act.

With compliance with the mandatory requirements described above, impacts would be less than significant.

3.8(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?

Determination: Less Than Significant Impact.

Sources: State of California, Project Application Materials.

Impact Analysis

There are several ways in which hazardous materials can be released into the environment through a reasonably foreseeable upset. The following examples include, but are not limited to:

- Floods, earthquakes, or fires that would cause hazardous materials to be released into the environment from tank rupture, pipeline rupture, fumes, or carried by floodwaters.

- Through demolition of older buildings that may contain lead paint, asbestos or other hazardous materials.

- Mistakes in chemical processing that could become volatile and explode causing release of hazardous materials into the environment.

- Through release associated with construction of a project. For example, construction equipment could accidentally release petroleum products in sufficient quantity to pose a hazard to people and the environment.

The Project does not involve the manufacturing or transport of hazardous materials. As such, accidents involving hazardous materials that could pose a significant hazard to the public or the environment would be highly unlikely during the construction and long-term operation of the Project and are not reasonably foreseeable.

The use of hazardous materials on the Project site during construction is a standard risk on all construction sites, and there would be no greater risk for upset and accidents than would occur on any other similar construction site. Construction contractors would be required to comply with all applicable federal, state, and local laws and regulations regarding the transport, use, and storage of hazardous construction-related materials, including, but not limited, requirements imposed by the Environmental Protection Agency, the California Department of Toxic Substances Control, the South Coast Air Quality Management District, and the Santa Ana Regional Water Quality Control Board. As such, impacts from construction related activities would be less than significant.

Upon build-out, the Project site would operate as medical offices which is a land use type not typically associated with the quantities of hazardous materials that could be subject to upset or accident involving the release of hazardous materials into the environment.

Based on the analysis above, impacts would be less than significant and no mitigation measures are required.

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

Determination: Less Than Significant Impact.

Sources: Project Application Materials, Google Earth.

Impact Analysis

The Project site is not located within one-quarter mile of an existing or proposed school. The nearest school is the Bryn Mawr elementary School located approximately ½ mile southeast of the Project site. As discussed in the responses to issues 3.8 (b) and 3.8 (c) above, the project is a medical office building which is a land use type not typically associated with the substantial use of hazardous materials. As such, impacts are less than significant.

3.8(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?

Determination: No Impact.

Sources: DTSC's Hazardous Waste and Substances Site List - Site Cleanup (Cortese List).

Impact Analysis

The Project site is not included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. No impact would occur.

3.8(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?

Determination: Less Than Significant Impact.

Source: Google Earth, General Plan, Public Health and Safety Element (2009), Airport Layout Plan Narrative Report for San Bernardino International Airport.

Impact Analysis

The Project site is located approximately 2.25 miles south of the San Bernardino International Airport. An Airport Land Use Compatibility Plan has not been adopted for the airport. According to Figure 10.4, Loma Linda General Plan, Public Health and Safety Element, the Project site is not located within the San Bernardino International Airport Influence Area.

Based on a report entitled: *Airport Playout Plan Narrative for San Bernardino International Airport, San Bernardino, California,* prepared by Coffman Associates, Inc. and approved by the San Bernardino International Airport Authority on September 22, 2010, airfield design standards as required by the Federal Aviation Administration, show that the Project site is not located in any of the following areas:

- Runway Safety Area
- Object Free Area
- Obstacle Free Zone

- Precision Object Free Area
- Runway Protection Zone

Based on the above analysis, the Project would not result in a safety hazard for people residing or working in the Project area and impacts are less than significant.

3.8(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?

Determination: No Impact.

Source: Google Earth.

Impact Analysis

The Project site is not located within the vicinity of a private airstrip. No impact would occur.

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

Determination: Less Than Significant Impact.

Sources: General Plan, Public Health and Safety Element (2009), Project Application Materials.

Impact Analysis

Access to the Project site is proposed from Barton Road or alternatively Newport Avenue and the Loma Linda. Post Office access road which are improved roadways. The Project site does not contain any emergency facilities nor does it serve as an emergency evacuation route. During construction and long-term operation, the Project would be required to maintain adequate emergency access for emergency vehicles via Barton Road or Newport Avenue and connecting roadways as required by the City. Furthermore, the Project would not result in a substantial alteration to the design or capacity of any public road that would impair or interfere with the implementation of evacuation procedures. Because the Project would not interfere with an adopted emergency response or evacuation plan, impacts are less than significant.

3.8 (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?

Determination: No Impact.

Source: General Plan, Public Health and Safety Element (2009).

Impact Analysis

The Project site is located in a developed area of the City and is not near wildland areas. According to Figure 10.3 of the General Plan, Public Health and Safety Element (2009), the Project site is not located within a hazardous fire area. Therefore development of the Project would not expose people or structures to a significant risk of loss, injury, or death involving wildland fires and no impact would occur.

3.9 HYDROLOGY AND WATER QUALITY

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Violate any water quality standards or waste discharge requirements?			■	
b. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?			■	
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of stream or river, in a manner, which would result in substantial erosion or siltation on- or offsite?			■	
d. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner, which would result in flooding on- or offsite?			■	
e. Create or contribute runoff which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?			■	
f. Otherwise substantially degrade water quality?			■	
g. Place housing within a 100-year flood hazard as mapped on a Federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?			■	
h. Place within a 100-year flood hazard area structures, which would impede or redirect flood flows?				■
i. Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?				■
j. Inundation by seiche, tsunami, or mudflow?				■

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

Determination: Less Than Significant Impact.

Source: Water Quality Management Plan (Appendix C).

Impact Analysis

Construction Impacts

Construction of the Project would involve clearing, grading, paving, utility installation, building construction, and the installation of landscaping, which would result in the generation of potential water quality pollutants such as silt, debris, chemicals, paints, and other solvents with the potential to adversely affect water quality. As such, short-term water quality impacts have the potential to occur during construction of the project in the absence of any protective or avoidance measures.

Pursuant to the requirements of the Santa Ana Regional Water Quality Control Board and the City of Loma Linda, the Project would be required to obtain a National Pollutant Discharge Elimination System Municipal Stormwater Permit for construction activities. The National Pollutant Discharge Elimination System permit is required for all projects that include construction activities, such as clearing, grading, and/or excavation.

In addition, the Project would be required to comply with the Santa Ana Regional Water Quality Control Board's Santa Ana River Basin Water Quality Control Program. Compliance with the National Pollutant Discharge Elimination System permit and the Santa Ana River Basin Water Quality Control Program involves the preparation and implementation of a Storm Water Pollution Prevention Plan for construction-related activities, including grading. The Storm Water Pollution Prevention Plan would specify the Best Management Practices (BMPs) that the project would be required to implement during construction activities to ensure that all potential pollutants of concern are prevented, minimized, and/or otherwise appropriately treated prior to being discharged from the subject property.

Operational Impacts

Storm water pollutants commonly associated with the land uses proposed by the Project include pathogens, phosphorous, nitrogen, sediment, metals, oil and grease, trash and debris, pesticides and herbicides, and organic compounds.

Pursuant to the requirements of the City's National Pollutant Discharge Elimination System permit, a Water Quality Management Plan is required for managing the quality of storm water or urban runoff that flows from a developed site after construction is completed and the facilities or structures are occupied and/or operational. The Water Quality Management Plan proposes BMPs that will detain and treat the calculated stormwater runoff volumes. Treatment will be either by infiltration underneath pervious pavers or a combination of infiltration and a bio-retention basin. In addition, landscaped areas will serve a self- treatment areas.

Based on the analysis above, impacts would be less than significant.

3.9(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)?

Determination: Less Than Significant Impact.

Source: 2010 San Bernardino Valley Urban Water Management Plan, City of Loma Linda Public Works Department.

Impact Analysis

The Project would be served with potable water by the City of Loma Linda. The primary source of potable water supply for the City of Loma Linda is groundwater extracted from the Cities own six production wells. Loma Linda's main water source is ground water within the Bunker Hill Basin. The Bunker Hill Basin water is replenished by annual rainfall and form snowmelt from the San Bernardino Mountains. The City also uses supplemental water obtained from the City of San Bernardino Municipal Water Department.

Groundwater Supplies Impacts

The primary way a project can deplete groundwater supplies is to exceed the rate of ground-water withdrawal that exceeds the rate of natural recharge ("safe yield'). "Safe yield" is generally defined as the amount of water available for consumption.

The San Bernardino Basin Area was defined by, and adjudicated in gross, by the Western-San Bernardino Judgment (Western Judgment) in 1969. The San Bernardino Basin Area is adjudicated on a safe yield basis. Loma Linda therefore has the opportunity to develop additional wells and over-extract groundwater under specified conditions contained in the stipulated judgment. The wells in general have provided a stable source of water supply. Extensive modeling has been used to examine groundwater recharge, groundwater pumping, basin storage, groundwater flow, and groundwater plume location and plume migration. Based on these studies it is anticipated that groundwater pumping by Loma Linda and other San Bernardino Basin Area users will not be reduced or curtailed during a single-dry or multi-dry year. (Ref. *2010 San Bernardino Valley Urban Water Management Plan, pp. 8-26-27).* Based on the above, the Project is not anticipated to deplete groundwater supplies.

Groundwater Recharge Impacts

The primary way a project can interfere with groundwater recharge is to interfere directly or indirectly with an existing groundwater recharge area that is managed by a local water agency Water purveyors have formal recharge programs where water is delivered to earthen basins called spreading or recharge basins where the water can soak into the ground and ultimately becomes part of the groundwater system. As noted above, the Project is located in the Bunker Hill basin which is 120 square miles in size. The Project site is 0.84 acres in size and is currently not being used as a formal groundwater recharge area.

Development of the Project will create impervious surfaces which will affect the amount of water that can percolate into the ground. However, the Project proposes pervious pavers and a combination of infiltration and a bio-retention basin. This will allow surface flows to infiltrate into subsurface soils and ultimately into subsurface aquifers. Therefore, impacts associated with groundwater recharge will be less than significant.

3.9(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 offsite?

Determination: Less Than Significant Impact.

Source: Preliminary Water Quality Management Plan (Appendix C).

Overflow runoff from most of the proposed parking lot south of the proposed building will discharge easterly to southeast corner of the site before it its ultimate discharge point to the existing Loma Linda Post Office driveway.

Overflow runoff from the western portion of the site, and from the building roof drains will discharge to Barton Road via the proposed under sidewalk drain that conveys overflow from the proposed bio-retention basin north of the proposed building.

As noted in the response to Issue 3.9 (a) above, the Project's Storm Water Pollution Prevention Plan would specify the Best Management Practices (BMPs) that the Project would be required to implement during construction activities to ensure that all potential pollutants of concern are prevented, minimized, and/or otherwise appropriately treated prior to being discharged from the subject property. In addition, the Project's Water Quality Management Plan proposes BMPs that will detain and treat the calculated stormwater runoff volumes. Treatment will be either by infiltration underneath pervious pavers, a combination of infiltration and a bio-retention basin, and landscaped areas that will serve a self- treatment areas.

Based on the above analysis, with buildout of the Project site, there would be no significant alteration of the site's existing drainage pattern and there would not be any significant increases in the rates of erosion or siltation on or off site.

Impacts would be less than significant.

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

Determination: Less Than Significant Impact.

Source: Water Quality Management Plan (Appendix C).

Impact Analysis

Overflow runoff from most of the proposed parking lot south of the proposed building will discharge easterly to southeast corner of the site before it its ultimate discharge point to the existing Loma Linda Post Office driveway.

Overflow runoff from the western portion of the site, and from the building roof drains will discharge to Barton Road via the proposed under sidewalk drain that conveys overflow from the proposed bio-retention basin north of the proposed building.

Based on the analysis above, with buildout of the Project site, there would be no significant alteration of the site's existing drainage pattern and there would not be any significant increases in flooding on or off-site.

Impacts would be less than significant.

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

Determination: Less than Significant Impact.

Source: y Water Quality Management Plan (Appendix C).

Impact Analysis

Overflow runoff from most of the proposed parking lot south of the proposed building will discharge easterly to southeast corner of the site before it its ultimate discharge point to the existing Loma Linda Post Office driveway.

Overflow runoff from the western portion of the site, and from the building roof drains will discharge to Barton Road via the proposed under sidewalk drain that conveys overflow from the proposed bio-retention basin north of the proposed building.

As noted in the response to Issue 3.9 (a) above, the Project's Storm Water Pollution Prevention Plan would specify the Best Management Practices (BMPs) that the Project would be required to implement during construction activities to ensure that all potential pollutants of concern are prevented, minimized, and/or otherwise appropriately treated prior to being discharged from the subject property. In addition, the Project's Water Quality Management Plan proposes BMPs that will detain and treat the calculated stormwater runoff volumes. Treatment will be either by infiltration underneath pervious pavers, a combination of infiltration and a bio-retention basin, and landscaped areas that will serve a self- treatment areas.

Based on the analysis above, impacts would be less than significant and no mitigation measures are required.

3.9(f) Otherwise substantially degrade water quality?

Determination: Less Than Significant Impact.

Sources: Project Specific Water Quality Management Plan (Appendix C).

Impact Analysis

There are no conditions associated with the proposed Project that could result in the substantial degradation of water quality beyond what is described above in Responses3.9 (a), 3.9(c), and3.9 (e) above.

Based on the analysis above, impacts would be less than significant.

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

Determination: No Impact.

Source: Project Application Materials.

Impact Analysis

The Project does not propose any housing. No impact would occur.

3.9(h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?

Determination: No Impact.

Source: FEMA FIRM Panel No.06071C8711H.

Impact Analysis

The site is not located within a designated flood plain based upon a review of Federal Emergency Management Agency Flood Insurance Rate Map Panel No. 06071C8711H, dated August 28, 2008. This Panel identified the subject area as being located within Flood Zone X, which is defined as "Area of minimal flood hazard, usually depicted on Flood Insurance Rate Maps as above the 500-year flood level." No impact would occur.

3.9(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?

Determination: Less Than Significant Impact.

Source: General Plan, Public Health and Safety Element (2009), Project Application Materials, County of San Bernardino Hazards Map.

Impact Analysis

As noted Issue 3.9(g), the Project site is not subject to flooding. No dams, levees or water bodies exist in the immediate vicinity of the Project site that could adversely affect the site should a structural failure occur. The nearest dam is Seven Oaks Dam located approximately 10 miles northeast of the Project site. According to the San Bernardino County Hazards Overlay Map (Loma Linda FH30B, FH31B), the Project site is not located within the inundation area for the Seven Oaks dam.

However, the General Plan Public Health and Safety Element states that the northern portion of the City is located within the inundation area of the Seven Oaks Dam, the failure of which while not likely, could potentially impact the Project site. It should be noted the Seven Oaks Dam is a dry dam that serves to decrease peak water flows during spring runoff and storm events. In the unlikely event of dam failure, potential inundation effects would be decreased as a result of the dam only holding large amounts of water during substantial storm events, which are infrequent within the predominantly dry climate of the Southern California region. Furthermore, the Dam is routinely inspected by the County of San Bernardino to ensure structural integrity, which further reduces the potential for dam failure. Therefore, impacts are less than significant.

3.9(j) Inundation by seiche, tsunami, or mudflow?

Determination: No Impact.

Sources: Project Application Materials, Google Earth.

Impact Analysis

The Pacific Ocean is located more than 50 miles from the project site; consequently, there is no potential for tsunamis to impact the project. In addition, no steep hillsides subject to mudflow are located on or near the project site. Therefore, the Project site would not be subject to inundation by a seiche, mudflow, and/or tsunami. No impact would occur and no mitigation measures are required.

3.10 LAND USE AND PLANNING

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

3.10(a) Physically divide an established community?

Determination: No Impact.

Source: Google Earth, Site Inspection.

Impact Analysis

An example of a project that has the potential to divide an established community includes the construction of a new freeway or highway through an established neighborhood. The Project is located in an area largely characterized by residential and commercial development. To the north, the site is bordered by Barton Road, vacant land, and a self-storage facility across Barton Road. To the south, the site is bordered by the Loma Linda Post Office. To the east, the side is bordered by a residential community of single-family detached homes. To the west is an open space area with hiking and riding trails. Further to the west is a medical office complex.

Therefore, no impacts would occur with respect to dividing an established community.

3.10(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?

Determination: Less Than Significant Impact.

Source: General Plan, South Coast Air Quality Management District, Final 2012 Air Quality Management Plan, Southern California Association of Governments, 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy, Project Application Materials.

Impact Analysis

The *General Plan* land use designation for the Project site is Office and the zoning classification is Institutional. The land use proposed by the Project is consistent with both the *General Plan* designation and zoning classification.

In addition, as demonstrated throughout this Initial Study/Mitigated Negative Declaration, the Project would otherwise not conflict with any applicable goals, objectives, and policies of the City of *General Plan* or the City of Loma Linda Municipal Code. Additionally, the Project would not conflict with any applicable policy document, including the South Coast Air Quality Management District's Air Quality Management Plan, Southern California Association of Government's 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy, and Government's 2008 Regional Transportation Plan. The purpose of these plans is to avoid or mitigate an environmental effect.

In conclusion, the Project would not conflict with any applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating adverse environmental effects and impacts are less than significant.

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

Determination: No Impact.

Sources: U.S. Fish and Wildlife Service, California Department of Fish and Wildlife.

Impact Analysis

The Project site is not located within an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. As such, there are no impacts.

3.11 MINERAL RESOURCES

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

3.11(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?

Determination: No Impact.

Sources: General Plan.

Impact Analysis

No mineral resource extraction activity is known to have ever occurred on the Project site. The Project site is not located within an area of known to be underlain by regionally or locally important mineral resources, or within an area that has the potential to be underlain by regionally or locally important mineral resources, as disclosed by the *General Plan* and the associated *General Plan Environmental Impact Report*. Accordingly, implementation of the project would not result in the loss of availability of a known mineral resource that would be of value to the region or the residents of the State of California. Accordingly, no impact would occur.

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

Determination: No Impact.

Source: General Plan Land Use Map.

Impact Analysis

Refer to the Issue 3.11(a), above. The *General Plan* does not identify any locally important mineral resource recovery sites on-site or within close proximity to the Project site, nor are any mineral resource recovery operations located on-site or in the surrounding area.

3.12 NOISE

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a. Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?		■		
b. Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?			■	
c. A substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project?			■	
d. A substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project?		■		
e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or working in the Project area to excessive noise levels?			■	
f. For a project within the vicinity of a private airstrip, would the Project expose people residing or working in the Project area to excessive noise levels?				■

3.12(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?

Determination: Less Than Significant Impact With Mitigation Incorporated.

Source: Noise Impact Analysis (Appendix D).

Impact Analysis

Noise Standards

The applicable noise standards governing the Project site are the criteria in the City Noise Element of the General Plan and its Noise Ordinance.
General Plan and Noise Ordinance Standards

Table12 below is based on Table 7.C of the City's General Plan and summarizes General Plan policies and City Noise Ordinance standards related to land use and acceptable noise levels applicable to the Project and its impacted surroundings which are based on the California Office of

Noise Control Community Compatibility Matrix. These standards are determined to be performance guidelines that provide a decibel range for the City to follow and to help determine what type of noises are nuisances and are unacceptable to the community.

Table12: City of Loma Linda Noise Level Standards Energy Average

Land Use Categories	Energy Average CNEL			
	Normally Acceptable(1)	Conditionally Acceptable(2)	Normally Unacceptable(3)	CNEL Clearly Unacceptable(4)
Residential	55	70	75	76 or more
Residential (10:00 p.m. to 7:00 p.m.)	< 50	55 or more	----	----
Schools, Libraries, Churches, Hospitals, Nursing Homes	70	70	80	81 or more
Office Buildings, Business Commercial and Professional	70	75	76 or more	----

Source: Chapter 9.20 Loma Linda Municipal Code

INTERPRETATION

(1) Specified land use activities that are satisfactory based upon the assumption that any land use or buildings involved are of ordinary performance standards.

(2) Activities or Actions shall be undertaken only after a detailed analysis of the noise reduction (muffling) requirements is made and noise reduction insulation features are included as a preventive measure.

(3) Noise levels exceeding the following ranges shall generally be discouraged. If new activities or actions proceed, a detailed analysis of the noise reduction requirements must be made and necessary noise insulation features included in the design.

(4) Activities shall not be undertaken or permitted.

Overview of the Existing Ambient Noise Environment

Ambient or background noise levels are typically a composite of sounds from many sources located both near and far, without any particular sound being dominant. The primary existing noise sources in the Project area are transportation facilities. Traffic on Barton Road and Newport Avenue are the primary source of noise in the Project vicinity. Noise from motor vehicles is generated by engine vibrations, the interaction between the tires and the road, and the exhaust system. The existing ambient noise levels generated by traffic on Barton Road and Newport Avenue are shown in Table 13 below.

Table13. Existing Traffic Noise Levels

Roadway Segment	Average Daily Trips	Centerline to 70 dBA CNEL (feet)	Centerline to 65 dBA CNEL (feet)	Centerline to 60 dBA CNEL (feet)	dBA CNEL 50 feet from Centerline to Outermost Lane
Barton Road west of Driveway 1	23,300	65	133	282	69.1
Barton Road between Driveway 1 and Newport Avenue	23,300	65	133	282	69.1
Barton Road east of Newport Avenue	22,300	62	128	273	69.3
Newport Avenue north of Barton Road	820	Less than 50	Less than 50	Less than 50	51.7
Newport Avenue south of Barton Road	3,400	Less than 50	Less than 50	Less than 50	57.9

Source: Noise and Vibration Impact Analysis, LSA Associates, November 2015 (Appendix D).

Sensitive Receptors

The State of California defines sensitive receptors as those land uses that require serenity or are otherwise adversely affected by noise events or conditions. Schools, libraries, churches, hospitals, and residential uses make up the majority of these areas. There are currently single-family residences located east of the Project site. In addition, the medical office building, although not a hospital, may offer out-patient surgery or other medical services similar to those provided in a hospital, so for purposes of this analysis, the medical office building is considered a sensitive receptor.

Short-term Construction Noise Impact Analysis

The most significant source of short-term noise impact is related to noise generated during construction activities on the Project site which would result in potential noise impacts to nearby sensitive receptors located to the east of the Project site. Construction is performed in discrete steps, each of which has its own mix of equipment and consequently its own noise characteristics. Thus noise levels will fluctuate depending upon construction phase, equipment type, duration of equipment use, distance between the noise source and receptor, and the presence or absence of noise attenuation structures. As shown on Table 14 below, noise levels generated by heavy construction equipment can range from approximately 75 dBA to 99 dBA when measured at 50 feet.

Table 14. Typical Construction Equipment Noise Levels

Type of Equipment	Range of Sound Levels Measured (dBA at 50 feet)
Pile Drivers	81 to 96
Rock Drills	83 to 99
Jack Hammers	75 to 85
Pneumatic Tools	78 to 88
Pumps	68 to 80
Dozers	85 to 90
Tractors	77 to 82
Front-End Loaders	86 to 90
Graders	79 to 89
Air Compressors	76 to 86
Trucks	81 to 87
Source: "Noise Control for Buildings and Manufacturing Plants", Bolt, Beranek & Newman, 1987, as cited in the General Plan EIR	

However, these noise levels diminish with distance from the construction site at a rate of 6 dBA per doubling of distance. For example, a noise level of 75 dBA for a jack hammer measured at 50 feet from the noise source to the receptor would be reduced to 69 dBA at 100 feet from the source to the receptor, and would be further reduced to 63 dBA at 200 feet from the source to the receptor.

As part of the Project construction, there will be excavation, grading, and paving on the Project site. The nearest residential homes are approximately 160 feet away from the outdoor construction area and would not be exposed to construction noise exceeding 77 dBA Lmax. Construction related noise impacts from the proposed Project would be potentially adverse.

Two types of short-term noise impacts could occur during the construction of the proposed project. First, construction crew commutes and the transport of construction equipment and materials to the site for the proposed Project would incrementally increase noise levels on access roads leading to the site. Although there would be a relatively high single event noise exposure potential causing intermittent noise nuisance (passing trucks at 50 feet would generate up to a maximum of 87 dBA), the effect on longer term (hourly or daily) ambient noise levels would be small. Therefore, short-term construction-related impacts associated with worker commute and equipment transport to the project site would be less than significant.

The second type of short-term noise impact is related to noise generated during excavation, grading, and building erection on the Project site. Construction is completed in discrete steps, each of which has its own mix of equipment, and consequently, its own noise characteristics. These various sequential phases would change the character of the noise generated on the site, and therefore, the noise levels surrounding the site as construction progresses. Despite the variety in the type and size of construction equipment, similarities in the dominant noise sources and patterns of operation allow construction-related noise ranges to be categorized by work phase.

The site preparation phase, which includes excavation and grading of the site, tends to generate the highest noise levels because the noisiest construction equipment is earthmoving equipment. Earthmoving equipment includes excavating machinery such as backfillers, bulldozers, draglines, and front loaders. Earthmoving and compacting equipment includes compactors, scrapers, and graders. Typical operating cycles for these types of construction equipment may involve 1 or 2 minutes of full-power operation followed by 3 or 4 minutes at lower power settings.

Construction of the proposed Project is expected to require the use of heavy-duty construction equipment such as earthmovers, bulldozers, and water and pickup trucks. Based on the information in Table 14 above, the maximum noise level generated by each scraper on the proposed Project site is assumed to be 84 dBA at 50 feet from the scraper. Each bulldozer would also generate 82 dBA at 50 ft. The maximum noise level generated by water and pickup (flatbed) trucks is approximately 74 dBA at 50 feet from these vehicles. Each doubling of the sound sources with equal strength increases the noise level by 3 dBA. Assuming that each piece of construction equipment operates at some distance from the other equipment, the worst-case combined noise level during this phase of construction would be 87 dBA at a distance of 50 feet from the active construction area. The nearest residential uses approximately 160 feet to the east of the Project site would be potentially exposed to construction noise up to 77 dBA and exceeds the City threshold 76 dBA. Therefore, the following mitigation is required.

MM (Mitigation Measure)

NOI-1 Prior to the issuance of a grading permit and building permit, the following notes shall be included on grading plans and building plans:

"a) All construction activities shall comply with Chapter 9.0 (Noise Regulations) of the Municipal Code, including but not limited to the requirement that must be limited to the hours of 7 a.m. to 8 p.m., Monday through Friday. Major construction may not take place during weekends or holidays. Minor activities may be permitted on weekends and holidays.

b) Construction contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers, consistent with manufacturers' standards.

c) All stationary construction equipment shall be placed in such a manner so that emitted noise is directed away from any sensitive receptors adjacent to the Project site.

d) Construction equipment staging areas shall be located the greatest distance between the staging area and the nearest sensitive receptors. "

With implementation of Mitigation measure NOI-1, construction-related noise impacts from the proposed Project would be less than significant.

Long-Term Traffic Noise Impacts

Traffic Noise Impacts by the Project to the Adjacent Uses

The primary source of noise generated by the Project will be from the vehicle traffic generated by the vehicle ingress and egress to the Project site. A project would result in a significant traffic-related noise impact if traffic generated by that Project would cause or contribute to exterior noise levels at sensitive receptor locations in excess of 65 dBA and the Project's contribution to the noise environment equals 3.0 dBA or more. (A change of 3.0 dBA is considered "barely perceptible" by the human ear and changes of less than 3.0 dBA generally cannot be perceived except in carefully controlled laboratory environments). As shown in Table 15 below, traffic noise from the Project will not make a significant contribution to the noise environment because the increase in noise generated by the Project is less than 3.0 dBA.

Table15. Comparison of Existing and Existing Plus Project Traffic Noise Levels

Roadway Segment	Modeled Noise Levels (dBA CNEL) 50 feet or Less from Centerline of Outermost Lane		
	Existing	Existing Plus Project	Increase
Barton Road west of Driveway 1	69.1	69.1	0.0
Barton Road between Driveway 1 and Newport Avenue	69.1	69.2	0.1
Barton Road east of Newport Avenue	69.3	69.3	0.0
Newport Avenue north of Barton Road	51.7	54.0	2.3
Newport Avenue south of Barton Road	57.9	57.9	0.0

Source: Noise and Vibration Impact Analysis, LSA Associates, November 2015 (Appendix D).

Traffic Noise Impacts by Traffic Noise to the Project

Table 15 above shows that under Year 2035 scenario with the Project, Barton Road would have the highest daily traffic volumes adjacent to the Project site (32,800 ADT). Under this worst-case scenario, the 70 dBA CNEL along Barton Road near the project site would extend to 80 feet from the centerline of Barton Road. The 65 and 60 dBA CNEL would extend up to 165 and 354 feet, respectively, from the roadway centerline. The proposed medical office building has a building edge located approximately 120 feet from the roadway centerline and would potentially be exposed to

traffic noise up to 67 dBA CNEL. Since the airport noise in this area is below 55 dBA CNEL, which is 12 dBA lower than the traffic noise and would not contribute to the overall ambient noise, the combined traffic/aircraft noise level would be 67 dBA CNEL. This exterior noise level would exceed the City's 60 dBA CNEL exterior noise standard for outdoor living areas associated with hospitals or medical facilities. Since the buffer area between the building and Barton Road does not have any outdoor recreation area except for driveways and landscaped areas, no mitigation measures would be required to reduce the exterior noise level to 60 dBA CNEL or lower. Therefore, no sound walls are required along Barton Road.

Based on the EPA *Protective Noise Levels* (EPA 1978), with windows or doors open, interior noise levels at the frontline medical offices would potentially exceed the 45 dBA CNEL (i.e., 67 dBA - 12 dBA = 55 dBA) interior noise standard for medical facilities. With windows closed, interior noise levels in these frontline medical offices would not exceed the 45 dBA CNEL (67 dBA - 24 dBA = 43 dBA) standard for medical offices. Windows with Sound Transmission Class (STC) ratings are required by standard building construction (STC-24 to STC-28) and are sufficient for medical offices directly adjacent to Barton Road. Air conditioning, a form of mechanical ventilation, is required to ensure that windows can remain closed for prolonged periods of time. Since the proposed Project would provide air conditioning as a standard feature, no additional mitigation measures are required for the building facade along Barton Road.

Table 15 above shows that, under the scenario of 2035 with the Project, the Newport Avenue segment south of Barton Road would have the highest daily traffic volumes (4,400 ADT). Under this Project scenario, the 70, 65, and 60 dBA CNEL along the same segment of Newport Avenue would all be confined to within 50 feet from the roadway centerline. The proposed medical office building on the Project site is located more than 50 feet from the Newport Avenue centerline and would not be exposed to traffic noise from Newport Avenue that exceeds 60 dBA CNEL. This exterior noise level would not exceed the City's 60 dBA CNEL exterior noise standard for outdoor living areas associated with medical facilities. Since the buffer area between the Project building and Newport Avenue does not have any outdoor recreation area except driveway and landscaped areas, no mitigation measures would be required to reduce the exterior noise level to 60 dBA CNEL or lower. Therefore, no sound walls are required for the proposed medical office building facing north or east. Windows with Sound Transmission Class (STC) ratings are required by standard building construction (STC-24 to STC-28) and are sufficient for medical offices directly adjacent to Newport Avenue. Air conditioning, a form of mechanical ventilation, is required to ensure that windows can remain closed for prolonged periods of time. Since the proposed project would provide air conditioning as a standard feature, no mitigation measures are required for the building facade along Newport Avenue.

Based on the above analysis, no significant off-site traffic noise impacts from Project-related traffic would occur; therefore, no mitigation measures are required.

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

Determination: Less Than Significant Impact.

Source: Noise Impact Analysis (Appendix D).

Impact Analysis

Construction Vibration

Under existing conditions, there are no known sources of ground-borne vibration or noise that affect the Project site. The Project would not generate ground-borne vibration or ground-borne noise, except, potentially, during the construction phase from the use of heavy construction equipment. The Project will not employ any pile driving, rock blasting, or rock crushing equipment during construction activities, which are the primary sources of ground-borne noise and vibration during construction.

Ground-borne noise and vibration from construction activity would be mostly low to moderate except if pavement breaking or sheet pile vibration is used on site. Bulldozers and other heavy-tracked construction equipment generate approximately 92 VdB of ground-borne vibration when measured at 50 feet, based on the *Transit Noise and Vibration Impact Assessment* (FTA 2006). This level of ground-borne vibration exceeds the threshold of human perception, which is approximately 65 VdB. Although this range of ground-borne vibration levels would result in potential annoyance at the nearest residences (which would be approximately 50 feet from the project construction activity), it would not cause any damage to the buildings. Construction vibration, similar to vibration from other sources, would not have any significant effects on outdoor activities, such as those in the front yards to the east of the Project.

Table 16 below lists the projected vibration level from various construction equipment expected to be used on the project site to the sensitive uses in the project vicinity. For typical construction activity, the equipment with the highest vibration generation potential is the vibratory roller, which would generate 94 VdB at 25 ft. With the vibration attenuation through distance divergence, the vibration from Project construction would be reduced to 70 VdB or lower at the residential buildings to the east of the Project site. This range of vibration levels from construction equipment or activity would be below the FTA's 94 VdB (or 0.2 in/sec PPV) threshold. As shown on Table 16 below, no significant construction vibration impacts would occur; therefore, no mitigation measures are required.

Table 16: Summary of Construction Equipment and Activity Vibration

Equipment/Activity	Vibration Level (VdB)			
	At 25 ft	Distance Attenuation	Intervening Buildings/ Sound Walls[1]	Maximum Vibration Level
Residences to the east, 160 ft				
Vibratory roller, scrapers, excavators2	94	24	0	70
Large dozers, front end loaders, grader, backhoe	87	24	0	63

Equipment/Activity	Vibration Level (VdB)			
	At 25 ft	Distance Attenuation	Intervening Buildings/ Sound Walls[1]	Maximum Vibration Level
Loaded trucks	86	24	0	62
Jackhammers, forklift	79	24	0	55

Source: LSA Associates, Inc. 2015 9Appendix D).
Note: The FTA recommended threshold is 0.2 in/sec or approximately 94 VdB at the receiving property structure or building.
1 Intervening buildings/sound walls put weight on the transmission path and provide a damping effect on vibration.
2 Roller represents the construction equipment with the highest vibration potential that would be used on site. Other equipment would result in at least 7 VdB lower in vibration compared to that of rollers.
ft = feet
in/sec = inches per second
FTA = Federal Transit Administration
VdB = vibration velocity decibels

Operational Vibration

There are no conditions associated with the long-term operation of the Project that would result in the exposure of on or off-site residents to excessive ground-borne vibration or noise. The Project would develop the subject property as a medical office and would not include nor require equipment, facilities, or activities that would generate ground-borne vibration or ground-borne noise.

Based on the above analysis, operation of the Project would not expose on or off-site sensitive receptors to substantial ground-borne vibration or ground-borne noise. Impacts are less than significant and no mitigation is required.

3.12(c) A substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project?

Determination: Less Than Significant Impact.

Source: Noise Impact Analysis (Appendix D).

Impact Analysis

As discussed above under Issue 3.12(a), the only potential for the Project to create a permanent increase in ambient noise levels is the result of future traffic generated by the proposed Project that has the potential to cause or contribute to elevated traffic-related noise volumes at offsite locations. The analysis presented under Issue 3.12(a) concluded that the Project's incremental noise contributions to study area roadways would be less than significant. As such, off-site transportation-related noise impacts would be less than significant and no mitigation is required.

3.12(d) A substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project?

Determination: Less Than Significant Impact with Mitigation Incorporated.

Source: Noise Impact Analysis (Appendix D).

Impact Analysis

As discussed above under Issue 3.12(a), the only potential for the Project to create a substantial temporary or periodic increase in ambient noise levels is during its construction phase. The analysis presented under Issue 3.12(a) concluded that the Project would result in elevated noise levels during construction but were less than significant with implementation of Mitigation Measure NOI-1.

3.12 (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?

Determination: No Impact.

Source: General Plan.

Impact Analysis

The Project site is located approximately 2.5 miles southwest of the San Bernardino International Airport. There is no airport land use plan which has been adopted for the airport.

Takeoffs and landings at San Bernardino International Airport, a commercial airport located approximately 2.5 miles to the north of the Project site, contribute to the aircraft noise in the Project area.

According to the General Plan Noise Element, the City is outside the 60 dBA CNEL airport noise contours of the San Bernardino International Airport. (Ref. General Plan, Page 7-6). Therefore, the Project is not significantly affected by aircraft noise associated with that airport.

3.12(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?

Determination: No Impact.

Source: Google Earth, Field Inspection.

The Project site is not located in the vicinity of a private airstrip. No impacts will occur.

3.13 POPULATION AND HOUSING

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

3.13(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)?

Determination: Less than Significant Impact.

Source: City of Loma Linda Public Works Department.

Impact Analysis

The Project would not directly result in population growth because it does not propose any residential dwelling units. The Project proposes a medical office building to serve the need of local residents and the surrounding region. A medical office building 15,880 square feet in size will not create an additional need for housing thus increasing the overall population of the City.

Typically, population growth would be considered a significant impact pursuant to CEQA if it directly or indirectly affects the ability of agencies to provide needed public services and requires the expansion or new construction of public facilities and utilities.

Water and sewer service to the Project site will be provided by the City of Loma Linda. Water service is available to serve the site from an existing 12-inch water line in Barton Road. Sewer service is available to serve the Project form an existing 8-inch sewer line in Barton Road. No utility extensions are required to serve the Project site. In addition, the Project site is located in a developed area of the City so it would not induce population growth by extending infrastructure into an undeveloped area.

Based on the analysis above, impacts are less than significant.

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

Determination: No Impact.

Sources: Project Application Materials.

Impact Analysis

The Project site contains does not contain any residential units. Therefore, implementation of the Project would not displace a substantial number of existing housing, nor would it necessitate the construction of replacement housing elsewhere. Impacts would be less than significant.

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

Determination: No Impact.

Sources: Project Application Materials.

Impact Analysis

As described above under the response to Issue 3.13(b), the Project site does not contain any residential units. Therefore, the project would not displace substantial numbers of people and would not necessitate the construction of replacement housing elsewhere. Impacts would be less than significant.

3.14 PUBLIC SERVICES

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

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

FIRE PROTECTION

Determination: Less Than Significant Impact.

Sources: General Plan Public Services and Facilities Element, Loma Linda Fire Department.

Impact Analysis

The Loma Linda Fire Department provides fire protection services to the Project area. The Project would be primarily served by Fire Station 1, an existing station located approximately ½ roadway miles southwest of the Project site at 11325 Loma Linda Drive. According to the General Plan Public Services and Facilities Element, the City has established a response goal of a five-minute response time (including three-minute running time) to be maintained for 80 percent of emergency fire, medical, and hazardous materials calls on a citywide response area basis. Although the proposed Project will introduce new development, such development will not be introduced into an area that is not currently being served by the Fire Department, and as such, would not impede the Fire

Department from meeting its established response goal given the project site's proximity to the Fire Station 1.

Development of the Project would impact fire protection services by placing an additional demand on existing Loma Linda Fire Department resources. To offset the increased demand for fire protection services, the Project would be conditioned by the City to provide a minimum of fire safety and support fire suppression activities, including compliance with State and local fire codes, fire sprinklers, a fire hydrant system, paved access, and secondary access routes.

Furthermore, the Project would be required to comply with the provisions of the City's Development Impact Fee Ordinance, which requires a fee payment to assist the City in providing for fire protection services. Payment of the Development Impact Fee would ensure that the Project provides fair share funds for the provision of additional public services, including fire protection services, which may be applied to fire facilities and/or equipment, to offset the incremental increase in the demand for fire protection services that would be created by the Project.

Based on the analysis above, the construction of new or expansion of current Fire Department facilities will not be required. Therefore, impacts associated with fire protection will be less than significant.

POLICE PROTECTION

Determination: Less Than Significant Impact.

Sources: General Plan Public Services and Facilities Element, *San Bernardino County Sheriff's Department.*

Impact Analysis

The San Bernardino County Sheriff's Department provides community policing to the project area via the Central Headquarters located at 655 East Third Street in the City of San Bernardino. The Central Station is located 6.45 roadway miles from the Project site. According to the General Plan Public Services and Facilities Element, the City has set a response goal of a 3.25-minute response time from the time of dispatch. It should be noted that primary response to the proposed Project site would be patrol vehicles located throughout the City and in the immediate area. Therefore, response time to calls for service may vary depending on their location at time of dispatch.

Although the proposed Project will introduce new development into the Project area, such development will not occur in an area that is not currently being served by the Sheriff's Department. Therefore, the proposed Project would not impede the Sheriff's Department from meeting its established response goal.

Based on the analysis above, the construction of new or expansion of current Sheriff's Department facilities will not be required. Therefore, impacts associated with police protection will be less than significant.

SCHOOLS

Determination: Less Than Significant Impact.

Sources: California Senate Bill 50 (Greene), Project Application Materials.

Impact Analysis

The Project proposes a medical office building of 15,880 square feet in size to serve the need of local residents in the area. A medical office building of this size will not create an additional need for housing thus directly increasing the overall population of the City and generating additional students to be served by the Redlands Unified School District. However, the Project would be required to contribute fees to the Redlands Unified School District in accordance with the Leroy F. Greene School Facilities Act of 1998 (Senate Bill 50). Pursuant to Senate Bill 50, payment of school impact fees constitutes complete mitigation under CEQA for project-related impacts to school services.

Based on the above analysis, impacts related to schools would be less than significant.

PARKS

Determination: Less Than Significant Impact.

Source: Project Application Materials.

Impact Analysis

The Project proposes a medical office building 15,880 square feet in size to serve the need of local residents in the area. A medical office building of this size will not create a direct additional need for parkland.

Based on the above analysis, impacts related to parks would be less than significant.

OTHER PUBLIC FACILITIES

Determination: Less Than Significant Impact.

Source: Project Application Materials.

Impact Analysis

As noted above, development of the Project would not result in a direct increase in the population of the City and would not increase the demand for public services, including public health services and library services which would require the construction of new or expanded public facilities.

The Project would be required to comply with the provisions of the City's Development Impact Fee Ordinance, which requires a fee payment to assist the City in providing public services. Payment of the Development Impact Fee would ensure that the project provides fair share of funds for

additional public services. These funds may be applied to the acquisition and/or construction of public services and/or equipment.

Based on the above analysis, impacts related to other public facilities would be less than significant and no mitigation measures are required.

3.15 RECREATION

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

Impact Analysis

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

Determination: Less than Significant Impact.

Source: Project Application Materials.

Impact Analysis

The Project proposes a medical office building of 15,880 square feet in size to serve the need of local residents in the area. A medical office building of this size will not significantly increase the use of existing public park facilities and would not require the modification existing parks or modification of new park facilities offsite because the Project does not proposes residential dwelling units which create a demand for parks or other recreational facilities.

Based on the above analysis, impacts related to recreational facilities would be less than significant.

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

Determination: Less than Significant Impact.

Source: Project Application Materials.

Impact Analysis

The Project is a medical office building and does not propose any recreational facilities or require the construction or expansion of recreational facilities which might have an adverse effect on the environment. In addition, no offsite parks or recreational improvements are proposed or required as part of the Project. Based on the analysis above, impacts would be less than significant

3.16 TRANSPORTATION/TRAFFIC

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

3.16(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?

Determination: Less Than Significant Impact With Mitigation Incorporated.

Source. Traffic Impact Analysis (Appendix E).

Impact Analysis

Access and Circulation

The Project is proposing access by one right-in/right-out driveway located off Barton Road. An emergency crash gate access is provided off the access road for the Loma Linda Post Office.

Study Intersections

The following study intersections were evaluated.

Table 17. Traffic Study Intersection Locations

ID No.	Intersection Location
1	Project Driveway 1/Barton Road
2	Newport Avenue/Barton Road
Source: Traffic Impact Analysis, LSA Associates, November 5, 2015 (Appendix E).	

Significance Thresholds

In 2006, the City of Loma Linda voters passed Ballot Measure V, which amended the City's General Plan by the addition of a new growth management element. Accordingly, Chapter 2A was incorporated into the General Plan. Principle Six of the Growth Management Element states:

Traffic levels of service throughout the City of Loma Linda shall be maintained at current levels and new development shall be required to fully mitigate any impact on traffic resulting from the development.

Further clarification is provided in subsection 2. *Levels of Service throughout the City Shall Be Maintained,* under Principle Six, as follows:

To assure the adequacy of various public services and to prevent degradation of the quality of life experience by the resident of Loma Linda, all new development projects shall assure by implementation of appropriate mitigation measures that, at a minimum, traffic levels of service (LOS) are maintained at a minimum of LOS C throughout the City, except where the current level of service is lower than LOS C.

In any location where the level of service is below LOS C at the time an application for development project is submitted, mitigation measures shall be imposed on that development project to assure, at a minimum, that the level of traffic service is maintained at levels of service that are no worse than those existing at the time an application for development is filed. In any location where the Level of Service is LOS F at the time an application for a development project is submitted, mitigation measures shall be imposed on that development project to assure, at a minimum, that the volume to capacity ratio is maintained at a volume to capacity ratio that is no worse than that existing at the time an application for development is filed. Projects where sufficient mitigation to achieve the above stated objectives is

infeasible shall not be approved unless and until the necessary mitigation measures are identified and implemented.

LOS is described in Table 18 below.

Table 18. Level of Service Criteria for Unsignalized and Signalized Intersections

Level of Service	Unsignalized Intersection Average Delay per Vehicle (sec.)	Signalized Intersection Average Delay per Vehicle (sec.)
A	< 10	< 10
B	> 10 and < 15	10 and < 20
C	> 15 and < 25	> 20 and < 35
D	> 25 and < 35	> 35 and < 55
E	35 and < 50	> 55 and < 80
F	> 50	> 80
Source: Transportation Research Board Special Report 209, Highway Capacity Manual (HCM).		

Traffic Scenarios

The traffic analysis examines the following scenarios:

1) Existing Traffic Conditions;

2) Existing with Project Traffic Conditions;

3) Opening Year Traffic Conditions;

4) Opening Year with Project Traffic Conditions;

5) Cumulative Traffic Conditions;

6) Cumulative with Project Traffic Conditions;

7) Year 2035 Traffic Conditions; and

8) Year 2035 with Project Traffic Conditions.

For each scenario, traffic operations at study intersections are evaluated for the A.M. and P.M. peak hours. The A.M. peak hour is defined as the one hour of highest traffic volumes occurring between 7:00 and 9:00 A.M. The P.M. peak hour is defined as the one hour of highest traffic volumes occurring between 4:00 and 6:00 P.M.

Trip Generation

Trip generation for the proposed Project was developed using rates for Land Use 720, "*Medical-Dental Office Building*" from the ITE *Trip Generation,* 9th Edition. The Project is expected generate 38 trips in the a.m. peak hour, 57 trips in the p.m. peak hour, and 574 daily trips.

Motorized Vehicle Travel Analysis

Scenario #1: Existing Traffic Conditions (2015)

Under existing conditions, all intersections are operating at satisfactory Levels of Service.

Scenario #2: Existing with Project Traffic Conditions

All intersections are projected to operate at satisfactory Levels of Service.

Scenario #3: Opening Year Traffic Conditions

All intersections are projected to operate at satisfactory Levels of Service.

Scenario #4: Opening Year with Project Traffic Conditions

All intersections are projected to operate at satisfactory Levels of Service.

Scenario #5: Cumulative Traffic Conditions

All intersections are projected to operate at satisfactory Levels of Service.

Scenario #6: Cumulative with Project Traffic Conditions

All intersections are projected to operate at satisfactory Levels of Service.

Scenario #7: Year 2035 Traffic Conditions

All intersections are projected to operate at satisfactory Levels of Service.

Scenario #8: Year 2035 with Project Traffic Conditions

All intersections are projected to operate at satisfactory Levels of Service ***except for the intersection of the driveway on Barton Road which is projected to operate at Level of Service "D" in the P.M. peak hour***

Table 19 summarizes the intersection Level of Service impacts.

Table 19. Summary of Intersection Level of Service (LOS) and Impacts

Scenario	1		2		3		4		5		6		7		8	
	Existing		Existing with Project		Opening Year without Project		Opening Year with Project		Cumulative without Project		Cumulative with Project		Year 2035 without Project		Year 2035 with Project	
Intersection	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**	**AM**	**PM**
Barton Road Driveway	---	---	B	C	---	---	B	C	---	---	B	C	---	---	B	**D***
Newport Avenue/Barton Road	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C

Source: *Traffic Impact Analysis,, LSA Associates,, November 5, 2015*

***D = Significant Impact**

As shown on table 19 above, the unsignalized intersection of the proposed driveway on Barton Road will operate at unsatisfactory LOS under year 2035 with Project conditions. The Project creates this deficiency; therefore, it has a direct significant impact at this location and a significant and unavoidable impact will occur at this location.

In addition, as discussed under Issue 3.16(d) below, the proposed Barton Road driveway will result in an unsafe traffic condition.

Transit Service Analysis

The Project area is currently served by the Omnitrans, a public transit agency serving the City of Loma Linda. Route 19 runs along Barton Road and serves the Project area. The Project is not proposing to construct any improvements will interfere with the existing bus service. As such, the Project as proposed will not conflict with an applicable plan, ordinance or policy applying to transit services.

Bicycle & Pedestrian Facilities Analysis

The Project is not proposing to construct any improvements that will interfere with bicycle and pedestrian use. Pedestrian access will be available from the existing sidewalks on Barton Road, Newport Avenue, and the Loma Linda Post Office access road. Bicycle access will be available to the Project site from the existing paved roadways on Barton Road, Newport Avenue, and the Loma Linda Post Office access road. Therefore, the Project will not conflict with an applicable plan, ordinance or policy applying to non-motorized travel. Impacts are less than significant.

3.16(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?

Determination: Less Than Significant Impact.

Source: SANBAG Congestion Management Program.

Impact Analysis

The San Bernardino Associated Governments (SANBAG) is designated as the Congestion Management Agency for San Bernardino County. SANDAG prepares and administers the Congestion Management Program for San Bernardino County in consultation with local agencies, the County of San Bernardino, transit agencies, and subregional agencies.

The intent of the Congestion Management Program is to more directly link land use, transportation, and air quality, thereby prompting reasonable growth management programs that will effectively utilize new transportation funds, alleviate traffic congestion and related impacts, and improve air quality.

For transportation facilities identified in the Congestion Management Program (CMP), including intersections, segments, and freeways, the CMP definition of deficiency is based on maintaining a LOS standard of LOS E or better, except where an existing LOS F condition is identified in the CMP. A CMP deficiency is, therefore, defined as any facility operating or projected to operate at LOS F, unless the facility is identified explicitly in the CMP document. If the facility is specifically identified in the CMP document as operating at LOS F, then a 10 percent or more degradation in the quantitative measure used to determine the LOS (such as delay, V/C, or travel speed) will comprise a deficiency, which must be addressed by a deficiency plan.

Based on the analysis in Section 3.16(a) above, the Project would not result in an intersection to operate at LOS F. Accordingly, implementation of the Project would not conflict with the applicable CMP, including Level of Service standards, and impacts would be less than significant.

3.16(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?

Determination: Less Than Significant Impact.

Source: Google Earth, General Plan, Public Health and Safety Element), Airport Layout Plan Narrative Report for San Bernardino International Airport.

Impact Analysis

The Project site is located approximately 2.5 miles south of the San Bernardino International Airport. An Airport Land Use Compatibility Plan has not been adopted for the airport. However, according to Figure 10.4, Loma Linda General Plan, Public Health and Safety Element, the northern most portion of the Project site is located within the San Bernardino International Airport Influence Area.

Based on a report entitled: *Airport Playout Plan Narrative for San Bernardino International Airport, San Bernardino, California,* prepared by Coffman Associates, Inc. and approved by the San

Bernardino International Airport Authority on September 22, 2010, airfield design standards as required by the Federal Aviation Administration, show that the Project site is not located in any of the following areas:

- Runway Safety Area
- Object Free Area
- Obstacle Free Zone
- Precision Object Free Area
- Runway Protection Zone

Based on the above analysis, the Project would not result in a 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. Impacts are less than significant.

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

Determination: Potentially Significant Impact.

Source: Traffic Impact Analysis (Appendix E).

Impact Analysis

A weaving analysis was conducted for the proposed driveway access off Barton Road to determine if a potential safety/operational issue would occur on Barton Road. Weaving distance is the distance needed for a vehicle exiting the driveway to maneuver across the travel lanes and into the left-turn lane at the downstream intersection of Newport Avenue/Barton Road.

Exiting right-turn traffic from the proposed driveway trying to make a left turn/u-turn at Newport Avenue/Barton Road will require vehicles to turn into the closest lane, followed by signaling and changing lanes until positioned in the left-turn lane at Newport Avenue/Barton Road. When the distance to accomplish these weaving maneuvers is not adequate, vehicles may make abrupt lane changes, cross multiple lanes in one movement, stop, or partially block a through lane, resulting in potential vehicle conflicts.

Research on weaving analysis from the Oregon Department of Transportation recommends, for a posted speed above 35 mph, the minimum weaving distance be determined from the number of lane changes and the design vehicle type as shown in Table 20 below. For the weaving path from the proposed driveway to Newport Avenue, vehicles would require three lane changes. As shown in Table 20 below, the minimum weaving distance for three lane changes is 260 feet for passenger cars, measured from the proposed driveway approach centerline to the back of the queue in the left-turn lane. Since the distance from the centerline of the driveway approach to the back of queue is approximately 50 feet, which is significantly less than the minimum 260 feet, the available weaving distance is not sufficient.

Table 20. Urban Weaving Distance

Number of Lane Changes	Weaving Distance from Proposed Approach to Back of Queue or Start of Ramp Taper		
	Passenger Car	Single Unit Truck	WB-67 Truck
1	130	160	205
2	195	225	270
3	260	290	335

Source: Oregon Department of Transportation (LSA Traffic Impact Analysis (Appendix E)

The *Traffic Impact Analysis* prepared for the Project by LSA Associates on behalf of the City recommends not providing access via the proposed Barton Road driveway due to anticipated safety and operational concerns.

3.16(e) Result in inadequate emergency access?

Determination: Less Than Significant Impact with Mitigation Incorporated

Source: Project Application Materials.

Impact Analysis

The Project would result in new medical office uses, which would increase the need for emergency access to-and-from the site. Adequate emergency access would be provided to the Project site from the Loma Linda Post Office driveway. During the course of the required review of the project, the Project's transportation design was reviewed by the City's Engineering Department, County Fire Department, and County Sheriff's Department to ensure that adequate access to and from the site would be provided for emergency vehicles.

3.16(f) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?

Determination: Less Than Significant Impact.

Source: General Plan Circulation Element, Project Application Materials.

Impact Analysis

The Project is designed to comply with all applicable transportation policies, plans, and programs. The Project also would accommodate pedestrians via on-site sidewalks. Omnitrans operates Route 19 which runs along Barton Road and serves the Project area. Implementation of the Project would not interfere with the operation of this transit route because no additional roadway improvements are required except for construction of driveway approaches.

Traffic and Circulation Conclusions

As noted in the preceding analysis, the access driveway off Barton Road would result in 2 significant impacts:

1) Result in Level of Service "D" in the P.M. peak hour for the Year 2035 with Project Traffic Conditions.

2) Result in unsafe traffic movements from vehicles exiting the site onto Barton Road. The *Traffic Impact Analysis* prepared for the Project by LSA Associates on behalf of the City recommends not providing access via the proposed Barton Road driveway due to anticipated safety and operational concerns.

The *Traffic Impact Analysis* analyzed the option of prohibiting the driveway off Barton Road and providing primary access through the Loma Linda Post Office facility which would ameliorate the 2 significant impacts described above. However, the Project would have to be redesigned and a revised site plan submitted for review to consider this option.

3.17 UTILITIES AND SERVICE SYSTEMS

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

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

Determination: Less Than Significant Impact.

Source: San Bernardino Municipal Water Department.

Impact Analysis

Wastewater treatment for the City of Loma Linda is provided by the San Bernardino Municipal Water Department Water Reclamation Plant which is a 33 MGD Regional Secondary Treatment facility. Primary and secondary treatment processes are employed to meet the discharge standards specified in the National Pollutant Discharge Elimination Permit issued to the Water Reclamation Plant by the State of California Regional Water Quality Control Board. Secondary treated

wastewater from the Water Reclamation Plant discharges to an offsite tertiary treatment facility operated (Rapid Infiltration and Extraction facility) jointly by the cities of San Bernardino and Colton.

The Rapid Infiltration and Extraction facility receives approximately 33 MGD of secondary treated wastewater from the Water Reclamation Plant and Colton's treatment facility. Natural bio-filtration is employed through the use of percolation basins and ultra-violet disinfection is used to meet the State of California Title 22 tertiary standards, in addition to the discharge standards specified in a separate National Pollutant Discharge Elimination System permit issued to the Rapid Infiltration and Extraction facility. Rapid Infiltration and Extraction facility treated wastewater consistently meets or exceeds required discharge standards and is often superior in quality to effluent produced through conventional tertiary facilities.

Based on the above analysis, the Project would have no potential to exceed the applicable wastewater treatment requirements established by the. Santa Ana Regional Water Quality Control Board. Accordingly, impacts would be less than significant.

3.17(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?

Determination: Less Than Significant Impact.

Sources: Loma Linda Public Works Department.

Impact Analysis

Water and sewer service to the Project site will be provided by the City of Loma Linda. Water is available to serve the Project site from an existing 12-inch diameter water line in Barton Road adjacent to the northern boundary of the site. Sewer service is available for the Project from an existing 8-inch diameter sewer line in Barton Road.

The connection to the existing water and sewer lines as proposed by the Project would result in physical impacts to the surface and subsurface of the Project site. These impacts are considered to be part of the project's construction phase and are evaluated throughout this Initial Study Checklist. In instances where potentially significant impacts have been identified for the Project's construction phase, mitigation measures are required as necessary to reduce impacts to less-than-significant levels. Accordingly, additional mitigation measures beyond those identified throughout this Initial Study Checklist would not be required.

Based on the above analysis, impacts would be less than significant.

3.17(c) Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

Determination: Less Than Significant Impact.

Source: Preliminary Water Quality Management Plan (Appendix C).

Impact Analysis

Drainage

Overflow runoff from most of the proposed parking lot south of the proposed building will discharge easterly before its ultimate discharge point to the existing Loma Linda Post Office Facility driveway. Overflow runoff from the western portion of the site, and from the building roof drains will discharge to Barton Road via the proposed under sidewalk drain into Barton Road.

Storm drain facilities exist adjacent to the site to accommodate surface runoff. The construction of the on-site drainage facilities would result in physical impacts to the surface and subsurface of the Project site. These impacts are part of the Project's construction phase and are evaluated in the appropriate sections of this Initial Study Checklist. In any instances where potentially significant impacts have been identified for the Project's construction phase, Mitigation Measures are required as necessary to reduce impacts to less-than-significant levels. Accordingly, additional measures beyond those identified throughout this Initial Study Checklist would not be required.

Based on the above analysis, impacts would be less than significant.

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

Determination: Less Than Significant Impact.

Sources: 2010 San Bernardino Valley Urban Water Management Plan, City of Loma Linda Public Works Department.

Impact Analysis

The Project would be served with potable water by the City of Loma Linda. The primary source of potable water supply for the City of Loma Linda is groundwater extracted from the cities own six production wells. Loma Linda's main water source is ground water within the Bunker Hill Basin. The Bunker Hill Basin water is replenished by annual rainfall and form snowmelt from the San Bernardino Mountains. The City also uses supplemental water obtained from the City of San Bernardino Municipal Water Department.

The San Bernardino Basin Area was defined by, and adjudicated in gross, by the Western-San Bernardino Judgment (Western Judgment) in 1969. The San Bernardino Basin Area is adjudicated on a safe yield basis. Loma Linda therefore has the opportunity to develop additional wells and over-extract groundwater under specified conditions contained in the stipulated judgment. The wells in general have provided a stable source of water supply. Extensive modeling has been used to examine groundwater recharge, groundwater pumping, basin storage, groundwater flow, and groundwater plume location and plume migration. Based on these studies it is anticipated that groundwater pumping by Loma Linda and other San Bernardino Basin Area users will not be

reduced or curtailed during a single-dry or multi-dry year. (Ref. *2010 San Bernardino Valley Urban Water Management Plan, pp. 8-26-27).*

Based on Table 8.15- *Water Deliveries - Projected 2025, 2030, and 2035* of the *2010 San Bernardino Valley Urban Water Management Plan,* it is estimated that commercial uses (including office uses) such as the proposed Project have an annual water demand approximately 2.85 acre feet per year (afy). Based on the Project site's 0.84 acres, the proposed Project's water demand is estimated to be approximately 2.3 afy, or 2,543 gallons per day (gpd). This estimated water demand will represent only a nominal percentage (0.02 percent or less) of projected surplus (projected supply minus project demand) for the single and multiple dry year scenarios as described in Table 8.29-*Water Supplies - Current and Projected* of the *2010 San Bernardino Valley Urban Water Management Plan.*

It should be noted that in response to the State of California's severely depleted water supplies, multi-year drought and a record low snowpack, on April 1, 2015, Governor Brown issued an Executive Order effective immediately, ordering the Department of Water Resources Control Board to issue mandatory actions to reduce statewide water usage by 35% from 2013 levels, as well as increasing enforcement efforts to prevent water waste. In response, the City of Loma Linda has established the following emergency water prohibitions that are applicable to the Project:

- The application of potable water to any driveway, sidewalk or hard scape. Must repair water leaks in a timely manner.

- Using potable water to water outdoor landscapes in a manner that causes runoff to adjacent property, non-irrigated areas, private and public walkways, roadways, parking lots or structures.

- Restricting the watering of turf and landscape to two day per week. Use of outdoor sprinkler system only between the hours of 8:00 pm until 7:00am.

- No watering of outdoor landscape, turf or plant material for 48 hours after any measurable rain fall.

Based on the above analysis, impacts would be less than significant.

3.17(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?

Determination: Less Than Significant Impact.

Sources: 2010 San Bernardino Valley Urban Water Management Plan, City of Loma Linda Public Works Department.

Impact Analysis

Sanitary sewer service to the Project site would be provided by the Loma Linda Public Works Department. Wastewater treatment for the City of Loma Linda is provided by the San Bernardino

Municipal Water Department Water Reclamation Plant which is a 33 MGD Regional Secondary Treatment facility.

The Project's wastewater generation is based on a number of factors, such as the metered water usage and the number and type of plumbing fixtures and bathroom facilities. Given that the size of the proposed building is 15,880 square feet, the wastewater production will represent only a nominal percentage of the 33 MGD of permitted wastewater treatment capacity at the Water Reclamation Plant.

Based on the above analysis, impacts associated with wastewater treatment capacity will be less than significant.

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

Determination: Less Than Significant Impact.

Sources: CalRecycle.

Impact Analysis

Solid waste produced in the City of Loma Linda is collected and transported to the County of San Bernardino's San Timoteo Sanitary Landfill, located just south of the City of Redlands. The San Timoteo landfill has 114 acres permitted for disposal, a permitted daily throughput of 2,000 tons, and a remaining total capacity of 13,605,488 cubic yards. Estimated closure date is 2043

Construction Related Impacts

Waste generated during the construction phase of the project would primarily consist of discarded materials from the construction of streets, common areas, infrastructure installation, and other Project-related construction activities.

According to the Cal Recycle Facility/Site Summary Details website accessed on August 15, 2015, the San Timoteo landfill receives well below its maximum permitted daily disposal volume and demolition and construction waste generated by the project is not anticipated to cause this landfill to exceed its maximum permitted daily disposal volume. As such, the San Timoteo Landfill will have sufficient daily capacity to accept construction solid waste generated by the Project.

In addition, the project is required to comply with Section 4.408 of the *2013 California Green Building Code Standard*s, which requires new development projects to submit and implement a construction waste management plan in order to reduce the amount of construction waste transported to landfills.

Operational Related Impacts

Based on a commercial waste generation factor of 6 lbs/1000sf/day obtained from the CalRecycle Website, the project would generate approximately 95 pounds of waste per day, or 17.3 tons of waste per year (0.04 tons per day).

As noted above, according to the Cal Recycle Facility/Site Summary Details website accessed on August 15, 2015, the San Timoteo Sanitary Landfill has a permitted disposal capacity of 2,000 tons per day with a remaining capacity of 13,605,488 cubic yards. The San Timoteo Sanitary Landfill is estimated to reach capacity, at the earliest time, in the year 2043.

During long-term operation, the Project's solid waste would represent less than 0.002% of the daily permitted disposal capacity of the San Timoteo Sanitary Landfill.

Therefore, solid waste generated by the Project is not anticipated to cause the San Timoteo Sanitary Landfill to exceed its maximum permitted daily disposal volume.

Based on the above analysis, impacts would be less than significant.

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

Determination: Less Than Significant Impact.

Sources: California Assembly Bill 939 (Sher), San Bernardino County, Countywide Integrated Waste Management Plan.

Impact Analysis

The California Integrated Waste Management Act established an integrated waste management system that focused on source reduction, recycling, composting, and land disposal of waste. In addition, the Act established a 50% waste reduction requirement for cities and counties by the year 2000, along with a process to ensure environmentally safe disposal of waste that could not be diverted. Per the requirements of the Integrated Waste Management Act, the San Bernardino County Board of Supervisors adopted the *Countywide Integrated Waste Management Plan* which outlines the goals, policies, and programs the County and its cities will implement to create an integrated and cost effective waste management system that complies with the provisions of California Integrated Waste Management Act and its diversion mandates.

The Project's waste hauler would be required to coordinate with the waste hauler to develop collection of recyclable materials for the Project on a common schedule as set forth in applicable local, regional, and State programs. Recyclable materials that would be recycled by the Project include paper products, glass, aluminum, and plastic.

Additionally, the Project's waste hauler would be required to comply with all applicable local, State, and Federal solid waste disposal standards, thereby ensuring that the solid waste stream to the landfills that serve the Project are reduced in accordance with existing regulations.

Based on the above analysis, impacts would be less than significant.

3.18 MANDATORY FINDINGS OF SIGNIFICANCE

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

Impact Analysis

3.18(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?

Determination: Less Than Significant Impact with Mitigation Incorporated.

Source: This Initial Study Checklist.

As noted in the analysis throughout this Initial Study Checklist, the following mitigation measures apply to the Project and would reduce impacts relating to this issue. These mitigation measures will be included in the Project's Mitigation Monitoring and Reporting Program:

Mitigation Measures (MM)

BIO-1a, BIO-1b, CR-1, CR-2, CR-3, and CR-4 shall apply.

Impact Analysis

All impacts to the environment, including impacts to habitat for fish and wildlife species, fish and wildlife populations, plant and animal communities, rare and endangered plants and animals, and historical and pre-historical resources were evaluated as part of this Initial Study Checklist..

In instances where impacts have been identified, the mitigation measures listed above are required to reduce impacts to less than significant levels. Therefore, Project would not substantially degrade the quality of the environment.

3.18(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)?

Determination: Potentially Significant.

Source: This Initial Study Checklist.

As noted in the analysis throughout this Initial Study Checklist, the following mitigation measures apply to the Project and would reduce impacts relating to biological resources, cultural resources and noise. These mitigation measures will be included in the Project's Mitigation Monitoring and Reporting Program.

Mitigation Measures (MM)

BIO-1a, BIO-1b, CR-1, CR-2, CR-3, and CR-4, and NOI-1 shall apply.

Impact Analysis

As discussed throughout this Initial Study Checklist, implementation of the proposed Project has the potential to result in effects to the environment that are individually limited, but cumulatively considerable.

In instances where impacts to biological resources, cultural resources, and noise have been identified, the Mitigation Measures, listed above are required to reduce impacts to less than significant levels. Traffic Level of Service and safety impacts remain significant. Therefore, the Project would contribute to environmental effects that are individually limited, but cumulatively considerable.

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

Determination: Potentially Significant Impact.

Source: This Initial Study Checklist.

As noted in the analysis throughout this Initial Study Checklist, the following mitigation measure applies to the Project and would reduce impacts relating to noise. The noise impact mitigation measure will be included in the Project's Mitigation Monitoring and Reporting Program:

Mitigation Measures (MM)

NOI-1 shall apply.

Impact Analysis

The Project's potential to result in environmental effects that could adversely affect human beings, either directly or indirectly, has been discussed throughout this Initial Study Checklist document.

In instances where impacts have been identified, Mitigation Measure NOI-1 above is required to reduce construction noise impacts. Traffic Level of Service and safety impacts remain significant. Therefore, the Project would result in environmental effects which would cause substantial adverse effects on human beings, either directly or indirectly.

4.0 REFERENCES

California Air Resources Board (CARB) Handbook, 2009.
http://www.arb.ca.gov/homepage.htm

California Environmental Quality Act (CEQA) Guidelines.
http://opr.ca.gov/m_ceqa.php

California Environmental Quality Act (CEQA) Air Quality Handbook.
http://opr.ca.gov/m_ceqa.php

City of Loma Linda General Plan, May, 2009.
http://lomalindaca.gov/asp/Site/Departments/CommunityDev/PlanningDivision/GeneralPlan/index.asp

City of Loma Linda Municipal Code.
http://qcode.us/codes/lomalinda/

California Department of Toxic Substances Control.
www.dtsc.ca.gov

Countywide Integrated Waste Management Plan.
http://www.sbcounty.gov/dpw/solidwaste/PDFs/20080729_dpw_swmd_ciwmb_2007_5_year_review_optimized_20080723.pdf

Flood Insurance Rate Maps, Federal Emergency Management Agency.
https://msc.fema.gov

South Coast Air Quality Management District.
www.aqmd.gov.

South Coast Air Quality Management District, Final 2012 Air Quality Management Plan.
www.aqmd.gov

Southern California Association of Governments, 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy.
http://rtpscs.scag.ca.gov/Pages/default.aspx

San Bernardino International Airport Authority, *Airport Layout Plan Narrative for San Bernardino International Airport, San Bernardino, California,* Coffman Associates, Inc., September 22, 2010.
http://www.sbiaa.org/wp-content/uploads/2015/10/ALP-Narrative-Report-Complete.pdf

5.0 REPORT PREPARATION PERSONNEL

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February 16, 2016

Dr. Wayne Cheng
Linkworld Investment & Property Management, Inc.
Redlands, CA

Project No. 16-1003

Reference: Peer Review of LSA Associates Inc. Traffic Impact Study Report for 25915 Barton Road, Loma Linda, CA

Dear Dr. Cheng:

I have completed my review of the Traffic Study Report prepared by LSA Associates Inc (LSA) and have a significantly different opinion. In my professional opinion, the Barton Road driveway is a safe access point and should be approved by the City.

Executive Summary

LSA's Traffic Study denied the use of the Barton Road driveway due to a weaving standard. The publication of the weaving standard was not specifically identified in LSA's report. However, Technical Bulletin "Weaving in the Vicinity of an Approach", AM 13-09(B) contains the table duplicated in LSA's traffic study. This technical bulletin was prepared to ensure uniformity and understanding in meeting the requirements for the Oregon Department of Transportation Highway Division, subsection Division 51, and Oregon State Senate Bill 264.

Furthermore, this bulletin describes itself as a tool to provide planning level guidance and understanding. For engineering standards, this bulletin refers the designer back to the Oregon Department of Transportation design manuals.

LSA's study **failed to recognize:**

1) The technical bulletin **clearly states** the following[1]:

   a) *"The guidance is for use as a screening level assessment of potential weaving concerns."*

   b) "As indicated in OAR 734-051-4020(3), the department is responsible for proving that unique safety and highway operations concerns exist at or near the location of a proposed approach."

[1] Oregon Department of Transportation, Access Management, Technical Services Bulletin, "Weaving in the Vicinity of an Approach", AM 13-09(B), 05/15/2013

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EXHIBIT - C

c) *"The thresholds and weaving distances in this document are based on planning level assumptions. If the distances cannot be met, it may be necessary to collect site-specific data and perform a more accurate operational analysis following the procedures in the Oregon's Analysis Procedures Manual (Chapters 3, 5, 7 and Addendum A)."*

i) The Analysis Procedures Manual further describes using the Highway Capacity Manual Chapter 21 for Unsignalized Intersections as the analysis technique to be used.

2) Per the criteria of Division 51, Technical Bulletin "Weaving in the Vicinity of an Approach", AM 13-09(B), and the Oregon Analysis Procedures Manual, LSA should have conducted an analysis per the Transportation Research Board Highway Capacity Manual Chapter 21 before identifying the driveway as unsafe. LSA's traffic study did not perform this analysis.

3) There are numerous driveways along Barton Road, Mountain View, Tippecanoe Avenue, and Redlands Boulevard that do not meet weaving distances specified in the Technical Bulletin. The driveway for Dr. Cheng's property is not *"uniquely different"* from these other driveways.

More importantly, if this is a **true safety issue**, what is the City doing about these other driveways which do not meet the weave criteria of Technical Bulletin "Weaving in the Vicinity of an Approach", AM 13-09(B)? Are these other driveways being closed or restricted in some manner?

4) LSA's analysis of the Newport Road / Post Office access (Alternative 2) was inappropriately performed and should be rejected until corrected. The series of access points consisting of Dr. Cheng's driveway, the Post Office driveway with Newport Road, and the Barton Road / Newport Road intersections should be defined as a series of closely spaced intersections. These intersections are about 50' to 75' apart. LSA's traffic study analyzed these intersections as standalone individual intersections where the queue or backup of one intersection does not impact the other. LSA states that they accounted for this queue by adding in the 95th queue of the upstream intersection. However, the 95th queue only take into account **one upstream intersection**; not a series of upstream intersections. Therefore, LSA's study for Alternative 2 needs to be reanalyzed and replaced with a coordinated analysis.

My staff prepared an Unsignalized Level of Service analysis per Chapter 21 of the Highway Capacity Manual which demonstrates that the Barton Road driveway is a safe access point. My staff also prepared a SimTraffic analysis for the Postal Driveway / Newport Road Access as shown on Alternative 2 clearly demonstrating that this driveway approach does not work.

In conclusion, LSA applied a *planning level screening tool* instead of the proper *engineering tool* to deny the only legal access point which is the Barton Road driveway. Furthermore, this screening tool is from another state and was developed for conformance to Oregon laws.

The analysis of Alternative 2 was performed incorrectly because LSA's analysis procedure failed to account for an *accumulation of queues from a series of closely spaced intersections*. Furthermore, this analysis was performed for a driveway connection that Dr. Cheng has no legal rights to gain connection access through.

Engineering and Industry Standards

Public agencies adopt engineering standards in order to ensure Federal, State, and local laws and codes are met, to ensure safety, service, and performance standards, and to minimize risk of liability. The most common standards used are prepared by the Federal and State Government, and Standard Development Organizations. For California, these standards typically include:

1) American Association of State Highway and Transportation Officials (AASHTO)
2) California Department of Transportation engineering manuals (Caltrans)
3) Manual on Uniform Traffic Control Devices
4) Highway Capacity Manual
5) Transportation Research Board - books and research guides

For our local area, these standards typically include:

1) San Bernardino County of Associated Governments Congestion Management Manual
2) County standards when the City does not have their own standard.

FHWA, AASHTO, and the Transportation Research Board have all published documents and manuals on access management. The purpose of these access management tools is to provide a design guidance for the best placement of a driveway considering numerous engineering factors including safety.

Since there are numerous other documents available for the analysis of the Barton Road driveway, there is no real justification for using an Oregon Department of Transportation standard. Most importantly, LSA's traffic study did not state why the Oregon standards had to be used over more traditional standards. It is not common place to use standards from another State since the laws in that State, especially the vehicle code laws, could be different.

AASHTO states that *"Driveway are, in effect, intersections and should be designed consistent with their intended use".*[2] As a non-signal intersection, located between two signalize points there are several ways that LSA could have analyzed this driveway which include:

1) Time-space diagram – this a standard approach when you have a minor street located between two signalized intersections. In order to facilitate left turn movements from the minor street, the signals on upstream and downstream are timed to create a gap in the traffic platoon for left turns.
2) Highway Capacity Manual as shown in Chapter 21 Unsignalized Intersections.

Adoption of Oregon Department of Transportation Highway Division 51 and Technical Bulletin "Weaving in the Vicinity of an Approach", AM 13-09(B)

LSA's report failed to cite what specifically is being adopted from Oregon. Is it the Technical Bulletin, Division 51, or the Oregon's Analysis Procedures Manual?

Whenever an agency contemplates adoption of a new engineering standard, the following questions should be studied:

[2] AASHTO 2001, page 733

1) How does this new policy fit in with current laws and regulations?
2) How will this impact all existing development?
3) How will this impact future development?
4) Is the policy too restrictive on future development?
5) Is liability increased?

One question that certainly is left unanswered is '*what is the City doing about all of the existing driveways that do not meet this criteria?'* Are these driveways going to be closed or restricted?

I reviewed only a two driveways and applied the weave analysis criteria used by LSA. These two driveways were at the Mountain View / Barton Road and California Street / Barton Road intersections. This is just a very small sampling of similar driveways that exist throughout the City.

The Rite Aid is located in the northeast corner of the Mountain View / Barton Road intersection. Rite Aid has a Barton Road driveway, and due to the median barrier, all exiting traffic is required to go westbound. Using the LSA's criteria and assuming a queue length of 50 feet, the Rite Aid driveway does not meet the proposed weaving criteria. A queue length of 50 feet was assumed as reasonable for the peak hour traffic since queuing data was not obtained for the Mountain View / Barton Road intersection. As shown in Figure 1, a weave distance of 310' (260' required and a queue of 50') is required however only a distance of 210' is provided. See Figure 1.

Similarly the ARCO gas station on the northeast corner of the intersection of California Street and Barton Road does not meet the weave criteria. Exiting from the Barton Road driveway, the distance to the limit line for the left turn pocket is about 195'. Adding a 50'queue to this would require a total distance of 235' (195' required and a queue of 50'). The table cited by LSA states that a minimum of 195' is required. So even if one car is in the left turn pocket, this driveway no longer meets the safety criteria.

One argument for justifying the driveway deficiencies above is that both sites have more than one driveway. The number of driveways is irrelevant. ***The issue is whether or not the maneuver is safe.*** If the criteria being used by LSA states that Dr. Cheng's driveway is unsafe, then likewise, that same maneuver made from either the Rite Aid or ARCO gas station then is unsafe.

For Dr. Cheng's project, LSA's states that 70% of the project traffic desires to go westbound. LSA further states that **ALL** of the traffic leaving the site that wishes to go west will make a U-turn at the Barton Road / Newport Road intersection. This logic is similar to stating that all traffic travels the path of the shortest route possible as opposed to the path of least resistance. Obviously, that logic is flawed. Not all motorist are comfortable making U-turns and not all vehicles have adequate space to make that maneuver without backing up. This is demonstrated by traffic counts collecting U-turns movement and the very low percentage these turns represent in the total traffic stream.

Dr. Cheng's westbound project trips **have a choice** when exiting the Barton Road driveway to either try and make a U-turn at the signal or continue on straight to California Street.

LSA's traffic count data failed to identify the volume of U-turns at the Barton Road / Newport Road intersection. Hernandez, Kroone & Associates hired Counts Unlimited for the purposes of identifying the percentage of the traffic stream is making U-turns for eastbound Barton Road. The results are as follows:

Google Maps February 23, 2016

N

Google Earth was used to obtain the images and to estimate distances.

The following calculations were performed assuming a queue length of 50'.

Rite Aid driveway is located about 210' from the left turn limit line at Mountain View. Motorist exiting the driveway would need to cross 3 lanes of traffic; the exclusive right turn lane and 2 thru lanes. The required weave distance is determined from Table 3 below and is 260 feet. This weave distance is greater than the 210 feet available. Therefore, this driveway fails the criteria used by LSA.

It is reasonable that during the peak hour, this left turn lane could have other vehicles waiting at the traffic signal. The queue, of line of vehicles waiting at the signal, diminishes the available weave area even further.

Using the required weave distance of 260 feet and adding a estimated queue length of 50 feet, the total weave area required would be 310 feet. A queue length of 50 feet is a reasonable assumption for the peak hour.

Table 1 Desirable Weaving Distances - Urban

Number of Lane Changes	Weaving Distance from Proposed Approach to Back of Queue or Start of Ramp Taper		
	Passenger Car	Single Unit Truck	WB-67 Truck
1	130 feet	160 feet	205 feet
2	195 feet	225 feet	270 feet
3	260 feet	290 feet	335 feet

Oregon Department of Transportation, Access Management, Technical Services Bulletin, "Weaving in the Vicinity of an Approach", AM 13-09(B), 05/15/2013

Figure 1

Table 2: Eastbound Barton Road at Newport Road Intersection

Time Period	Number of U-Turns	Percentage of total Eastbound Traffic
AM Peak Hour	46	3.2%
PM Peak Hour	120	3.74%

If LSA's logic held, then the U-turn at this signal should be significantly higher due to the Meridian Development insisting upon making U-turns at the signal in order to return to the westerly direction.

Alternative 1 / Barton Road Driveway

LSA's Traffic Study identified the proposed Barton Road driveway as being unsafe for failing to meet the criteria of "Table M" from their report.

If "Table M" was obtained from the Technical Bulletin "Weaving in the Vicinity of an Approach", AM 13-09(B), *then LSA made an error* in applying the standard. LSA states that motorists exiting the Barton Road driveway are required to cross three lanes of traffic in order to reach the left turn pocket and the resulting weave length required is 260 feet behind the queue length. At the project driveway, there are only 2 approach lanes that need to be crossed and the resulting weave length required is 195 feet; not the 260' identified by LSA.

The intent of "Table M" is to identify weaving distance required from lanes that have traffic in them. At the proposed Barton Road driveway, there are two approach lanes of traffic and one parking lane. At the driveway is where the third lane, the right turn lane, begins. However, this right turn lane does not contain approach traffic.

LSA's "Table M" is repeated here as well as a picture depicting the lane configurations.

Table 3: LSA's Table "M"

Number of Lane Changes	Weaving Distance from Proposed Approach to Back of Queue or Start of Ramp Taper		
	Passenger Car	Single Unit Truck	WB-67 Truck
1	130 feet	160 feet	205 feet
2	195 feet	225 feet	270 feet
3	260 feet	290 feet	335 feet

Google Maps February 23, 2016

Figure 2

Alternative 1 / Barton Road Driveway LOS

PURPOSE

The City of Loma Linda is concerned about safety of project traffic making a right turn onto Barton Road from the project site and immediately changing lanes to enter the left-turn pocket for an eastbound U-turn at Newport Avenue / Barton Road.

The Highway Capacity Manual (HCM) 2010 states that T-intersections of a major street and private driveway may be analyzed as a two-way stop-controlled (TWSC) intersection. At TWSC intersections, minor street traffic must wait for a sufficiently large gap in the major street traffic stream before entering the major street. As delay or wait time increases for minor street traffic, motorists are more likely to attempt to enter the intersection with an insufficient gap in major street traffic, increasing the possibility for traffic collisions and decreasing intersection safety. An increase in unsafe turning movements is not expected so long as delay for the minor street movements is acceptable.

HCM 2010 methodology for TWSC intersections has established level of service (LOS) based on average control delay for the minor street approach. The City of Loma Linda defines LOS C as an acceptable LOS.

METHODOLOGY

Hernandez, Kroone & Associates calculated LOS for Driveway 1 / Barton Road using the Highway Capacity Software (HCS) 2010 software, produced by McTrans, which utilizes HCM 2010 LOS methodology. LOS analysis was performed for future year 2035 PM Peak Hour conditions based on volumes prepared by LSA. The worst case scenario was modeled and is defined as volumes containing the highest number of project trips turning right onto Barton Road and then performing a U-turn at the Barton Road / Newport Avenue intersection and crossing the highest conflicting eastbound-through traffic on Barton Road.

Hernandez, Kroone & Associates utilized the standard critical headway (gap) for minor street right turns as defined in HCM Chapter 19. Northbound right-turning traffic from the project site proceeding to make a U-turn at Newport Avenue would require a similar gap time to northbound right-turning traffic that proceeds eastbound on Barton Road through Newport Avenue. In both cases the turning movement requires a right turn into the right-most eastbound lane on Barton Road. After this turn, one movement requires two lane changes to the left-turn pocket at Newport Avenue, a maximum distance of about 120 feet, where the motorist would stop. The other movement requires acceleration to free flow speed on Barton Road to blend with eastbound Barton Road traffic. The time required to accelerate from roughly 20 mph to 45 mph is similar to the time to travel 120 feet crossing two lanes at 20 mph. Therefore, the same critical headway was applied for both movements.

RESULTS

The level of service results are provided in Table 4 below.

Table 4: LOS for Intersection 1 in Year 2035 With Project

Intersection	Traffic Control	Northbound Delay (s)	LOS
Driveway 1 / Barton Road	TWSC	22.6	C

As shown in Table 4, the average delay for northbound right-turning traffic would be 22.6 seconds. This is a LOS C which is acceptable per the City of Loma Linda's standards. Outbound project traffic performing a U-turn at Newport Avenue would experience an acceptable delay time waiting for a sufficient gap in eastbound traffic on Barton Road. As an acceptable delay time is provided, unsafe turning movements at the intersection should not increase.

Alternative 2 SimTraffic Analysis

PURPOSE

Alternative 2 would provide a single entrance and exit for project traffic at the post office access road. Traffic entering the site would turn south on Newport Avenue, perform an immediate turn right onto Post Office driveway, and perform a second immediate right turn into the project driveway. Traffic exiting the site would stop at Post Office driveway, turn left onto Post Office driveway to immediately stop at Newport Avenue, and turn left onto Newport Avenue for another immediate stop at Barton Road.

Such close spacing of the intersections along the site access route for Alternative 2 would dramatically impact project trips and post office trips. While inbound trips would not be required to stop at either the intersections of Post Office driveway / Newport Avenue (Intersection 3) or Post Office driveway / Driveway 2 (Intersection 4), outbound trips would be required to stop at both intersections and also possibly at the intersection of Newport Avenue / Barton Road (Intersection 2). During stops at Intersections 3 and 4, outbound traffic would be required to wait for traffic flow gaps in two directions and would potentially face intersection blockage due to queuing from downstream intersections.

Highway Capacity Manual (HCM) 2010 methodology for calculating Level of Service (LOS) at both signalized and unsignalized intersections does not account for the impacts of closely spaced upstream or downstream intersections. Chapter 18 states the methodology for the signalized intersections "does not explicitly account for the effect of…demand starvation due to a closely spaced upstream intersection; queue spillback into the subject intersection from a downstream intersection; [or] queue spillback from the subject intersection into an upstream intersection." Chapter 19 in reference to the methodology for two-way stop-controlled (TWSC) intersections states, "Effects from other intersections are accounted for only in situations in which a TWSC intersection is located on an urban street segment between coordinated signalized intersections."

A microsimulation of traffic flow conditions accounts for closely spaced intersections by modeling an appropriate number of individual vehicles simultaneously travelling through the street network

and the resulting queues. Software used to run the microsimulation reports measures the performance resulting from the simulation, including average control delay, directly related to LOS, as well as queuing and blockage.

METHODOLOGY

Hernandez, Kroone & Associates utilized Synchro 7 and SimTraffic 7 software produced by Trafficware to model the street network and perform microsimulation. Traffic turning-movement volumes were based on future year 2035 volumes with project traffic calculated by LSA with minor corrections. Hernandez, Kroone & Associates analyzed volumes for the PM Peak Hour which would contain the highest project trips with the highest volumes at the studied intersections. Simulated intersection geometrics and traffic control matched the configuration in LSA's Traffic Impact Study, Figure 4, "Existing With Project Intersection Geometrics and Stop Control".

Hernandez, Kroone & Associates performed 5 runs of microsimulation with resulting measures of performance averaged across all runs.

RESULTS

The average control delay per vehicle and associated LOS results are summarized in Table 5 below.

Table 5: SimTraffic Intersection Delay Results

Intersection	Traffic Control	Worst Turning Movement Delay (s)	LOS
Post Office driveway / Newport Avenue	TWSC	21.3	C
Post Office driveway / Driveway 2	TWSC	32.3	D

The City of Loma Linda has defined LOS C as the minimum acceptable intersection LOS. Traffic turning left onto Newport Avenue from Post Office driveway would experience a LOS C in the future year 2035 PM Peak Hour, which is acceptable per the City's standard. Project Traffic turning left onto Post Office driveway from the project site would experience a LOS D in the future year 2035 PM Peak Hour, which is unacceptable per the City's standard. Other simulation measures of performance are provided in the attached reports.

Limiting project access to Post Office driveway would therefore result in unacceptable traffic operations in the future year 2035 PM Peak Hour condition.

The corresponding level of service analysis and SimTraffic reports are attached.

If you have any questions regarding this analysis, please feel free to contact either myself of Joel Flasschoen at (909) 884-3222.

Sincerely,

Anne M. Hernandez, P.E.
Principal

Attachments:

1) Counts Unlimited Traffic Counts Barton Road / Newport Road
2) Oregon Department of Transportation Technical Bulletin “Weaving in the Vicinity of an Approach”, AM 13-09(B)
3) Level of Service Reports for the Barton Road Driveway with Barton Road 2035
4) SimTraffic for the Post Office / Newport Road Access

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City of Loma Linda
N/S: Newport Avenue
E/W: Barton Road
Weather: Clear

File Name : LMLNEBAAM
Site Code : 04516077
Start Date : 2/11/2016

Groups Printed- Total Volume

	Newport Avenue Southbound					Barton Road Westbound					Newport Avenue Northbound					Barton Road Eastbound					
Start Time	Left	Thru	Right	U-Turns	App. Total	Left	Thru	Right	U-Turns	App. Total	Left	Thru	Right	U-Turns	App. Total	Left	Thru	Right	U-Turns	App. Total	Int. Total
07:00 AM	1	0	0	0	1	18	272	2	0	292	22	0	15	0	37	0	126	9	2	137	467
07:15 AM	0	1	5	0	6	8	288	1	0	297	16	0	15	0	31	1	140	39	5	185	519
07:30 AM	3	0	0	0	3	22	328	0	0	350	42	0	26	0	68	1	134	40	14	189	610
07:45 AM	1	0	2	0	3	21	413	3	2	439	39	1	24	0	64	1	199	12	2	214	720
Total	5	1	7	0	13	69	1301	6	2	1378	119	1	80	0	200	3	599	100	23	725	2316
08:00 AM	1	0	2	0	3	18	354	3	1	376	16	0	22	0	38	0	164	17	2	183	600
08:15 AM	0	0	3	0	3	10	319	1	0	330	16	0	18	0	34	2	153	8	8	171	538
08:30 AM	1	0	2	0	3	8	290	0	0	298	17	1	9	0	27	3	131	9	5	148	476
08:45 AM	1	0	2	0	3	18	231	1	0	250	15	0	23	0	38	5	181	12	8	206	497
Total	3	0	9	0	12	54	1194	5	1	1254	64	1	72	0	137	10	629	46	23	708	2111
Grand Total	8	1	16	0	25	123	2495	11	3	2632	183	2	152	0	337	13	1228	146	46	1433	4427
Apprch %	32	4	64	0		4.7	94.8	0.4	0.1		54.3	0.6	45.1	0		0.9	85.7	10.2	3.2		
Total %	0.2	0	0.4	0	0.6	2.8	56.4	0.2	0.1	59.5	4.1	0	3.4	0	7.6	0.3	27.7	3.3	1	32.4	

	Newport Avenue Southbound					Barton Road Westbound					Newport Avenue Northbound					Barton Road Eastbound					
Start Time	Left	Thru	Right	U-Turns	App. Total	Left	Thru	Right	U-Turns	App. Total	Left	Thru	Right	U-Turns	App. Total	Left	Thru	Right	U-Turns	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	3	0	0	0	3	22	328	0	0	350	42	0	**26**	0	**68**	1	134	**40**	**14**	189	610
07:45 AM	1	0	2	0	3	21	**413**	**3**	**2**	**439**	39	**1**	24	0	64	1	**199**	12	2	**214**	**720**
08:00 AM	1	0	2	0	3	18	354	3	1	376	16	0	22	0	38	0	164	17	2	183	600
08:15 AM	0	0	**3**	0	3	10	319	1	0	330	16	0	18	0	34	**2**	153	8	8	171	538
Total Volume	5	0	7	0	12	71	1414	7	3	1495	113	1	90	0	204	4	650	77	26	757	2468
% App. Total	41.7	0	58.3	0		4.7	94.6	0.5	0.2		55.4	0.5	44.1	0		0.5	85.9	10.2	3.4		
PHF	.417	.000	.583	.000	1.00	.807	.856	.583	.375	.851	.673	.250	.865	.000	.750	.500	.817	.481	.464	.884	.857

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City of Loma Linda
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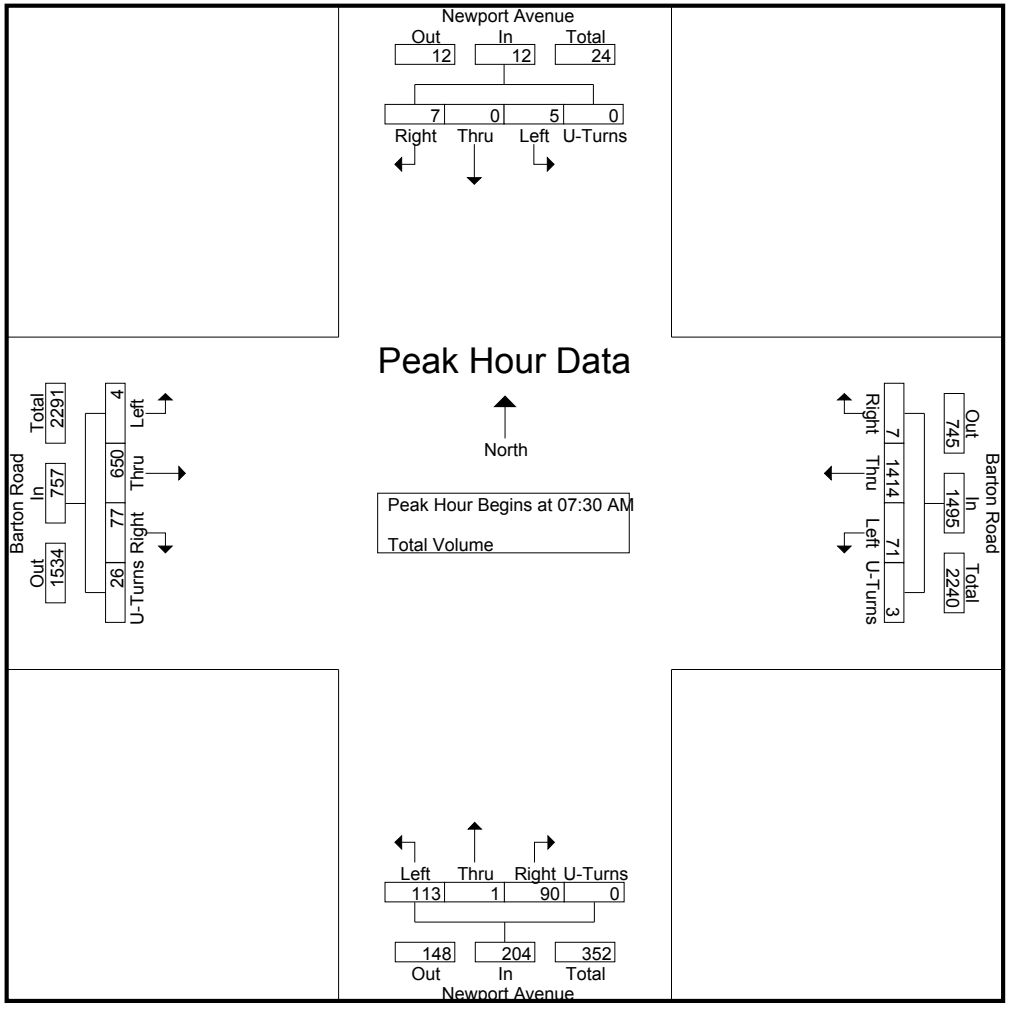

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	Newport Avenue Southbound					Barton Road Westbound					Newport Avenue Northbound					Barton Road Eastbound					
Start Time	Left	Thru	Right	U-Turns	App. Total	Left	Thru	Right	U-Turns	App. Total	Left	Thru	Right	U-Turns	App. Total	Left	Thru	Right	U-Turns	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	07:15 AM					**07:30 AM**					**07:30 AM**					**07:15 AM**					
+0 mins.	**0**	1	5	0	6	22	328	0	0	350	**42**	0	**26**	0	**68**	**1**	140	39	5	185	
+15 mins.	**3**	0	0	0	3	21	**413**	**3**	**2**	**439**	39	**1**	24	0	64	1	134	**40**	**14**	189	
+30 mins.	1	0	2	0	3	18	354	3	1	376	16	0	22	0	38	1	**199**	12	2	**214**	
+45 mins.	1	0	2	0	3	10	319	1	0	330	16	0	18	0	34	0	164	17	2	183	
Total Volume	5	1	9	0	15	71	1414	7	3	1495	113	1	90	0	204	3	637	108	23	771	
% App. Total	33.3	6.7	60	0		4.7	94.6	0.5	0.2		55.4	0.5	44.1	0		0.4	82.6	14	3		
PHF	.417	.250	.450	.000	.625	.807	.856	.583	.375	.851	.673	.250	.865	.000	.750	.750	.800	.675	.411	.901	

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Groups Printed- Total Volume

	Newport Avenue Southbound					Barton Road Westbound					Newport Avenue Northbound					Barton Road Eastbound					
Start Time	Left	Thru	Right	U-Turns	App. Total	Left	Thru	Right	U-Turns	App. Total	Left	Thru	Right	U-Turns	App. Total	Left	Thru	Right	U-Turns	App. Total	Int. Total
04:00 PM	2	1	2	0	5	23	183	1	0	207	19	0	18	0	37	4	269	31	15	319	568
04:15 PM	4	2	5	0	11	16	166	3	0	185	11	2	24	0	37	0	317	35	19	371	604
04:30 PM	3	2	5	0	10	22	174	0	0	196	25	0	17	0	42	1	324	43	13	381	629
04:45 PM	1	0	3	0	4	21	185	2	0	208	24	0	27	0	51	1	365	36	11	413	676
Total	10	5	15	0	30	82	708	6	0	796	79	2	86	0	167	6	1275	145	58	1484	2477
05:00 PM	2	0	3	0	5	23	207	0	0	230	22	0	16	0	38	1	386	35	23	445	718
05:15 PM	0	0	1	0	1	19	174	2	0	195	14	2	26	0	42	0	401	27	17	445	683
05:30 PM	1	1	0	0	2	21	154	0	0	175	17	1	28	0	46	4	399	30	11	444	667
05:45 PM	0	0	3	0	3	17	174	2	0	193	23	0	18	0	41	0	353	25	11	389	626
Total	3	1	7	0	11	80	709	4	0	793	76	3	88	0	167	5	1539	117	62	1723	2694
Grand Total	13	6	22	0	41	162	1417	10	0	1589	155	5	174	0	334	11	2814	262	120	3207	5171
Apprch %	31.7	14.6	53.7	0		10.2	89.2	0.6	0		46.4	1.5	52.1	0		0.3	87.7	8.2	3.7		
Total %	0.3	0.1	0.4	0	0.8	3.1	27.4	0.2	0	30.7	3	0.1	3.4	0	6.5	0.2	54.4	5.1	2.3	62	

	Newport Avenue Southbound					Barton Road Westbound					Newport Avenue Northbound					Barton Road Eastbound					
Start Time	Left	Thru	Right	U-Turns	App. Total	Left	Thru	Right	U-Turns	App. Total	Left	Thru	Right	U-Turns	App. Total	Left	Thru	Right	U-Turns	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	**1**	**0**	3	0	4	21	185	2	0	208	24	0	27	0	51	1	365	**36**	11	413	676
05:00 PM	**2**	0	3	0	**5**	**23**	**207**	0	0	**230**	22	0	16	0	38	1	386	35	**23**	**445**	**718**
05:15 PM	0	0	1	0	1	19	174	2	0	195	14	**2**	26	0	42	0	**401**	27	17	445	683
05:30 PM	1	**1**	0	0	2	21	154	0	0	175	17	1	**28**	0	46	**4**	399	30	11	444	667
Total Volume	4	1	7	0	12	84	720	4	0	808	77	3	97	0	177	6	1551	128	62	1747	2744
% App. Total	33.3	8.3	58.3	0		10.4	89.1	0.5	0		43.5	1.7	54.8	0		0.3	88.8	7.3	3.5		
PHF	.500	.250	.583	.000	.600	.913	.870	.500	.000	.878	.802	.375	.866	.000	.868	.375	.967	.889	.674	.981	.955

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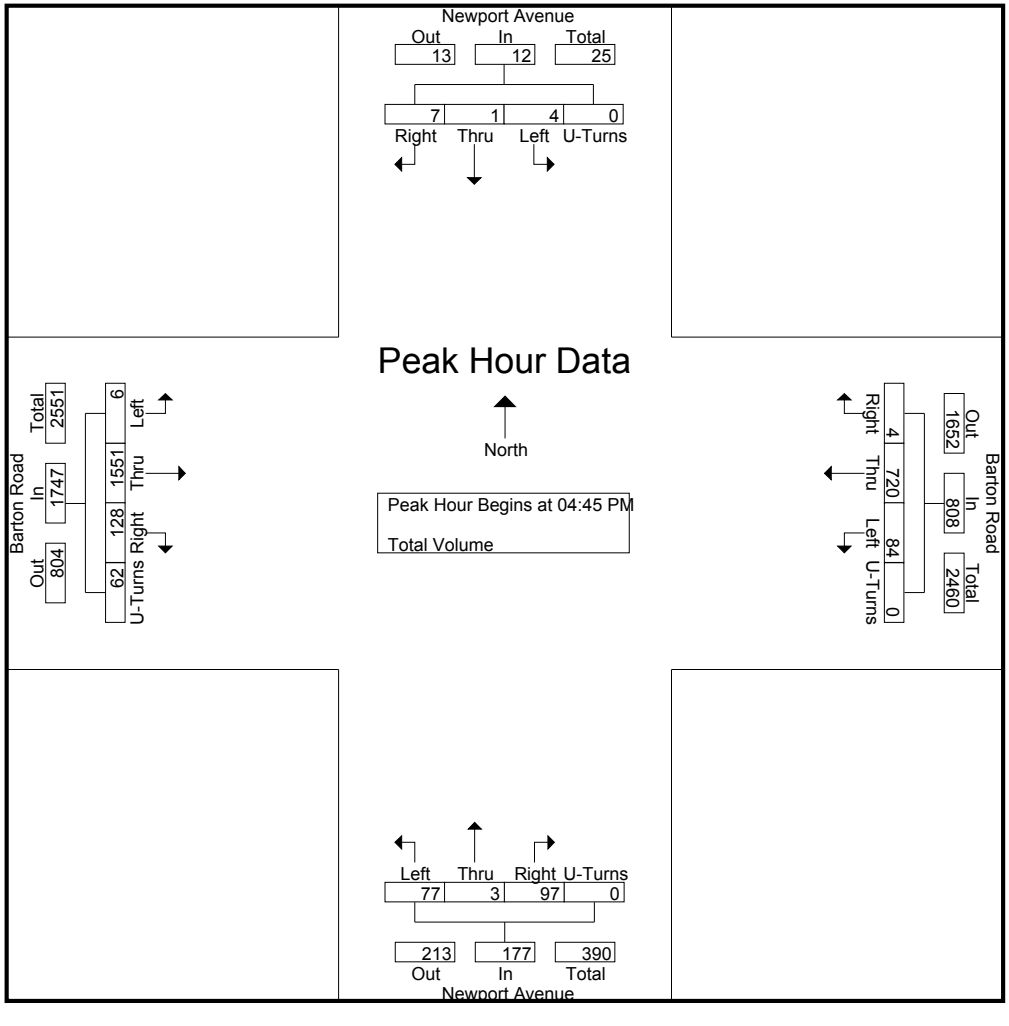

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	Newport Avenue Southbound					Barton Road Westbound					Newport Avenue Northbound					Barton Road Eastbound					
Start Time	Left	Thru	Right	U-Turns	App. Total	Left	Thru	Right	U-Turns	App. Total	Left	Thru	Right	U-Turns	App. Total	Left	Thru	Right	U-Turns	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Each Approach Begins at:																					
	04:00 PM					**04:30 PM**					**04:45 PM**					**04:45 PM**					
+0 mins.	**2**	**1**	**2**	**0**	**5**	**22**	**174**	**0**	**0**	**196**	24	0	27	0	51	1	365	36	11	413	
+15 mins.	4	**2**	**5**	0	**11**	21	185	**2**	0	208	22	0	16	0	38	1	386	35	**23**	**445**	
+30 mins.	3	2	5	0	10	**23**	**207**	0	0	**230**	14	**2**	26	0	42	0	**401**	27	17	445	
+45 mins.	1	0	3	0	4	19	174	2	0	195	17	1	**28**	0	46	**4**	399	30	11	444	
Total Volume	10	5	15	0	30	85	740	4	0	829	77	3	97	0	177	6	1551	128	62	1747	
% App. Total	33.3	16.7	50	0		10.3	89.3	0.5	0		43.5	1.7	54.8	0		0.3	88.8	7.3	3.5		
PHF	.625	.625	.750	.000	.682	.924	.894	.500	.000	.901	.802	.375	.866	.000	.868	.375	.967	.889	.674	.981	

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File Name : LMLNENEAM
Site Code : 04516077
Start Date : 2/11/2016

Groups Printed- Total Volume

	Newport Avenue Southbound				Newport Avenue Westbound				Post Office Driveway Northbound				
Start Time	Left	Thru	U-Turns	App. Total	Left	Right	U-Turns	App. Total	Thru	Right	U-Turns	App. Total	Int. Total
07:00 AM	19	8	1	28	1	34	0	35	3	0	0	3	66
07:15 AM	45	3	0	48	1	26	0	27	5	0	0	5	80
07:30 AM	56	6	0	62	1	58	0	59	10	2	0	12	133
07:45 AM	28	5	0	33	1	57	0	58	7	1	0	8	99
Total	148	22	1	171	4	175	0	179	25	3	0	28	378
08:00 AM	29	6	0	35	2	33	0	35	5	1	0	6	76
08:15 AM	16	2	0	18	1	27	0	28	7	2	0	9	55
08:30 AM	12	5	1	18	0	20	0	20	7	2	0	9	47
08:45 AM	18	12	0	30	3	28	0	31	10	2	0	12	73
Total	75	25	1	101	6	108	0	114	29	7	0	36	251
Grand Total	223	47	2	272	10	283	0	293	54	10	0	64	629
Apprch %	82	17.3	0.7		3.4	96.6	0		84.4	15.6	0		
Total %	35.5	7.5	0.3	43.2	1.6	45	0	46.6	8.6	1.6	0	10.2	

	Newport Avenue Southbound				Newport Avenue Westbound				Post Office Driveway Northbound				
Start Time	Left	Thru	U-Turns	App. Total	Left	Right	U-Turns	App. Total	Thru	Right	U-Turns	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:15 AM													
07:15 AM	45	3	0	48	1	26	0	27	5	0	0	5	80
07:30 AM	**56**	**6**	0	**62**	1	**58**	0	**59**	**10**	**2**	0	**12**	**133**
07:45 AM	28	5	0	33	1	57	0	58	7	1	0	8	99
08:00 AM	29	6	0	35	**2**	33	0	35	5	1	0	6	76
Total Volume	158	20	0	178	5	174	0	179	27	4	0	31	388
% App. Total	88.8	11.2	0		2.8	97.2	0		87.1	12.9	0		
PHF	.705	.833	.000	.718	.625	.750	.000	.758	.675	.500	.000	.646	.729

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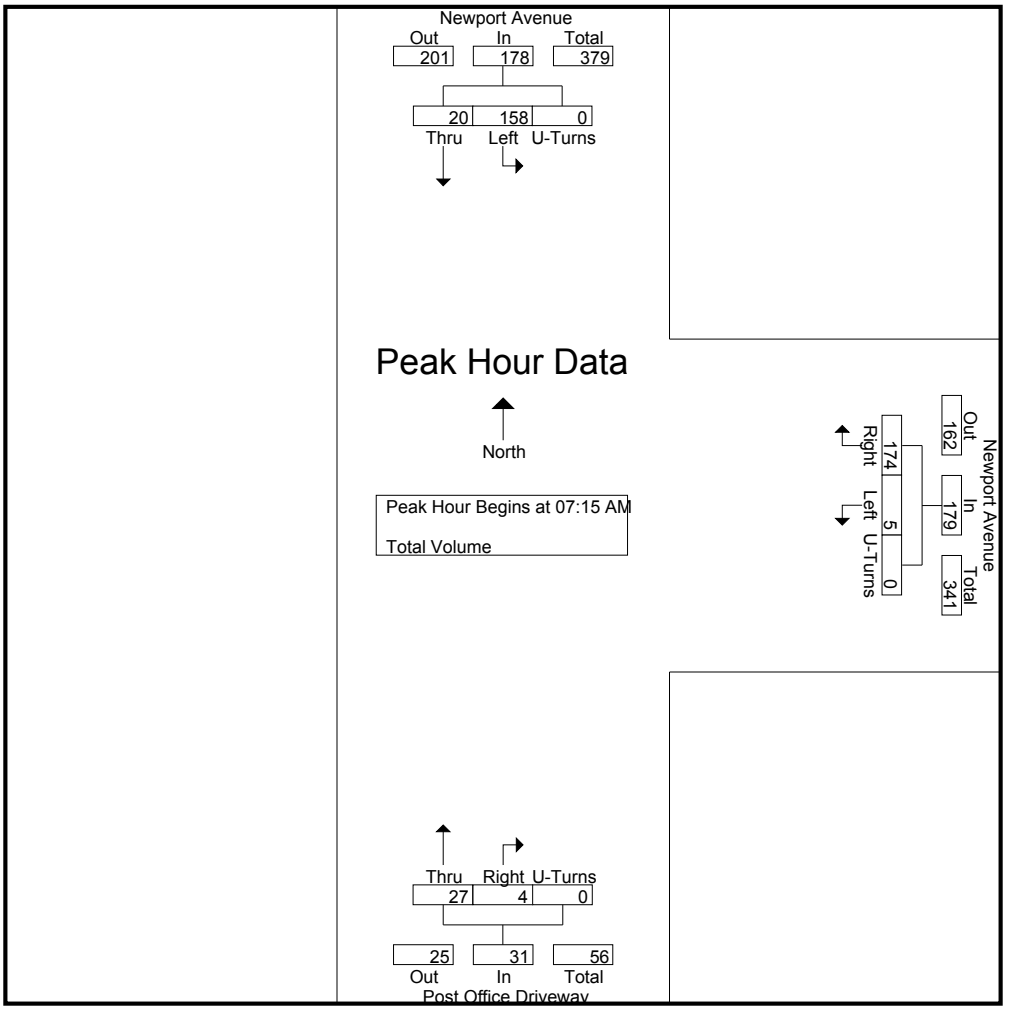

Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	07:15 AM				07:30 AM				08:00 AM			
+0 mins.	45	3	0	48	1	**58**	0	**59**	5	1	0	6
+15 mins.	**56**	**6**	0	**62**	1	57	0	58	7	**2**	0	9
+30 mins.	28	5	0	33	**2**	33	0	35	7	2	0	9
+45 mins.	29	6	0	35	1	27	0	28	**10**	2	0	**12**
Total Volume	158	20	0	178	5	175	0	180	29	7	0	36
% App. Total	88.8	11.2	0		2.8	97.2	0		80.6	19.4	0	
PHF	.705	.833	.000	.718	.625	.754	.000	.763	.725	.875	.000	.750

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Groups Printed- Total Volume

	Newport Avenue Southbound				Newport Avenue Westbound				Post Office Driveway Northbound				
Start Time	Left	Thru	U-Turns	App. Total	Left	Right	U-Turns	App. Total	Thru	Right	U-Turns	App. Total	Int. Total
04:00 PM	37	18	0	55	3	14	1	18	23	8	0	31	104
04:15 PM	28	25	1	54	3	20	0	23	17	6	0	23	100
04:30 PM	43	24	0	67	6	17	0	23	25	2	0	27	117
04:45 PM	40	17	0	57	1	29	0	30	22	5	0	27	114
Total	148	84	1	233	13	80	1	94	87	21	0	108	435
05:00 PM	46	12	1	59	3	18	0	21	20	4	0	24	104
05:15 PM	37	9	0	46	2	26	1	29	16	3	0	19	94
05:30 PM	41	11	1	53	1	36	0	37	10	3	0	13	103
05:45 PM	31	11	0	42	1	27	0	28	14	2	0	16	86
Total	155	43	2	200	7	107	1	115	60	12	0	72	387
Grand Total	303	127	3	433	20	187	2	209	147	33	0	180	822
Apprch %	70	29.3	0.7		9.6	89.5	1		81.7	18.3	0		
Total %	36.9	15.5	0.4	52.7	2.4	22.7	0.2	25.4	17.9	4	0	21.9	

	Newport Avenue Southbound				Newport Avenue Westbound				Post Office Driveway Northbound				
Start Time	Left	Thru	U-Turns	App. Total	Left	Right	U-Turns	App. Total	Thru	Right	U-Turns	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:00 PM													
04:00 PM	37	18	0	55	3	14	**1**	18	23	**8**	0	**31**	104
04:15 PM	28	**25**	**1**	54	3	20	0	23	17	6	0	23	100
04:30 PM	**43**	24	0	**67**	**6**	17	0	23	**25**	2	0	27	**117**
04:45 PM	40	17	0	57	1	**29**	0	**30**	22	5	0	27	114
Total Volume	148	84	1	233	13	80	1	94	87	21	0	108	435
% App. Total	63.5	36.1	0.4		13.8	85.1	1.1		80.6	19.4	0		
PHF	.860	.840	.250	.869	.542	.690	.250	.783	.870	.656	.000	.871	.929

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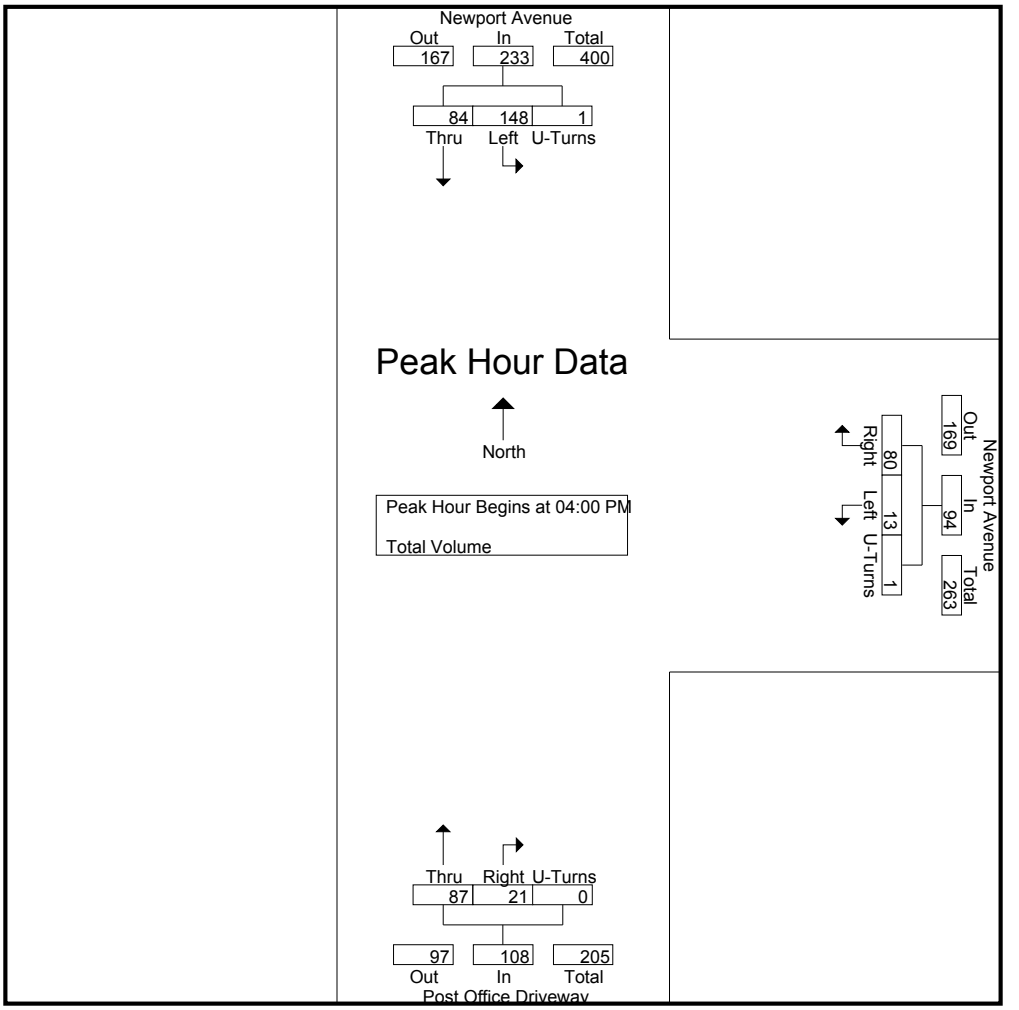

Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1
Peak Hour for Each Approach Begins at:

	04:15 PM				04:45 PM				04:00 PM			
+0 mins.	28	**25**	**1**	54	1	29	0	30	23	**8**	0	**31**
+15 mins.	43	24	0	**67**	**3**	18	0	21	17	6	0	23
+30 mins.	40	17	0	57	2	26	**1**	29	**25**	2	0	27
+45 mins.	**46**	12	1	59	1	**36**	0	**37**	22	5	0	27
Total Volume	157	78	2	237	7	109	1	117	87	21	0	108
% App. Total	66.2	32.9	0.8		6	93.2	0.9		80.6	19.4	0	
PHF	.853	.780	.500	.884	.583	.757	.250	.791	.870	.656	.000	.871

OREGON DEPARTMENT OF TRANSPORTATION TECHNICAL SERVICES

Access Management BULLETIN

SUBJECT	FINAL NUMBER	EFFECTIVE DATE	VALIDATION DATE	SUPERSEDES or RESCINDS
Weaving in the Vicinity of an Approach	AM 13-09(B)	05/15/2013	10/02/2014	
	WEB LINK(S) http://www.oregon.gov/ODOT/HWY/TECHSERV/Pages/technicalguidance.aspx			
TOPIC/PROGRAM Vehicle Weaving/Access Management	APPROVED SIGNATURE Original signed by: Larry McKinley, Access Management Program Manager			

PURPOSE

This Technical Services Bulletin provides guidance for understanding and applying OAR 734-051-4020 (3)(f) to existing connections and applications for new highway approaches. This guidance will help achieve greater statewide consistency in evaluating connections and approach applications for safety and operations concerns related to vehicle weaving

DEFINITIONS

“Approach” means a legally constructed public or private connection to the highway. A private approach must be recognized by the department as grandfathered or existing under a valid permit to operate.

“Connection” means an existing approach as defined in OAR 734-051-1070(9) or an unpermitted means of vehicular access to or from a state highway and an abutting private property, city street or county road. (OAR 734-051-0107)

“OAR” means Oregon Administrative Rule.

“ORS” means Oregon Revised Statutes.

“Peak Hour” means the highest one-hour volume observed on an urban roadway during a typical or average week, or the thirtieth (30th) highest hourly traffic volume on a rural roadway typically observed during a year.

“Weaving” refers to the movements that vehicles make when exiting an approach and then maneuvering across travel lanes to position the vehicle in the proper lane to make a turn at a downstream intersection or ramp.

GUIDANCE

This guidance is for use by the department’s Access Management staff and may be shared with members of the public. The guidance is for use as a screening level assessment of potential weaving concerns. No traffic analysis is required for this review.

Permit Specialists should coordinate with Access Management staff to confirm their evaluation is consistent with this guidance.

It is important to note that no weaving analysis is needed on two-lane highways when the following conditions apply: total two-way AADT is less than 5,000, approach ADT is less than or equal to 400, and crash rate is below 120 percent of the statewide crash rate.

Attachment A, *Weaving Distance for Approach Permitting*, provides specific details on data collection and general guidance in applying traffic engineering principles for use in determining potential weaving problems. There are two weave distance criteria, minimum and desirable. Adequacy of weave distance may be based on the minimum distance if speed and volume levels are below recommended thresholds. If thresholds are exceeded, adequacy is based on the desirable distance.

ODOT staff performing a more detailed review for the approach application should be familiar with the Analysis Procedures Manual (APM) section on Functional Area of an Intersection. This section includes procedures for identifying the factors impacting the approach location. The APM is available online at http://www.oregon.gov/ODOT/TD/TP/pages/apm.aspx.

BACKGROUND/REFERENCE

In earlier versions of OAR 734-051, safety factors for highway approaches were generally described as:

- Roadway Character
- Traffic Character
- Geometric Character
- Environmental Character
- Operational Character

The previous Division 051 did not quantify or set standards for these safety factors. This was problematic for customers who had no way of knowing how ODOT would make its determination. Senate Bill 264, which became law in June 2011, amended ORS 374 to establish six explicit criteria for safety and operations criteria that ODOT can consider in its permitting decisions. This bulletin covers one of those set forth in OAR 734-051-4020(3)(f):

> ***3. Safety and Operations Concerns.*** *The department has the burden of proving any safety or highway operations concerns relied upon in the department's decision to require mitigation when it approves an application with mitigation or to deny an application. The department may deny an application where the applicant is unable to provide adequate improvements to mitigate documented safety or highway operations concerns and is required pursuant to OAR 734-051-3070. Safety or highway operations concerns that may be considered by the department are limited to (a) through (f):*

(f) Insufficient distance for weave movements made by vehicles exiting the proposed approach across multiple lanes in the vicinity of:
(A) Signalized intersections; or
(B) Roads classified as collectors or arterials; or
(C) On-ramps or off-ramps.

EXPLANATION

The primary purpose of the safety and operations concerns listed in OAR 734-051-4020(3) is to ensure that key safety and operational elements of a proposed approach are evaluated during the decision to approve, approve with mitigation, or deny an approach application. The evaluation of these concerns typically determines the location and mitigation requirements associated with approval of an approach application and may identify a significant safety problem that the applicant cannot or is unwilling to mitigate, resulting in ODOT's denial of the approach application.

ODOT staff is expected to work with the applicant to the extent possible to solve problems identified during the evaluation of safety factors, recognizing that the problems and solutions must be viewed in the context of practical design and balanced against other important considerations, including local community or government aspirations and economic development.

As indicated in OAR 734-051-4020(3), the department is responsible for proving that unique safety and highway operations concerns exist at or near the location of a proposed approach. This can be accomplished by observation, evaluation and review of existing records for the location of concern. Where potential issues are identified, data and analysis may also be needed. If a Traffic Impact Analysis (TIA) is required pursuant with OAR 734-051-3030(4), the TIA shall be scoped to include a safety and operations analysis per OAR 734-051-3030(5)(d) and the analysis must be sufficient to allow the department to assess safety and operational impacts.

Weaving, for the purposes of this Bulletin, occurs when vehicles exiting an approach must maneuver across travel lanes in order to turn from or exit the highway at a downstream intersection or ramp. Approaches that are located where sufficient distance for weaving maneuvers is not available can contribute to high speed differentials, violation of traffic laws, abrupt stops, and diagonal maneuvers across lanes, leading to increased crash potential and degraded intersection operations.

Assuming measurements indicate the potential for concerns with weaving, the Permit Specialist or individual taking measurements should involve a staff member experienced in engineering analysis to determine if the concern is significant. This evaluation would be site specific but could include traffic counts and other information necessary to confirm the issues associated with the location.

It is important to distinguish between how 734-051-4020(3) factors and design standards are used in the permitting process. Generally, the factors identified in

4020(3) are used in the process to identify where a problem exists or is expected to develop in association with an approach or where the approach could possibly exacerbate conditions.

Design standards are applied after approval of the approach application and during the development of the construction plans and specifications. Design standards are contained in various manuals and technical publications, such as the Highway Design Manual. Design standards are used to prepare construction plans and details (i.e., approach width, length of turn lanes, surfacing, etc.). It should be recognized that there is a correlation between the factors and design standards. They are not totally distinct from one another. For example, sight distance must be considered during the design of an approach or if the approach can only be approved as a right-in/right-out, the design of restricting the approach to a right-in/right-out must be evaluated. In some cases, it may be necessary to do some level of design prior to approval of an approach so as to understand how the approach will impact highway features or operations, site circulation or other important considerations. Generally speaking, 734-051-4020(3) factors are applied prior to approval of an application to determine if an approach can be approved at a specific location.

RESPONSIBILITIES

Department staff members in the following positions are responsible for carrying out the guidance in this Bulletin as it relates to their assigned duties and authority:

- Region Managers;
- District Managers;
- Region Access Management Engineers;
- Development Review Coordinators;
- Access Management Coordinators; and
- Permit Specialists.

ACTION REQUIRED

Implement this Bulletin upon the effective date.

SPECIAL INSTRUCTIONS

If problems develop while implementing this guidance or further clarification is needed, contact the Access Management Program Manager.

CONTACT INFORMATION

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Attachment A

Weaving Distance For Approach Permitting

Introduction

Weaving distance is one of the safety and operations concerns identified in OAR 734-051-4020(3). This guidance provides information on why weaving distance is important and instruction on how to determine if an approach meets the recommended distance for weaving. It also discusses what to do when an approach does not meet the criteria for weaving. Not meeting the weaving criteria does not necessarily mean that a safety or operations concern exists.

This guidance provides a quick initial assessment of whether or not weaving is a potential safety/operational concern. The examples provided do not necessarily address all potential weaving situations. Permit Specialists should coordinate with Access Management staff to confirm their assessment is consistent with this guidance.

Guidance

This guidance addresses the situation where a connection exists or is proposed to be located upstream of a nearby intersection or ramp. *The guidance only applies to approaches in the vicinity of intersections that are signalized, or intersections with arterials, collectors and ramps.* Weaving distance refers to the distance needed for a vehicle exiting an approach to maneuver across travel lanes and into position to make a turn at a downstream intersection or ramp. It is preferable that the vehicle not obstruct an adjacent lane while waiting to make the turn.

Ideally, the available distance for weaving should allow a vehicle to make weaving movements as prescribed by the Oregon Driver Manual. The Manual prescribes that the general rule for turning from an approach into the flow of traffic is to turn into the closest lane in the direction the driver wants to go. This means that upon exiting an approach, vehicles should turn into the closest lane in the desired direction of travel, followed by signaling and changing lanes until positioned in the proper lane to make the desired turn at the downstream intersection. The Manual also advises drivers to signal for a turn at least 100 feet before turning or making a lane change when the vehicle is moving in traffic. When the distance to accomplish these weaving maneuvers is not adequate, vehicles may make abrupt lane changes, not signal or signal improperly, cross multiple lanes in one movement, slow excessively, stop or partially block a through lane. These operational problems reduce the capacity of the mainline and increase the potential for crashes.

Weaving distance is an element of the functional area of an intersection[1]. The upstream functional area of an intersection is comprised of the distance traveled by a driver during the perception-reaction time, plus the distance needed to change lanes and the queue length. Queue length in this guidance means the 95th percentile queue[2].

Collecting data can be very time consuming; therefore, once an application is received, the need for a weaving analysis should be discussed with the Region Access Management Engineer (RAME) or other qualified department staff. A preliminary review of the site should be done by viewing a current aerial of the area. The following data are typically needed:
‘

- Posted speed
- Design vehicle
- Distance from centerline of connection to stop bar at downstream intersection or start of ramp taper
- Site Average Daily Traffic (ADT)
- Highway Annual Average Daily Traffic (AADT)
- Number of lane changes vehicle must make to get in position for downstream turn
- Urban or rural area
- 95 percentile queue length
- Identification of nearby collectors or arterials

Arterials or collectors are identified in Transportation System Plans (TSPs). County Geographic Information System (GIS) map sites and other internet mapping sites usually have aerials and measuring tools that are adequate to perform a preliminary review. Other resources include the ODOT Digital Video Log and Highway Inventory Summary. If weaving needs to be evaluated, a field visit and measurements to all apparent points of interest may be required to ensure accurate results.

The weaving criterion is applicable where vehicles exiting the connection must cross at least one through-travel lane in order to turn at a downstream intersection or ramp. The exception is that *no weaving analysis is needed on two-lane highways with less than 5,000 AADT (two-way AADT total), approach ADT less than or equal to 400, and crash rate below 120 percent of the statewide crash rate.*

There are two weaving distance criteria used for evaluation: 1) minimum weaving distance and 2) desirable weaving distance. The minimum weaving distances in Table 2 apply when posted speed does not exceed 35 mph and volume levels are below the thresholds in Table 1. The desirable weaving distances in Tables 3 and 4 apply when the posted speed is above 35 mph or the volume thresholds in Table 2 are exceeded. The two criteria are explained below.

***Minimum* Weaving Distance**

Thresholds are used to determine if the minimum weaving distance criterion may be used. The minimum weaving distance applies where both the posted speed is equal to or less than 35 mph, and both the site ADT and highway AADT are below the thresholds shown in **Table 1**. ‘

Table 1: Volume Thresholds for Minimum Weaving Distance

Posted Speed <= 35 mph		
Site ADT	**Maximum Highway AADT***	
	Right Turn From Approach	**Left Turn From Approach**
< = 400	24,000	10,000
401-1,000	22,000	9,000
1,001-2,000	19,000	7,000
2,001-3,000	17,000	6,000
3,001-4,000	15,000	5,000
4,001-5,000	14,000	3,000
> 5,000	**	**

* Highway AADT is the total two-way AADT.

**Desirable weaving distance applies.

For a couplet (one-way streets, highway AADT is the two-way AADT (includes the opposite direction).

For left turns from a couplet, use the right turn threshold.

The posted speed threshold of less than or equal to 35 mph was selected to minimize the risk of severe crashes. There is a direct link between speed and crash severity. As speeds increase, crash severity increases.

The minimum weaving distance volume thresholds were developed based on the availability of gaps and amount of delay for the vehicle exiting the connection that desires to turn directly into the far lane. The values assume a three-leg connection. If there is a connection aligned directly opposite the proposed approach, the desirable weaving distance should be used. The assumption is that if the Level of Service (LOS) is D or better and the volume to capacity (v/c) ratio is 0.70 or lower, sufficient gaps should be available to allow the driver to turn directly into the far lane without conflict with other vehicles. If the LOS is worse or the v/c ratio is higher, the driver will not be able to make this movement easily and therefore there needs to be greater weaving distance (desirable weaving distance) in order to merge with traffic one lane at a time.

If the threshold conditions are present, then it is necessary to accommodate the vehicle radius and length so that the vehicle can enter the desired lane to make the turn without partially blocking the adjacent through lane. Although ORS 811.355 requires a right turning driver to enter the right-hand lane closest to the curb or edge of the roadway, and ORS 811.340 requires a left turning driver to enter the left-hand

lane, there should generally not be a safety problem below the identified speed and volume thresholds.

If either the posted speed or volume thresholds are exceeded, the minimum distance is not applicable. Instead, the desirable weaving distance is used (see Desirable Weaving Distance section).

If the posted speed and the volume thresholds in Table 1 are not exceeded, the minimum weaving distances in Table 2 are applicable. This distance is measured from the center of the proposed approach to the back of queue or start of ramp taper (see Figure 1 below). The minimum weaving distance is based on accommodating the design vehicle's outside turning radius and length. This distance will enable the design vehicle to maneuver into the back of a queue and come to a stop without obstructing an adjacent lane. The queue length is determined from Technical Services Bulletin AM 13-08(B) on queuing.

Table 2 provides the recommended minimum distances based on typical design vehicle types. For other vehicle types or combinations such as other trucks, buses or RVs, the current edition AASHTO Green Book[1] is used to establish appropriate vehicle turn radius and length. For the purpose of this guidance, the design vehicle is the largest vehicle classification anticipated to exceed 5 percent of the total volume on the approach during the peak hour. The design vehicle does not include large vehicles that do not normally make their trips during the peak hour, such as at grocery stores, shopping centers or gas stations. Some examples of land uses with large design vehicles include manufacturing facilities, distribution centers and recreational sites (RVs, vehicles towing boats, etc.).

Table 2. Minimum Weaving Distance

Design Vehicle	Passenger Car	Single Unit Truck	WB-67 Truck
Distance from Proposed Approach to Back of Queue*	45 feet	75 feet	120 feet

* Where the queue in question is a left-turn lane, the distance is measured to either the back of queue or to the beginning of the 8-inch white stripe, whichever is greater

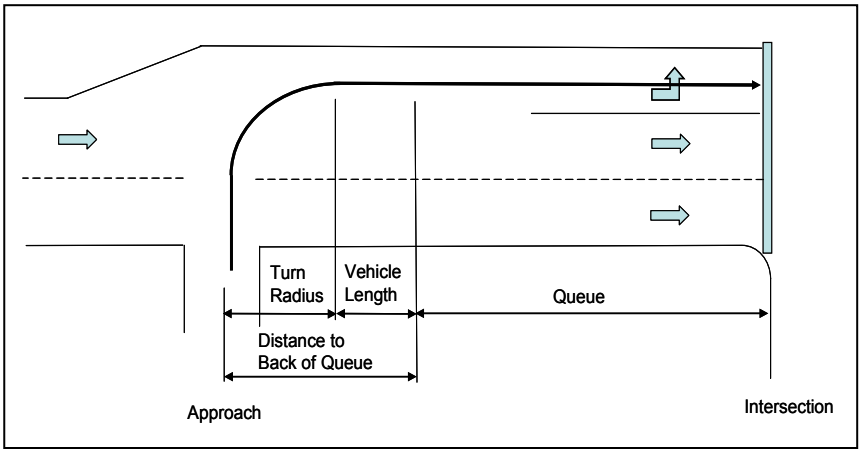
If the minimum weaving distance is applicable but the actual distance is less than the minimum distance, further evaluation is needed (see **Further Evaluation** section below).

[a]A Policy on Geometric Design of Highways and Streets, American Association of State Highway and Transportation Officials (AASHTO)

Example 1 – measuring <u>minimum</u> weaving distance turning right from an approach to reach a downstream left-turn lane.

Evaluation of weaving distance is being made for a passenger car turning right from a proposed approach and crossing two through lanes in order to turn left at a downstream signalized intersection. See Figure 1 below. The highway AADT is 20,000, the site ADT is 350, and the posted speed is 35 mph. From the queue length evaluation, the distance from the proposed approach centerline to the back of queue is 75 feet.

Figure 1: Minimum Weaving Distance —
Right Turn from Proposed Approach to Downstream Left-Turn Lane



Since the posted speed is 35 mph, the speed criterion is met for minimum weaving distance. Using Table 1, the maximum highway AADT is found to be 24,000 for a right turn from an approach with less than 400 ADT. Since the actual AADT is 20,000, which is less than 24,000, the volume threshold is met. Therefore, the minimum weaving distance can be applied in this case.

Using Table 2, the minimum weaving distance from the center of the proposed approach to the back of queue is 45 feet. Since the actual distance of 75 feet exceeds 45 feet, the minimum distance is available so the weaving distance is sufficient. If the actual distance was 30 feet, then further evaluation would be needed.

<u>Desirable</u> Weaving Distance

Where the minimum volume thresholds in Table 2 are exceeded or the posted speed is above 35 mph, the desirable weaving distance applies. The desirable weaving distance is measured from the center of the proposed approach to the back of queue or start of ramp taper if the vehicle is destined to a ramp. The desirable weaving distance is determined from the number of lane changes (including turn lanes) and

the design vehicle type. The desirable weaving distance is based on the following driving tasks:

1. Turning Movement. This is the distance needed to complete a turn and position the vehicle in the closest lane in the direction of travel, as described previously for minimum weaving distance. One second of perception reaction time is also included in this distance prior to beginning the first lane change, with an assumed speed of 10 mph.

2. Lane Change**.** Lane changes may be required for a driver to maneuver into the proper lane to make the downstream turn. The lane change distance is the length required for a driver to make one or more lane changes. Unless traffic control signs or pavement markings indicate otherwise, ORS 811.355 and 811.340 require a right turning driver to enter the right-hand lane closest to the curb or edge of the roadway, and a left turning driver to enter the closest left-hand lane. The lane change distance is based on the speed of the vehicle changing lanes, which is assumed to be 15 mph for vehicles exiting an approach and desiring to turn or exit the highway at a location closely spaced downstream. Three seconds is assumed for a lane change in urban areas, four seconds in rural areas. For left turns exiting a proposed approach, the assumption is for a single-stage turn into the nearest through lane. A two-stage turn that first enters into a two-way left-turn lane, then into the nearest lane in the direction of travel would require an additional lane change.

The desirable weaving distance to the back of queue or start of ramp taper is the sum of the distances described above, with the lane change distance repeated for each required lane change.

The queue length is determined from the Technical Services Bulletin AM 13-08(B) on queuing. The desirable weaving distances are provided in Table 3 for an urban area and Table 4 for a rural area.

Table 3. Desirable Weaving Distance — Urban

Number of Lane Changes	Weaving Distance from Proposed Approach to Back of Queue or Start of Ramp Taper		
	Passenger Car	Single Unit Truck	WB-67 Truck
1	130 feet	160 feet	205 feet
2	195 feet	225 feet	270 feet
3	260 feet	290 feet	335 feet

Table 4. Desirable Weaving Distance — Rural

Number of Lane Changes	Weaving Distance from Proposed Approach to Back of Queue or Start of Ramp Taper		
	Passenger Car	Single Unit Truck	WB-67 Truck
1	150 feet	180 feet	225 feet
2	240 feet	270 feet	315 feet
3	325 feet	355 feet	400 feet

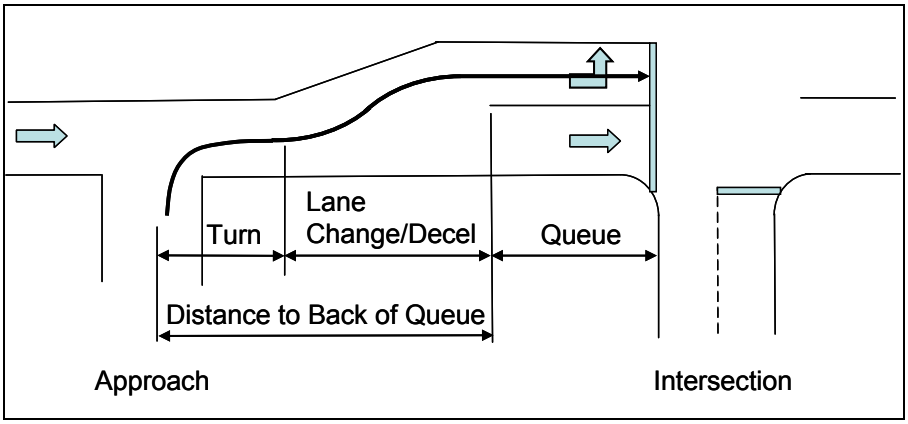
For other vehicle types or combinations such as other trucks, buses or RVs, further evaluation is needed.

Tables 3 and 4 require identifying whether the site is urban or rural, the design vehicle, and the number of lane changes the vehicle needs to make for a given weaving path. The following examples illustrate the application of this method.

Example 2 – Measuring desirable weaving distance turning right from an approach to reach a downstream left turn lane.

Evaluation of weaving distance is being made for a passenger car turning right and entering a left-turn lane at a downstream intersection. See Figure 2 below. The area is urban and the posted speed is 45 mph. The minimum weaving distance is not applicable because the posted speed exceeds 35 mph. The distance from the proposed approach centerline to the back of queue is measured (or estimated) at 100 feet.

Figure 2. Desirable Weaving Distance —
Right Turn from Proposed Approach to Downstream Left Turn Lane



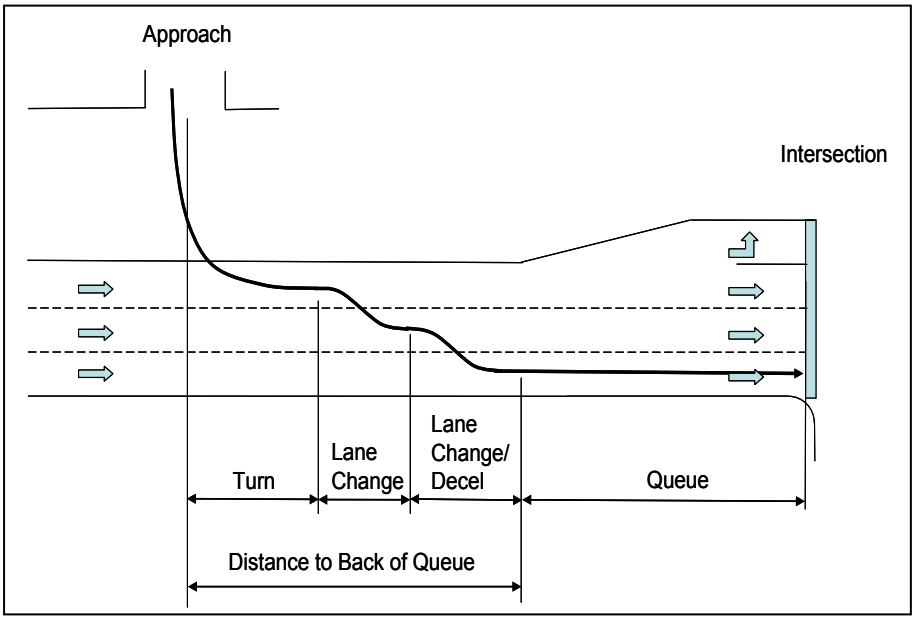
As shown in Figure 2, the weaving path requires one lane change. Applying Table 3 for an urban area with one lane change for a passenger car, the desirable weaving distance is 130 feet, measured from the proposed approach centerline to the back of

queue in the left turn lane. Since the actual distance of 100 is less than 130 feet, the available weaving distance is not sufficient, and further evaluation is needed. If the actual distance was equal to or greater than 130 feet, the available weaving distance would be sufficient.

Example 3 – Measuring desirable weaving distance turning left from an approach to reach a downstream right turn curb lane.

Evaluation of weaving distance is being made for a single unit (SU) truck turning left from a proposed approach, then maneuvering into the right turn lane at a downstream intersection. See Figure 3 below. The posted speed is 35 mph in an urban area. The site ADT is 1,000 and the highway AADT is 30,000. Since the posted speed does not exceed 35 mph, Table 1 can be used if the volume thresholds are not exceeded. However, Table 1 shows that the maximum highway AADT for to apply the minimum weaving distance is 9,000. Since the actual AADT is 30,000, the minimum weaving distance is not applicable. Therefore the desirable weaving distance is used.

Figure 3. Desirable Weaving Distance —
Left Turn from Proposed Approach to Downstream Right Turn Curb Lane

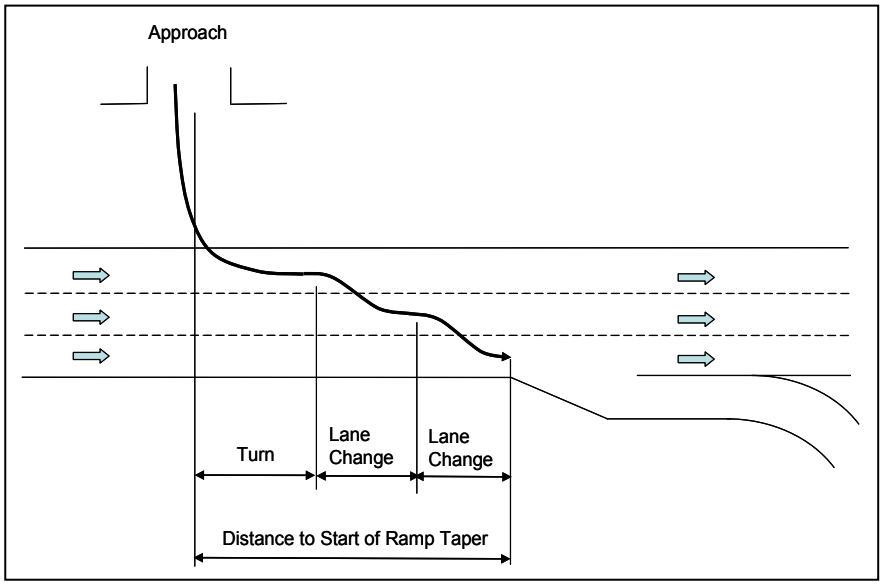


As shown in Figure 3, the weaving path includes two lane changes. Using Table 3 for an urban area with two lane changes and a SU truck, the desirable weaving distance is 225 feet, measured from the proposed approach centerline to the back of queue in the through lane.

Example 4. Measuring desirable weaving distance turning left from an approach to reach a downstream ramp.

Evaluation of weaving distance is being made for a single a WB-67 truck turning left from a proposed approach, then maneuvering to exit the highway at a ramp downstream. See Figure 4 below. The highway AADT exceeds the minimum weaving distance threshold. The area is rural.

Figure 4. Desirable Weaving Distance —
Left Turn from Proposed Approach to Downstream Ramp



Two lane changes are required. Using Table 4 for a rural area, making two lane changes in a WB-67 truck, the desirable weaving distance is 315 feet, measured from the proposed approach centerline to the start of the ramp taper.

Further Evaluation

Further evaluation is necessary where the actual weaving distance is less than the applicable minimum or desirable weaving distance. Assumptions differ from those listed above, such as:

- Four-leg connections (the minimum weaving distance thresholds assume there is no connection directly across on the other side of the highway)
- Design vehicles other than passenger car, SU truck or WB-67 truck
- Six-lane highways (the minimum weaving distance thresholds are based on two- and four-lane highways)
- A ramp enters the highway upstream of a proposed approach

The thresholds and weaving distances in this document are based on planning level assumptions. If the distances cannot be met, it may be necessary to collect site-specific

data and perform a more accurate operational analysis following procedures in the Analysis Procedures Manual (Chapters 3, 5, 7 and Addendum A).

Weaving distances less than those recommended in this Bulletin may be acceptable upon further evaluation by the RAME or other qualified staff. OAR 734-051 does not require processing a deviation to approve weaving distances less than those specified in this Bulletin.

Various factors should be considered when further evaluation is required by the RAME or other qualified staff, including:

- Signal queues that build and dissipate each cycle, allowing for vehicles to maneuver when queues are discharged. It may be appropriate to use less than the 95th percentile queue.
- Sufficient gaps are created by traffic signals, such as platooning of traffic on one-way streets.
- When an existing connection has no safety or operations concerns set forth in OAR 734-051-4020(3) and none are anticipated with the proposed increase in site ADT. For example, an existing connection with an absence of crash history may be acceptable where volumes are not anticipated to increase substantially and the location is not in a top 10 percent Safety Priority Index System (SPIS) segment
- If the evaluation is for an existing connection, observation may indicate vehicles are able to turn directly into the far lane without problems.
- If few vehicles are expected to weave, there is less risk and the use of minimum weaving distance may be acceptable.
- Alternate routes are available that reduce the frequency and need for weaving, for example within a downtown grid.
- The weaving distances in this Bulletin are based on the assumption that all of the site ADT uses the proposed approach. Multiple site connections or alternative access may reduce the demand for the weaving movement for a given site ADT.
- The department and the applicant agree on changes or a proposal that adequately address the safety or operation concerns associated with the weaving distance.
- Restriction of turning movements (signs, pork-chops, striping, medians). Such restrictions need to be analyzed to determine the effect caused by the redistribution of the trips.
- A lower posted speed may be warranted, lowering the potential crash severity.

References

1. *Functional Intersection Area - Discussion Paper No. 7,* January, 1996, Transportation Research Institute, Oregon State University: http://www.oregon.gov/ODOT/HWY/ACCESSMGT/docs/FnctlIntArea.pdf
2. ODOT Highway Design Manual (HDM – 2003 English Manual) Chapter 9: http://www.oregon.gov/ODOT/HWY/ENGSERVICES/Pages/hwy_manuals.aspx
3. ODOT Analysis Procedures Manual (APM) Addendum A, Functional Area of an Intersection: http://www.oregon.gov/ODOT/TD/TP/APM/FA.pdf
4. ODOT Highway Design Manual
5. Oregon Motor Vehicle Code Chapter 811: https://www.oregonlegislature.gov/bills_laws/lawsstatutes/2013ors811.html
6. Technical Services Bulletin AM 13-08(B): Queuing Evaluation for Approach Permitting

HCS+: Unsignalized Intersections Release 5.6

TWO-WAY STOP CONTROL SUMMARY

Analyst: Joel F.
Agency/Co.: Hernandez, Kroone & Associates
Date Performed: 2/9/2016
Analysis Time Period: PM Peak Hour
Intersection: Driveway 1/Barton Road
Jurisdiction: City of Loma Linda
Units: U. S. Customary
Analysis Year: 2035 WP
Project ID: Loma Linda Medical Office
East/West Street: Barton Road
North/South Street: Driveway 1
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street: Approach	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		2158	16			
Peak-Hour Factor, PHF		0.95	0.95			
Hourly Flow Rate, HFR		2271	16			
Percent Heavy Vehicles		--	--		--	--
Median Type/Storage	Raised curb		/ 0			
RT Channelized?			No			
Lanes		2	1			
Configuration		T	R			
Upstream Signal?		No			No	

Minor Street: Approach	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume			42			
Peak Hour Factor, PHF			0.95			
Hourly Flow Rate, HFR			44			
Percent Heavy Vehicles			0			
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage			/			/
Lanes			1			
Configuration			R			

Delay, Queue Length, and Level of Service

Approach	EB	WB	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Config					R			
v (vph)					44			
C(m) (vph)					248			
v/c					0.18			
95% queue length					0.63			
Control Delay					22.6			
LOS					C			
Approach Delay				22.6				
Approach LOS				C				

HCS+: Unsignalized Intersections Release 5.6

Phone: Fax:
E-Mail:

TWO-WAY STOP CONTROL(TWSC) ANALYSIS

Analyst: Joel F.
Agency/Co.: Hernandez, Kroone & Associates
Date Performed: 2/9/2016
Analysis Time Period: PM Peak Hour
Intersection: Driveway 1/Barton Road
Jurisdiction: City of Loma Linda
Units: U. S. Customary
Analysis Year: 2035 WP
Project ID: Loma Linda Medical Office
East/West Street: Barton Road
North/South Street: Driveway 1
Intersection Orientation: EW Study period (hrs): 0.25

Vehicle Volumes and Adjustments

Major Street Movements	1	2	3	4	5	6
	L	T	R	L	T	R
Volume		2158	16			
Peak-Hour Factor, PHF		0.95	0.95			
Peak-15 Minute Volume		568	4			
Hourly Flow Rate, HFR		2271	16			
Percent Heavy Vehicles		--	--		--	--
Median Type/Storage	Raised curb			/ 0		
RT Channelized?			No			
Lanes		2	1			
Configuration		T	R			
Upstream Signal?		No			No	

Minor Street Movements	7	8	9	10	11	12
	L	T	R	L	T	R
Volume			42			
Peak Hour Factor, PHF			0.95			
Peak-15 Minute Volume			11			
Hourly Flow Rate, HFR			44			
Percent Heavy Vehicles			0			
Percent Grade (%)		0			0	
Flared Approach: Exists?/Storage				/		/
RT Channelized?			No			
Lanes			1			
Configuration			R			

Pedestrian Volumes and Adjustments

Movements	13	14	15	16
Flow (ped/hr)	0	0	0	0

Lane Width (ft)	12.0	12.0	12.0	12.0
Walking Speed (ft/sec)	4.0	4.0	4.0	4.0
Percent Blockage	0	0	0	0

Upstream Signal Data

	Prog. Flow vph	Sat Flow vph	Arrival Type	Green Time sec	Cycle Length sec	Prog. Speed mph	Distance to Signal feet
S2 Left-Turn							
Through							
S5 Left-Turn							
Through							

Worksheet 3-Data for Computing Effect of Delay to Major Street Vehicles

	Movement 2	Movement 5
Shared ln volume, major th vehicles:		
Shared ln volume, major rt vehicles:		
Sat flow rate, major th vehicles:		
Sat flow rate, major rt vehicles:		
Number of major street through lanes:		

Worksheet 4-Critical Gap and Follow-up Time Calculation

Critical Gap Calculation

Movement	1 L	4 L	7 L	8 T	9 R	10 L	11 T	12 R
t(c,base)					6.2			
t(c,hv)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
P(hv)					0			
t(c,g)			0.20	0.20	0.10	0.20	0.20	0.10
Percent Grade			0.00	0.00	0.00	0.00	0.00	0.00
t(3,lt)					0.00			
t(c,T): 1-stage	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2-stage	0.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
t(c) 1-stage					6.2			
2-stage					6.2			

Follow-Up Time Calculations

Movement	1 L	4 L	7 L	8 T	9 R	10 L	11 T	12 R
t(f,base)					3.30			
t(f,HV)	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
P(HV)					0			
t(f)					3.3			

Worksheet 5-Effect of Upstream Signals

Computation 1-Queue Clearance Time at Upstream Signal

	Movement 2		Movement 5	
	V(t)	V(l,prot)	V(t)	V(l,prot)
V prog				

Total Saturation Flow Rate, s (vph)								
Arrival Type								
Effective Green, g (sec)								
Cycle Length, C (sec)								
Rp (from Exhibit 16-11)								
Proportion vehicles arriving on green P								
g(q1)								
g(q2)								
g(q)								

Computation 2-Proportion of TWSC Intersection Time blocked	Movement 2		Movement 5	
	V(t)	V(l,prot)	V(t)	V(l,prot)
alpha				
beta				
Travel time, t(a) (sec)				
Smoothing Factor, F				
Proportion of conflicting flow, f				
Max platooned flow, V(c,max)				
Min platooned flow, V(c,min)				
Duration of blocked period, t(p)				
Proportion time blocked, p	0.000		0.000	

Computation 3-Platoon Event Periods	Result
p(2)	0.000
p(5)	0.000
p(dom)	
p(subo)	
Constrained or unconstrained?	

Proportion unblocked for minor movements, p(x)	(1) Single-stage Process	(2) Two-Stage Process Stage I	(3) Stage II
p(1)			
p(4)			
p(7)			
p(8)			
p(9)			
p(10)			
p(11)			
p(12)			

Computation 4 and 5
Single-Stage Process

Movement	1 L	4 L	7 L	8 T	9 R	10 L	11 T	12 R
V c,x					1136			
s								
Px								
V c,u,x								
C r,x								
C plat,x								

Two-Stage Process

7	8	10	11

	Stage1	Stage2	Stage1	Stage2	Stage1	Stage2	Stage1	Stage2
V(c,x)								
s								
P(x)								
V(c,u,x)								
C(r,x)								
C(plat,x)								

Worksheet 6-Impedance and Capacity Equations

Step 1: RT from Minor St.	9	12
Conflicting Flows	1136	
Potential Capacity	248	
Pedestrian Impedance Factor	1.00	1.00
Movement Capacity	248	
Probability of Queue free St.	0.82	1.00
Step 2: LT from Major St.	4	1
Conflicting Flows		
Potential Capacity		
Pedestrian Impedance Factor	1.00	1.00
Movement Capacity		
Probability of Queue free St.	1.00	1.00
Maj L-Shared Prob Q free St.		
Step 3: TH from Minor St.	8	11
Conflicting Flows		
Potential Capacity		
Pedestrian Impedance Factor	1.00	1.00
Cap. Adj. factor due to Impeding mvmnt	1.00	1.00
Movement Capacity		
Probability of Queue free St.	1.00	1.00
Step 4: LT from Minor St.	7	10
Conflicting Flows		
Potential Capacity		
Pedestrian Impedance Factor	1.00	1.00
Maj. L, Min T Impedance factor		1.00
Maj. L, Min T Adj. Imp Factor.		1.00
Cap. Adj. factor due to Impeding mvmnt	1.00	0.82
Movement Capacity		

Worksheet 7-Computation of the Effect of Two-stage Gap Acceptance

Step 3: TH from Minor St.	8	11
Part 1 - First Stage		
Conflicting Flows		
Potential Capacity	77	900
Pedestrian Impedance Factor	1.00	1.00
Cap. Adj. factor due to Impeding mvmnt	1.00	1.00
Movement Capacity	77	900
Probability of Queue free St.	1.00	1.00

Part 2 - Second Stage		
Conflicting Flows		
Potential Capacity	900	75
Pedestrian Impedance Factor	1.00	1.00
Cap. Adj. factor due to Impeding mvmnt	1.00	1.00
Movement Capacity	900	75
Part 3 - Single Stage		
Conflicting Flows		
Potential Capacity		
Pedestrian Impedance Factor	1.00	1.00
Cap. Adj. factor due to Impeding mvmnt	1.00	1.00
Movement Capacity		
Result for 2 stage process:		
a	1.00	1.00
y		
C t		
Probability of Queue free St.	1.00	1.00
Step 4: LT from Minor St.	7	10
Part 1 - First Stage		
Conflicting Flows		
Potential Capacity	85	1029
Pedestrian Impedance Factor	1.00	1.00
Cap. Adj. factor due to Impeding mvmnt	1.00	1.00
Movement Capacity	85	1029
Part 2 - Second Stage		
Conflicting Flows		
Potential Capacity	1029	309
Pedestrian Impedance Factor	1.00	1.00
Cap. Adj. factor due to Impeding mvmnt	1.00	0.82
Movement Capacity	1029	254
Part 3 - Single Stage		
Conflicting Flows		
Potential Capacity		
Pedestrian Impedance Factor	1.00	1.00
Maj. L, Min T Impedance factor		1.00
Maj. L, Min T Adj. Imp Factor.		1.00
Cap. Adj. factor due to Impeding mvmnt	1.00	0.82
Movement Capacity		
Results for Two-stage process:		
a	1.00	1.00
y		
C t		

Worksheet 8-Shared Lane Calculations

Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (vph)			44			
Movement Capacity (vph)			248			
Shared Lane Capacity (vph)						

Worksheet 9-Computation of Effect of Flared Minor Street Approaches

Movement	7	8	9	10	11	12
	L	T	R	L	T	R
C sep			248			
Volume			44			
Delay						
Q sep						
Q sep +1						
round (Qsep +1)						
n max						
C sh						
SUM C sep						
n						
C act						

Worksheet 10-Delay, Queue Length, and Level of Service

Movement	1	4	7	8	9	10	11	12
Lane Config					R			
v (vph)					44			
C(m) (vph)					248			
v/c					0.18			
95% queue length					0.63			
Control Delay					22.6			
LOS					C			
Approach Delay				22.6				
Approach LOS				C				

Worksheet 11-Shared Major LT Impedance and Delay

	Movement 2	Movement 5
p(oj)	1.00	1.00
v(il), Volume for stream 2 or 5		
v(i2), Volume for stream 3 or 6		
s(il), Saturation flow rate for stream 2 or 5		
s(i2), Saturation flow rate for stream 3 or 6		
P*(oj)		
d(M,LT), Delay for stream 1 or 4		
N, Number of major street through lanes		
d(rank,1) Delay for stream 2 or 5		

Summary of All Intervals

Run Number	1	2	3	4	5	Avg
Start Time	3:57	3:57	3:57	3:57	3:57	3:57
End Time	4:15	4:15	4:15	4:15	4:15	4:15
Total Time (min)	18	18	18	18	18	18
Time Recorded (min)	15	15	15	15	15	15
# of Intervals	2	2	2	2	2	2
# of Recorded Intvls	1	1	1	1	1	1
Vehs Entered	986	926	940	892	935	936
Vehs Exited	918	910	925	906	911	914
Starting Vehs	62	78	65	75	57	67
Ending Vehs	130	94	80	61	81	89
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	1	0	0	0	0
Travel Distance (mi)	508	507	512	497	509	507
Travel Time (hr)	22.9	21.3	18.5	17.8	18.7	19.9
Total Delay (hr)	10.6	9.1	6.3	6.0	6.5	7.7
Total Stops	1006	858	555	514	546	697
Fuel Used (gal)	195.1	190.0	182.4	177.1	183.1	185.6

Interval #0 Information Seeding

Start Time	3:57
End Time	4:00
Total Time (min)	3
Volumes adjusted by PHF.	
No data recorded this interval.	

Interval #1 Information Recording

Start Time	4:00
End Time	4:15
Total Time (min)	15
Volumes adjusted by PHF.	

Run Number	1	2	3	4	5	Avg
Vehs Entered	986	926	940	892	935	936
Vehs Exited	918	910	925	906	911	914
Starting Vehs	62	78	65	75	57	67
Ending Vehs	130	94	80	61	81	89
Denied Entry Before	0	0	0	0	0	0
Denied Entry After	0	1	0	0	0	0
Travel Distance (mi)	508	507	512	497	509	507
Travel Time (hr)	22.9	21.3	18.5	17.8	18.7	19.9
Total Delay (hr)	10.6	9.1	6.3	6.0	6.5	7.7
Total Stops	1006	858	555	514	546	697
Fuel Used (gal)	195.1	190.0	182.4	177.1	183.1	185.6

1: Barton Road & Driveway 1 Performance by movement

Movement	EBT	WBT	All
Total Delay (hr)	2.7	0.1	2.9
Delay / Veh (s)	17.4	1.5	11.8
Total Stops	223	0	223
Travel Dist (mi)	133.8	13.1	146.9
Travel Time (hr)	5.9	0.5	6.4
Avg Speed (mph)	23	27	24
Fuel Used (gal)	33.9	8.8	42.7
HC Emissions (g)	2	1	2
CO Emissions (g)	969	510	1479
NOx Emissions (g)	7	4	11
Vehicles Entered	573	303	876
Vehicles Exited	557	302	859
Hourly Exit Rate	2228	1208	3436
Input Volume	2283	1213	3496
% of Volume	98	100	98
Denied Entry Before	0	0	0
Denied Entry After	0	0	0

2: Barton Road & Newport Avenue Performance by movement

Movement	EBU	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SBL	SBR	All
Total Delay (hr)	0.1	0.0	1.8	0.0	0.6	0.6	0.0	0.2	0.1	0.0	0.0	3.5
Delay / Veh (s)	26.5	33.0	13.1	4.1	62.2	8.4	6.6	30.5	14.6	22.6	6.5	14.0
Total Stops	20	4	235	21	38	73	0	19	21	3	2	436
Travel Dist (mi)	0.7	0.2	19.7	1.6	9.6	76.3	0.3	0.3	0.4	0.2	0.1	109.4
Travel Time (hr)	0.2	0.0	2.2	0.1	0.8	2.3	0.0	0.2	0.1	0.0	0.0	6.2
Avg Speed (mph)	4	4	9	12	12	33	34	1	3	9	14	18
Fuel Used (gal)	0.5	0.1	11.6	0.6	3.4	21.1	0.1	0.7	0.5	0.1	0.0	38.7
HC Emissions (g)	0	0	0	0	0	1	0	0	0	0	0	2
CO Emissions (g)	5	1	141	19	66	730	4	6	4	1	0	976
NOx Emissions (g)	0	0	2	0	1	7	0	0	0	0	0	11
Vehicles Entered	18	4	495	40	33	260	1	24	27	3	2	907
Vehicles Exited	18	4	487	39	32	258	1	25	28	3	2	897
Hourly Exit Rate	72	16	1948	156	128	1032	4	100	112	12	8	3588
Input Volume	80	16	2040	147	125	1018	7	105	131	14	9	3692
% of Volume	90	100	95	106	102	101	57	95	85	86	89	97
Denied Entry Before	0	0	0	0	0	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0	0	0	0	0	0

3: Newport Avenue & Post Office Access Performance by movement

Movement	WBL	WBR	NBT	NBR	SBL	SBT	All
Total Delay (hr)	0.0	0.0	0.1	0.0	0.0	0.0	0.2
Delay / Veh (s)	1.1	1.9	21.3	7.6	0.6	0.6	4.3
Total Stops	0	3	20	5	1	1	30
Travel Dist (mi)	0.3	3.5	0.3	0.1	0.9	0.5	5.6
Travel Time (hr)	0.0	0.2	0.1	0.0	0.1	0.0	0.4
Avg Speed (mph)	26	23	2	5	12	12	13
Fuel Used (gal)	0.1	1.0	0.4	0.0	0.6	0.4	2.4
HC Emissions (g)	0	0	0	0	0	0	0
CO Emissions (g)	1	23	3	0	11	10	48
NOx Emissions (g)	0	0	0	0	0	0	1
Vehicles Entered	2	30	20	5	51	26	134
Vehicles Exited	2	29	20	5	50	26	132
Hourly Exit Rate	8	116	80	20	200	104	528
Input Volume	11	131	97	17	206	83	545
% of Volume	73	89	82	118	97	125	97
Denied Entry Before	0	0	0	0	0	0	0
Denied Entry After	0	0	0	0	0	0	0

4: Driveway 2 & Post Office Access Performance by movement

Movement	EBL	NBT	SBT	SBR	All
Total Delay (hr)	0.1	0.0	0.0	0.0	0.1
Delay / Veh (s)	32.3	0.2	0.6	0.0	5.2
Total Stops	8	0	0	0	8
Travel Dist (mi)	0.1	0.3	0.3	0.1	0.8
Travel Time (hr)	0.1	0.0	0.0	0.0	0.1
Avg Speed (mph)	2	19	17	14	7
Fuel Used (gal)	0.2	0.1	0.3	0.0	0.7
HC Emissions (g)	0	0	0	0	0
CO Emissions (g)	1	6	21	0	29
NOx Emissions (g)	0	0	0	0	0
Vehicles Entered	8	17	23	5	53
Vehicles Exited	8	17	23	5	53
Hourly Exit Rate	32	68	92	20	212
Input Volume	43	71	77	17	208
% of Volume	74	96	119	118	102
Denied Entry Before	0	0	0	0	0
Denied Entry After	0	0	0	0	0

Total Zone Performance

Total Delay (hr)	6.6
Delay / Veh (s)	1697.5
Total Stops	697
Travel Dist (mi)	262.7
Travel Time (hr)	13.1
Avg Speed (mph)	20
Fuel Used (gal)	84.5
HC Emissions (g)	4
CO Emissions (g)	2533
NOx Emissions (g)	22
Vehicles Entered	936
Vehicles Exited	0
Hourly Exit Rate	0
Input Volume	7941
% of Volume	0
Denied Entry Before	0
Denied Entry After	0

Intersection: 1: Barton Road & Driveway 1

Movement	EB	EB
Directions Served	T	T
Maximum Queue (ft)	383	482
Average Queue (ft)	161	194
95th Queue (ft)	522	571
Link Distance (ft)	1247	1247
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		11
Queuing Penalty (veh)		0

Intersection: 2: Barton Road & Newport Avenue

Movement	EB	EB	EB	EB	WB	WB	WB	WB	NB	NB	SB
Directions Served	UL	T	T	R	L	T	T	R	LT	R	LR
Maximum Queue (ft)	132	226	226	79	141	156	138	10	70	66	42
Average Queue (ft)	55	192	201	39	91	72	87	1	51	47	12
95th Queue (ft)	100	279	259	76	155	152	144	11	81	71	33
Link Distance (ft)		153	153	153		1547	1547		38	38	408
Upstream Blk Time (%)	0	18	20						26	15	
Queuing Penalty (veh)	0	140	151						30	17	
Storage Bay Dist (ft)	145				100			85			
Storage Blk Time (%)	0	19			15	1	5				
Queuing Penalty (veh)	0	18			76	1	0				

Intersection: 3: Newport Avenue & Post Office Access

Movement	WB	NB	SB
Directions Served	LR	TR	LT
Maximum Queue (ft)	50	58	37
Average Queue (ft)	13	42	13
95th Queue (ft)	54	61	45
Link Distance (ft)	628	35	38
Upstream Blk Time (%)		38	1
Queuing Penalty (veh)		43	2
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 4: Driveway 2 & Post Office Access

Movement	EB
Directions Served	LR
Maximum Queue (ft)	52
Average Queue (ft)	27
95th Queue (ft)	62
Link Distance (ft)	99
Upstream Blk Time (%)	0
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Zone Summary

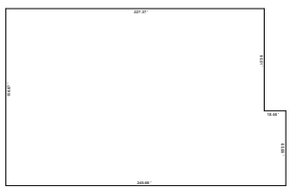
Zone wide Queuing Penalty: 479

PROPOSED OFFICE BUILDING

25915 BARTON RD , CA.92354

VICINITY MAP :

PLOT PLAN :

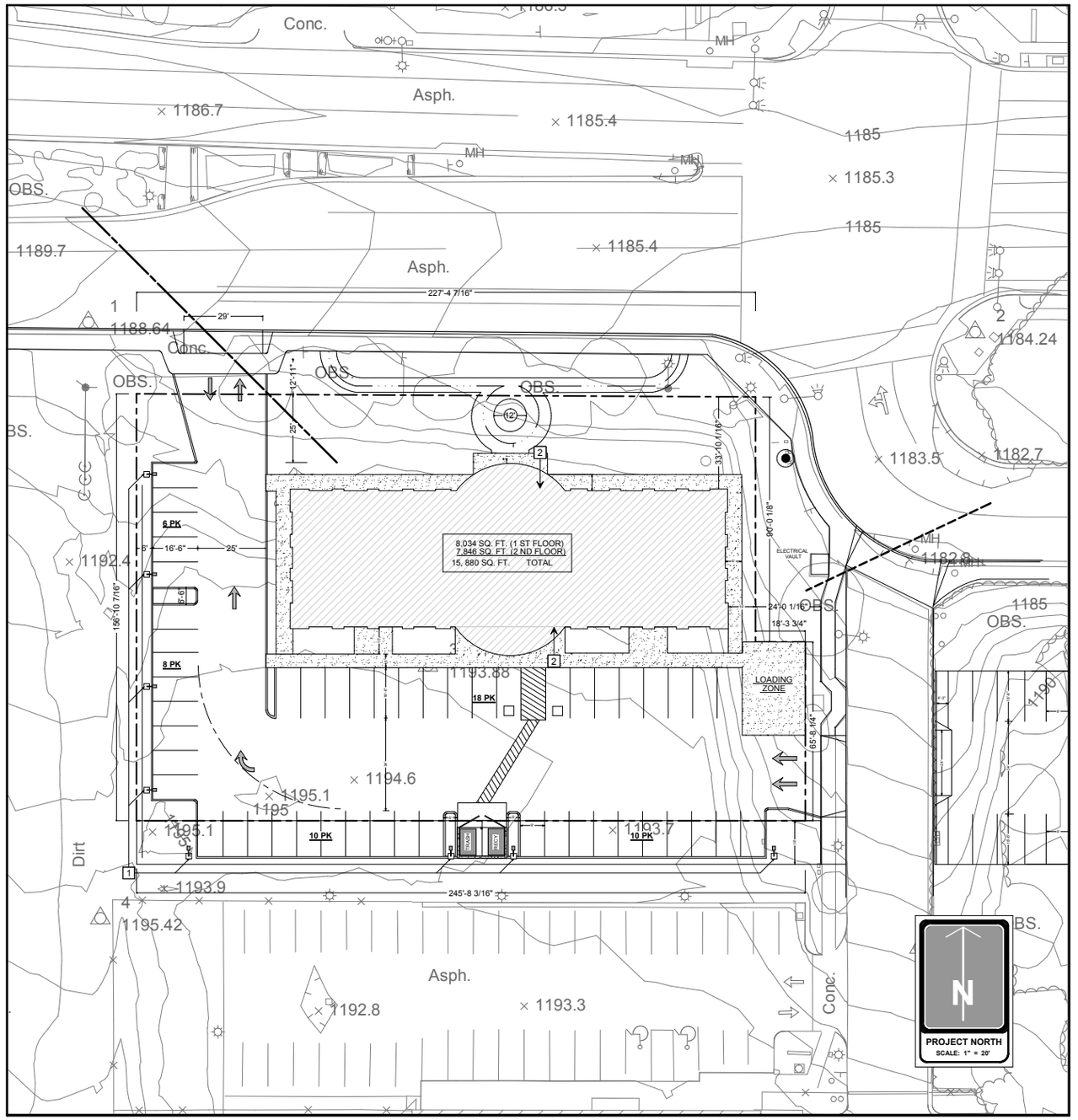


DISCRIPTIONS:

- PROPERTY LINE
- PATH OF TRAVEL
- PROPOSED BUILDING
- PROPOSED AXCESSED LANSCAPE AREA FROM U.S.P.S.
- EXISTING FIRE HYDRANT
- EXISTING WATER LINE
- EXISTING SEWER LINE

KEY NOTES:

1. PARKING LOT LIGHTING (METAL HALIDE LIGHT,ON A 20' METAL POLE, ON A 2' X 2' CONCRETE BASE)
2. 10 - PLACE BIKE RACK (2-LOCATIONS)



BUILDABLE SPACE

ZONING:	1 - INSTITUTIONAL
TOTAL LAND AREA:	36,590 S.F. (.84 ACRES)
BUILDIBLE AREA:	50%
BUILDING AREA:	1 ST FLOOR 8,034 S.F. 2 ND FLOOR 7,846 S.F.
TOTAL BUILDING AREA	15,880 S.F. (43.34 %)

PARKING AREA:

PARKING RATIO:

A) 1 STALLS / 300 SQ. FT.
15,880 SQ. FT.OF BUILDING / 300 = 52.9 STALLS

PARKING DESCRIPTION:

A) STANDARD	9' X 18.5'	50 - STALLS
B) HANDICAP	14' X 18'	1 - STALLS
C) VAN ACCESSIBLE	17'X 18'	1 - STALLS
D) LOADING	20' X 20'	1 - STALL
E) OFFSITE	9' X 18.5'	10 - STALLS
TOTAL		63 STALLS

SITE SPECIFIC NOTES:

REQUIREMENTS:

1) 25' LANDSCAPE SETBACK FROM PROPERTY LINE (BARTON RD.)
2) 10' LANDSCAPE SETBACK FROM EAST SIDE OF PROPERTY LINE
3) 6' MIN. LANDSCAPE SETBACK FOR PARKING , WEST & SOUTH PROPERTY LINES
4) ALLOWABLE HEIGHT . . . . . 40'
5) % OF PARKING LANDSCAPE AREA . . . . . MIN. 10%

(LANDSCAPE AREAS TOTAL PROPERTY: 23%)

TOTAL PARKING AREA . . . . . 16,681.7 SQ.FT.

TOTAL PARKING LANDSCAPE AREA . . . . . 3,255 SQ.FT.

1) PERCENTAGE OF PARKING LANDSCAPE 19.5%
2) PERCENTAGE OF HARDSCAPE 55%

1) FRONT 25' SETBACK AREA . . . . . 5,667.18 SQ.FT.
2) OVERHANG ENCROACHMENT AREA . . . . . 315 SQ.FT.

PERCENTAGE TOTAL FOR ENCROACHMENT, LESS THAN 6%

INDEX

T-1	TITLE SHEET
SP-1	SITE PLAN
SP-1.1	PRELIMINARY GRADING PLAN
SD-1	SITE DESIGN PLAN
A-1	FLOOR PLAN
A-4	ROOF PLAN
ELV-1	ELEVATION PLAN
L-1	LANDSCAPE PLAN

design SYSTEMS

PHONE: (951) 213-4882 cadesignsystems@gmail.com
21790 30TH ST. HIGHLAND CA. 92346

PROJECT:

25915 BARTON RD. LOMA LINDA, CA. 92354

LOMA LINDA, CA.
PARCEL #0293-011-24-0000
PLAN CK #

OWNER:

LINK WORLD INVESTMENTS & PROPERTY MANAGEMENT

REVISIONS

ADDENDA

POST BID REVISIONS

PROJECT NO:
DRAWN BY:
CAD DWG FILE:
DATE:

SHEET TITLE

SITE PLAN

SP-1

LOMA LINDA OFFICE BUILDING

25915 BARTON ROAD, LOMA LINDA CA.

design SYSTEMS
PHONE: (951) 213-8282 cadesignsystems@gmail.com
27167 5TH ST. HIGHLAND CA. 92346

PROJECT:

LOMA LINDA

CITY OF LOMA LINDA CA.
PARCEL #029301-011-25-0000
PLAN CK #

OWNER:

LINK WORLD
INVESTMENT
&
PROPERTY
MANAGEMENT

REVISIONS

ADDENDA

POST BID REVISIONS

PROJECT NO:	
DRAWN BY:	
CAD DWG FILE:	
DATE:	

SHEET TITLE

RENDERING

R-1

LOMA LINDA OFFICE BUILDING

PROPOSED MEDICAL OFFICE BUILDING

25925 BARTON ROAD, LOMA LINDA CA.

NORTH VIEW

EAST VIEW

SOUTH VIEW

WEST VIEW

design SYSTEMS
PHONE: (951) 213-8282 cadesignsystems@gmail.com
27187 5TH ST. HIGHLAND CA. 92346

PROJECT:

LOMA LINDA

CITY OF LOMA LINDA CA.
PARCEL #029301-011-24-0000
PLAN CK #

OWNER:

LINK WORLD
INSVESTMENT
&
PROPERTY
MANAGEMENT

REVISIONS

ADDENDA

POST BID REVISIONS

PROJECT NO:
DRAWN BY:
CAD DWG FILE:
DATE:

SHEET TITLE

PHOTOS
PLAN

PHOTOS

LOMA LINDA OFFICE BUILDING

25915 BARTON ROAD, LOMA LINDA CA.

Loma Linda Medical Building

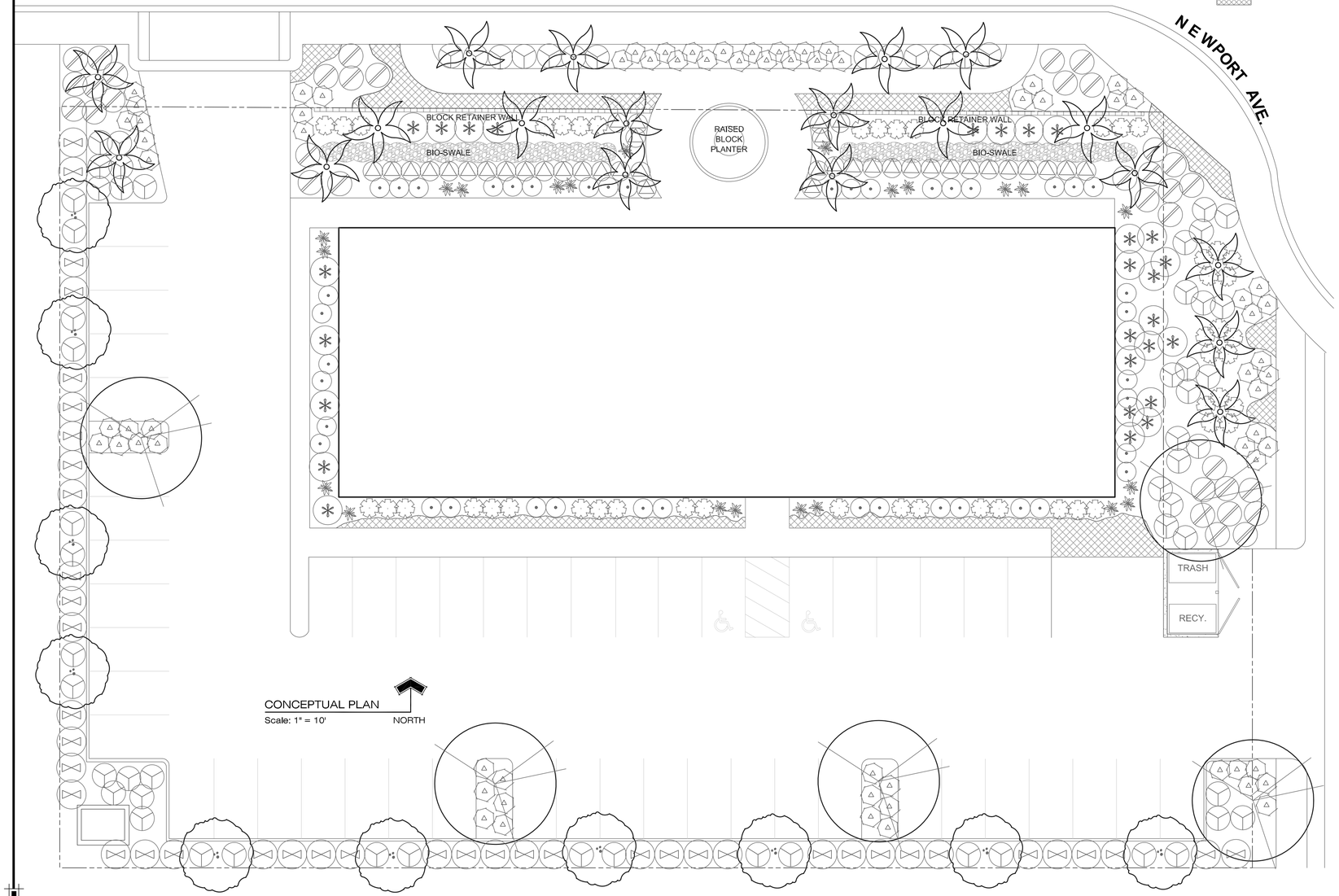
CONCEPTUAL LANDSCAPE PLAN

25925 Barton Road
Loma Linda, CA 92354
APN: 0293-011-24

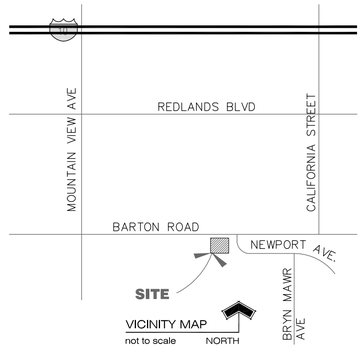
Planting Legend

SYMBOL	QTY.	SIZE	BOTANICAL NAME	COMMON NAME	WATER USAGE
	19	10' Brn. Trunk	Syagrus romanzoffianum	Queen Palm	Mod
	5	15 Gal.	Koelreuteria bipinnata	Chinese Flame Tree	Low
	10	15 Gal.	Melaleuca quinquenervia	Cajeput Tree	Low

SYMBOL	QTY.	SIZE	BOTANICAL NAME	COMMON NAME	WATER USAGE
	42	5 Gal.	Calamagrostis acutiflora 'Karl Foerster'	Feather Reed Grass	Low
	43	5 Gal.	Leucophyllum frutescens 'Green Cloud'	Green Texas Ranger	Low
	27	5 Gal.	Bougainvillea 'Ooh La La'	Dwarf Bougainvillea	Low
	67	1 Gal.	Muhlenbergia rigens	Deer Grass	Low
	48	1 Gal.	Lantana 'New Gold'	Lantana	Mod
	70	5 Gal.	Callistemon viminalis 'Little John'	Dwarf Bottlebrush	Mod
	36	1 Gal.	Rosa 'Flower Carpet Red'	Red Groundcover Rose	Mod
	22	15 Gal.	Phoenix roebelenii	Pygmy Date Palm	Low
	38	1 Gal.	Loropetalum 'Purple Pixie'	Dwarf Fringe Flower	Mod
1079 Sq. Ft.		Flats	Senecio mandraliscae	Blue Chalk Sticks	Low



CONCEPTUAL PLAN
Scale: 1" = 10' NORTH



VICINITY MAP
not to scale NORTH

Owner:
Nancy Chen
Link World Investment &
Property Management
948 Creek View Lane
Redlands, CA 92373

REGISTERED LANDSCAPE ARCHITECT RICHARD POPE LIC. NO. 2664 STATE OF CALIFORNIA

RICHARD POPE AND ASSOCIATES
Landscape Architecture
Urban Design & Planning

1585 South 'D' Street, Suite 103
San Bernardino, CA 92408
phone: (909) 888-5568
fax: (909) 384-9854
e-mail: rpa.la@verizon.net
Richard Pope, Landscape Architect CA# 2664

JOB: 14-28 LKD CKE
October 2, 2014

design SYSTEMS
PHONE: (951) 213-8282 cadesignsystems@gmail.com
27187 5TH ST. HIGHLAND CA. 92346

PROJECT:

LOMA LINDA

CITY OF LOMA LINDA CA.
PARCEL #029301-011-24-0000
PLAN CK #

OWNER:

LINK WORLD
INVESTMENT
&
PROPERTY
MANAGEMENT

REVISIONS

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CAD DWG FILE:
DATE:

SHEET TITLE

LANDSCAPE PLAN

L-1

LOMA LINDA OFFICE BUILDING

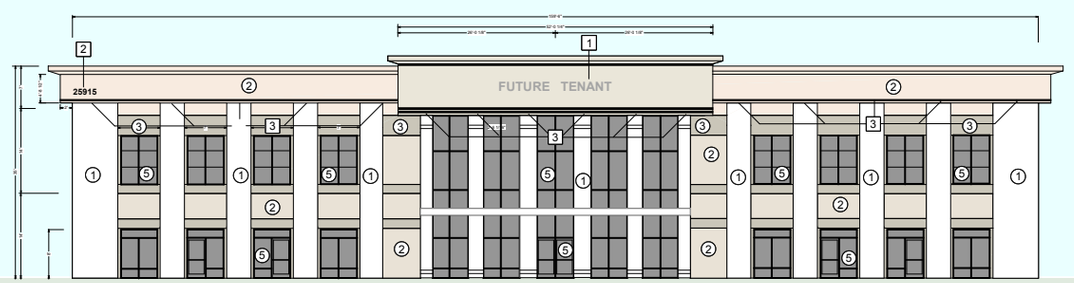
PROPOSED MEDICAL OFFICE BUILDING

25915 BARTON ROAD, LOMA LINDA CA.

NORTH SCALE: 3/32" = 1'

WEST SCALE: 3/32" = 1'

EAST SCALE: 3/32" = 1'



SOUTH SCALE: 3/32" = 1'

KEYED NOTES:

1. 1/2" THICK BRUSHED METAL LETTERS, 12" & 18". (LED BACKLIT LIGHTING)
2. 12" BACKLIT BUILDING NUMBERS
3. 6 " LED. CAN DOWN LIGHTING FOR BUILDING

MATERIAL & COLORS:

1	CRYSTAL WHITE 50 (79) BASE 100	LA HABRA
2	CHARLSTON 81585 (35) BASE 100	LA HABRA
3	CLAY 830 (40) BASE 200	LA HABRA
4	BLOCK RETAINING WALL STUCCO (CLAY 830)	LA HABRA
5	EXTRA DARK BRONZE STORE FRONT FRAMING W/ SOLAR BRONZE LOW E GLASS.	

design SYSTEMS

PHONE: (951) 213-4882 cadesignsystems@gmail.com
21760 35TH ST. HIGHLAND CA. 92346

PROJECT:

LOMA LINDA

CITY OF LOMA LINDA CA.
PARCEL #0293301-011-24-0000
PLAN CK #

OWNER:

LINK WORLD INSVESTMENT & PROPERTY MANAGEMENT

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ELEVATION PLAN

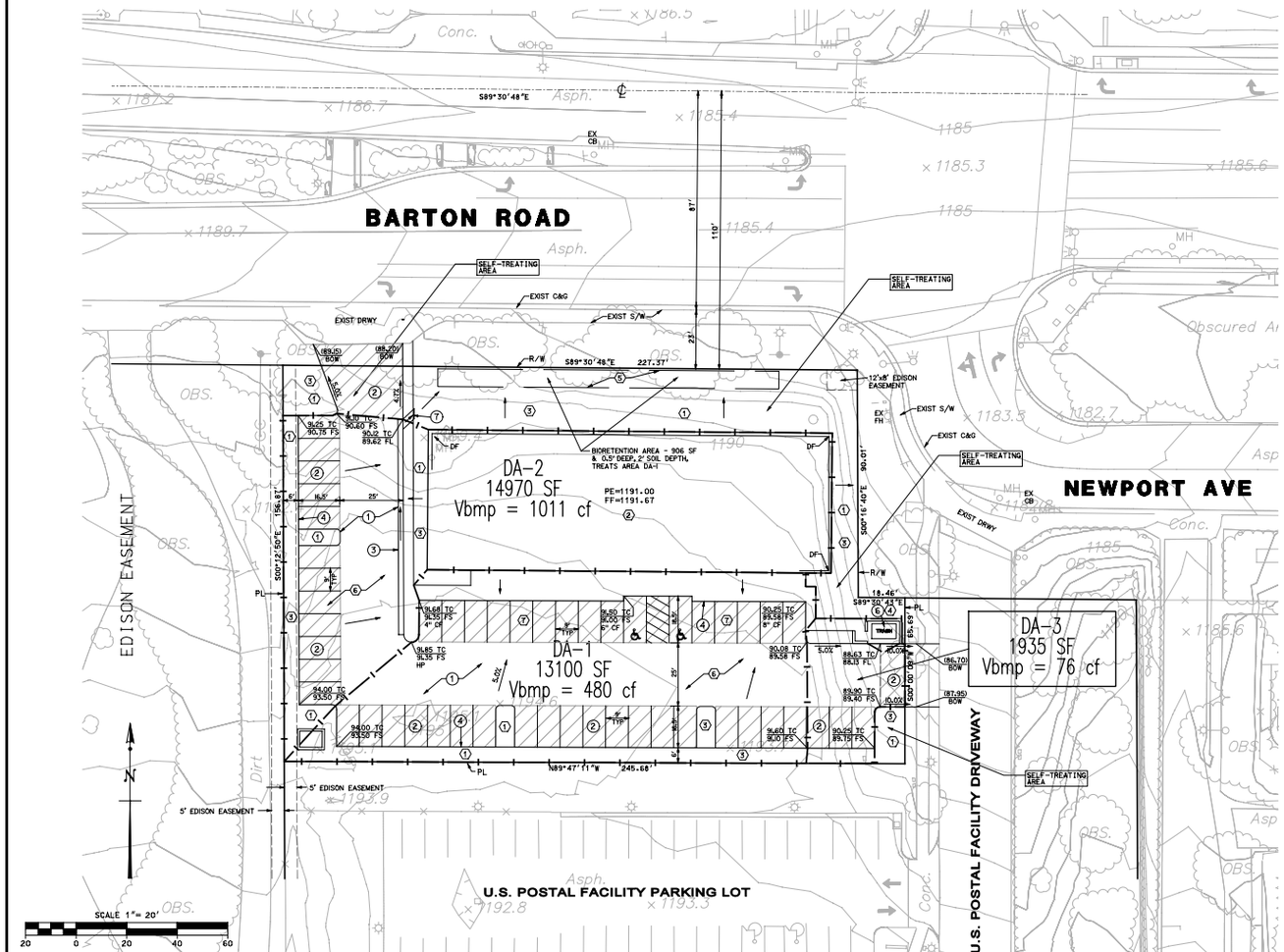
ELV-1

LOMA LINDA MEDICAL BUILDING

PROPOSED MEDICAL OFFICE BUILDING

25915 BARTON ROAD, LOMA LINDA CA.

PRELIMINARY GRADING AND WQMP PLAN



CONSTRUCTION NOTES

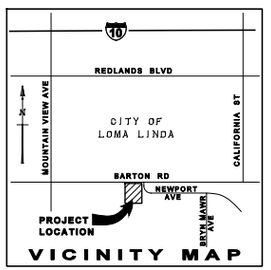
1. CONSTRUCT AC PAVEMENT PER SOILS REPORT
2. CONSTRUCT PERVIOUS PAVERS
3. CONSTRUCT 6" CURB AND GUTTER
4. CONSTRUCT 6" CURB
5. CONSTRUCT 4" PCC SIDEWALK
6. CONSTRUCT TRASH ENCLOSURE
7. CONSTRUCT UNDER SIDEWALK DRAIN

WQMP/EMP NOTES

1. *SD-10: LANDSCAPE PLANTING*
2. *SD-11: ROOF RUNOFF CONTROLS*
3. *SD-12: EFFICIENT IRRIGATION*
4. *SD-32: TRASH ENCLOSURE*
5. *TC-11: BIO-RETENTION BASIN*
6. *PARKING LOT SWEEPING*
7. *PERVIOUS PAVERS WITH RETENTION*

LEGEND

FF	FINISH FLOOR	→	DIRECTION OF FLOW
PE	PAD ELEVATION	(XXXX.X)	EXIST ELEV
TC	TOP OF CURB	XXXX.X	DESIGN ELEV
FS	FINISH SURFACE		
PL	PROPERTY LINE		PERVIOUS PAVERS
R/W	RIGHT OF WAY	Vbmp	WATER QUALITY VOLUME
GB	GRADE BREAK		
MH	MANHOLE		DRAINAGE AREA (DA) BOUNDARY
TG	TOP OF GRATE		
TW	TOP OF WALL		
BOW	BACK OF SIDEWALK		
DF	DEEPENED FOOTING		



Goodman & ASSOCIATES
2079 SKY VIEW DRIVE
COLTON, CALIFORNIA 92324
(909) 824-2775

DOUGLAS L. GOODMAN R.C.E. 28500
MY LICENSE EXPIRES 3-31-16
DATE

LEGAL DESCRIPTION:

THAT PORTION OF THE NORTH 1/2 OF THE NORTHEAST 1/4 OF THE NORTHWEST 1/4 OF SECTION 31, TOWNSHIP 1 SOUTH, RANGE 3 WEST, SAN BERNARDINO BASE AND MERIDIAN, AS PER UNITED STATES GOVERNMENT PLAT THEREOF APPROVED BY THE SURVEYOR GENERAL, SEPTEMBER 4, 1858, IN THE COUNTY OF SAN BERNARDINO, STATE OF CALIFORNIA.

A.P.N.:
0293-011-24

PRELIMINARY EARTHWORK ESTIMATE
CUT - 1,975 CY
FILL - 550 CY

THESE ARE RAW QUANTITIES WITH NO ADJUSTMENTS FOR SUBSIDENCE OR SHRINKAGE.

OWNER/APPLICANT:
NANCY CHEN
LINK WORLD INVESTMENT & PROPERTY MANAGEMENT, INC.
948 CREEK VIEW LANE
REDLANDS, CA 92373

Underground Service Alert Call:TOLL FREE 1-800 227-2600

Designed by: SH | Drawn by: SH | Checked by: DG

PLANS PREPARED UNDER THE SUPERVISION OF
DOUGLAS L. GOODMAN
Date _____ R.C.E. 28500

Reference Plans for These Improvements

Date	By	REVISIONS	App'd

CITY OF LOMA LINDA BM 81-09
BRASS CAP IN CONCRETE AT SIGNAL LIGHT BASE, N.W.C. CORNER INTERSECTION OF BARTON ROAD AND MOUNTAIN VIEW AVE.
EL= 1195.257

Scale

APPROVED
DIRECTOR OF PUBLIC WORKS / CITY ENGINEER RCE 47907 DATE

CITY OF LOMA LINDA
PRELIMINARY GRADING & WQMP PLAN
LOMA LINDA MEDICAL BUILDING
25926 BARTON RD, LOMA LINDA, CA 92354

Drawing No. 1
SH. 1 OF 1

design SYSTEMS
PHONE: (949) 213-4882 cadesignsystems@gmail.com
21760 30TH ST. HIGHLAND CA. 92346

PROJECT:

LOMA LINDA

CITY OF LOMA LINDA CA.
PARCEL #0293-011-24-0000
PLAN CK #

OWNER:

LINK WORLD INVESTMENT & PROPERTY MANAGEMENT

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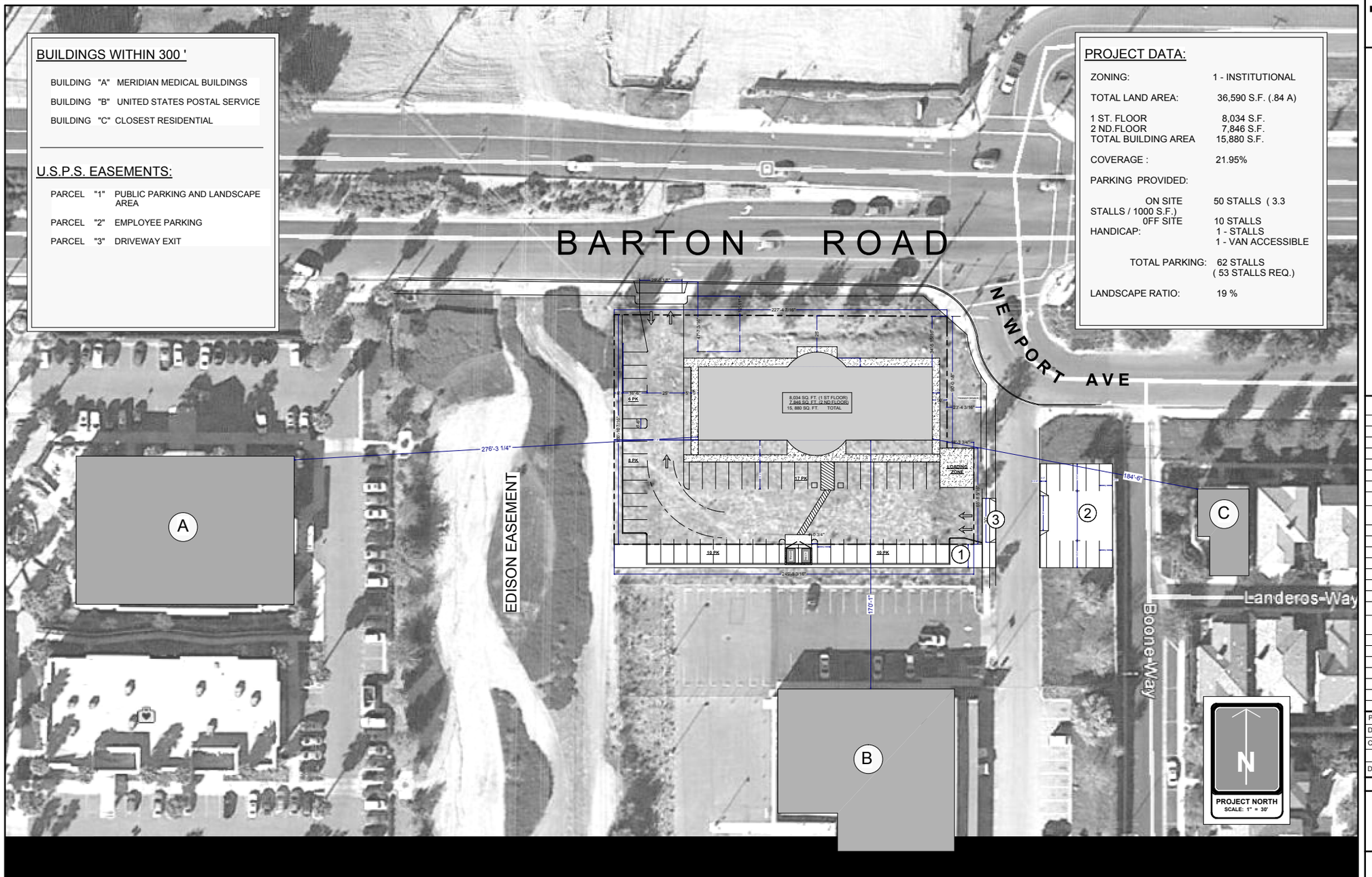
GRADING PLAN

SP-1.1

LOMA LINDA OFFICE BUILDING

PROPOSED MEDICAL OFFICE BUILDING

25915 BARTON ROAD, LOMA LINDA CA.



BUILDINGS WITHIN 300 '

BUILDING	"A"	MERIDIAN MEDICAL BUILDINGS
BUILDING	"B"	UNITED STATES POSTAL SERVICE
BUILDING	"C"	CLOSEST RESIDENTIAL

U.S.P.S. EASEMENTS:

PARCEL	"1"	PUBLIC PARKING AND LANDSCAPE AREA
PARCEL	"2"	EMPLOYEE PARKING
PARCEL	"3"	DRIVEWAY EXIT

PROJECT DATA:

ZONING:	1 - INSTITUTIONAL
TOTAL LAND AREA:	36,590 S.F. (.84 A)
1 ST. FLOOR	8,034 S.F.
2 ND.FLOOR	7,846 S.F.
TOTAL BUILDING AREA	15,880 S.F.
COVERAGE :	21.95%
PARKING PROVIDED:	
ON SITE	50 STALLS (3.3 STALLS / 1000 S.F.)
OFF SITE	10 STALLS
HANDICAP:	1 - STALLS 1 - VAN ACCESSIBLE
TOTAL PARKING:	62 STALLS (53 STALLS REQ.)
LANDSCAPE RATIO:	19 %

design SYSTEMS

PHONE: (949) 213-4882 cadesignsystems@gmail.com
21797 19TH ST. HIGHLAND CA. 92346

PROJECT:

LOMA LINDA

CITY OF LOMA LINDA CA.
PARCEL #0293301-011-24-0000
PLAN CK #

OWNER:

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DATE:

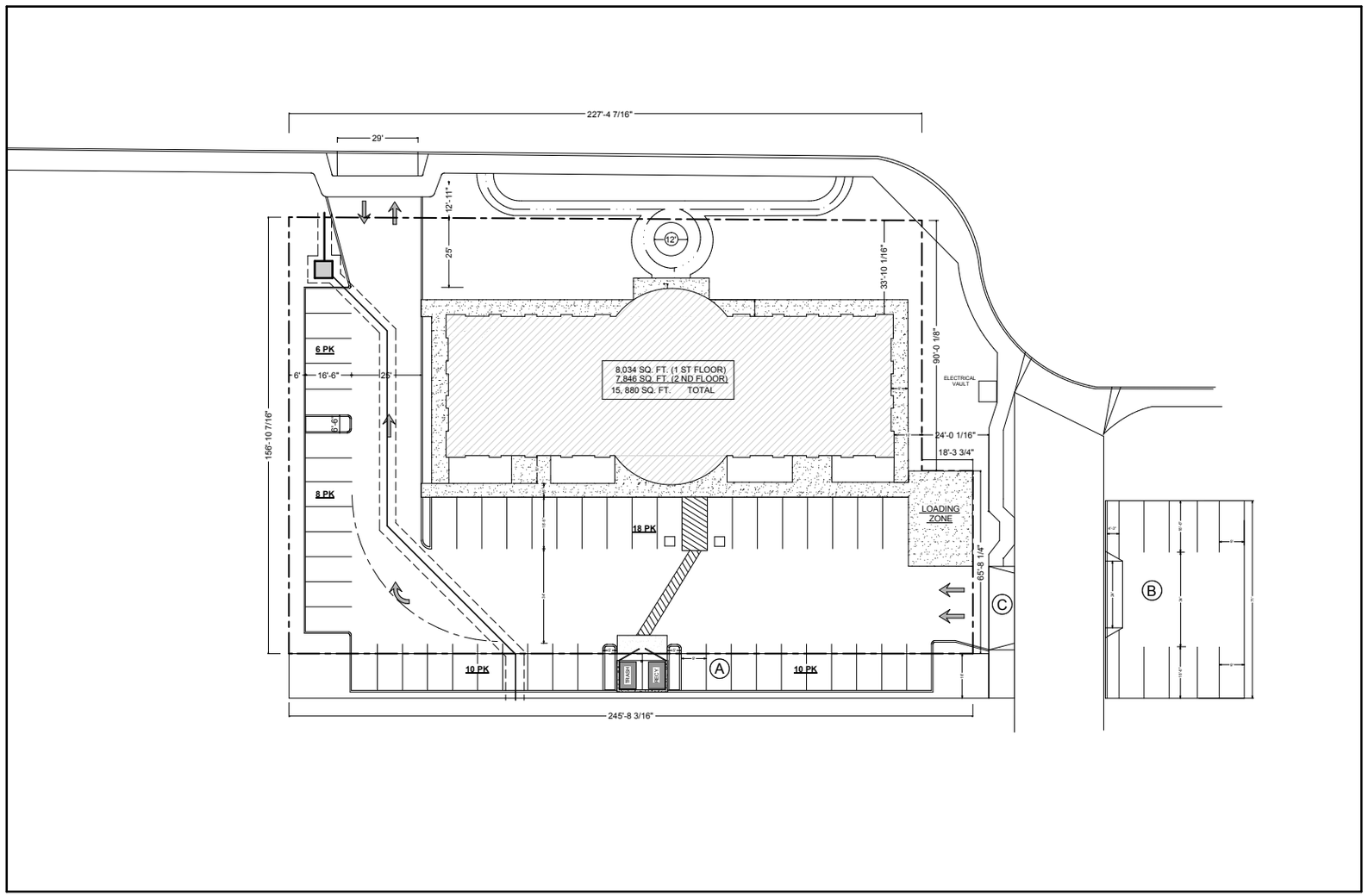
SHEET TITLE

TITLE PLAN

T-1

PROPOSED MEDICAL OFFICE BUILDING

25925 BARTON RD , CA.92354



PROPOSED EASEMENTS
(FROM U.S.P.S.)

- (A) PUBLIC PARKING EASEMENT FROM (U.S.P.S.)
  (THE FIRE DEPARTMENT NEEDS A 56' TURNING RADIUS FOR THE REQUIRED FIRE TRUCK.)
- (B) PUBLIC PARKING EASEMENT FROM (U.S.P.S.)
  (THE FIRE DEPARTMENT NEEDS A 56' TURNING RADIUS FOR THE REQUIRED FIRE TRUCK.)
- (C) DRIVEWAY EASEMENT
- 10' WIDE EASEMENT TO U.S.P.S.
- WASTE LIFTING STATION

PROJECT NORTH
SCALE: 1" = 10'

design SYSTEMS
PHONE: (949) 213-4882 cadesignsystems@gmail.com
21161 5TH ST. HIGHLAND CA. 92346

PROJECT:

**25925 BARTON RD.
LOMA LINDA, CA.
92354**

LOMA LINDA, CA.
PARCEL #0293-011-24-0000
PLAN CK #

OWNER:

LINK WORLD
INVESTMENTS
&
PROPERTY
MANAGEMENT

REVISIONS

ADDENDA

POST BID REVISIONS

PROJECT NO:
DRAWN BY:
CAD DWG FILE:
DATE:

SHEET TITLE

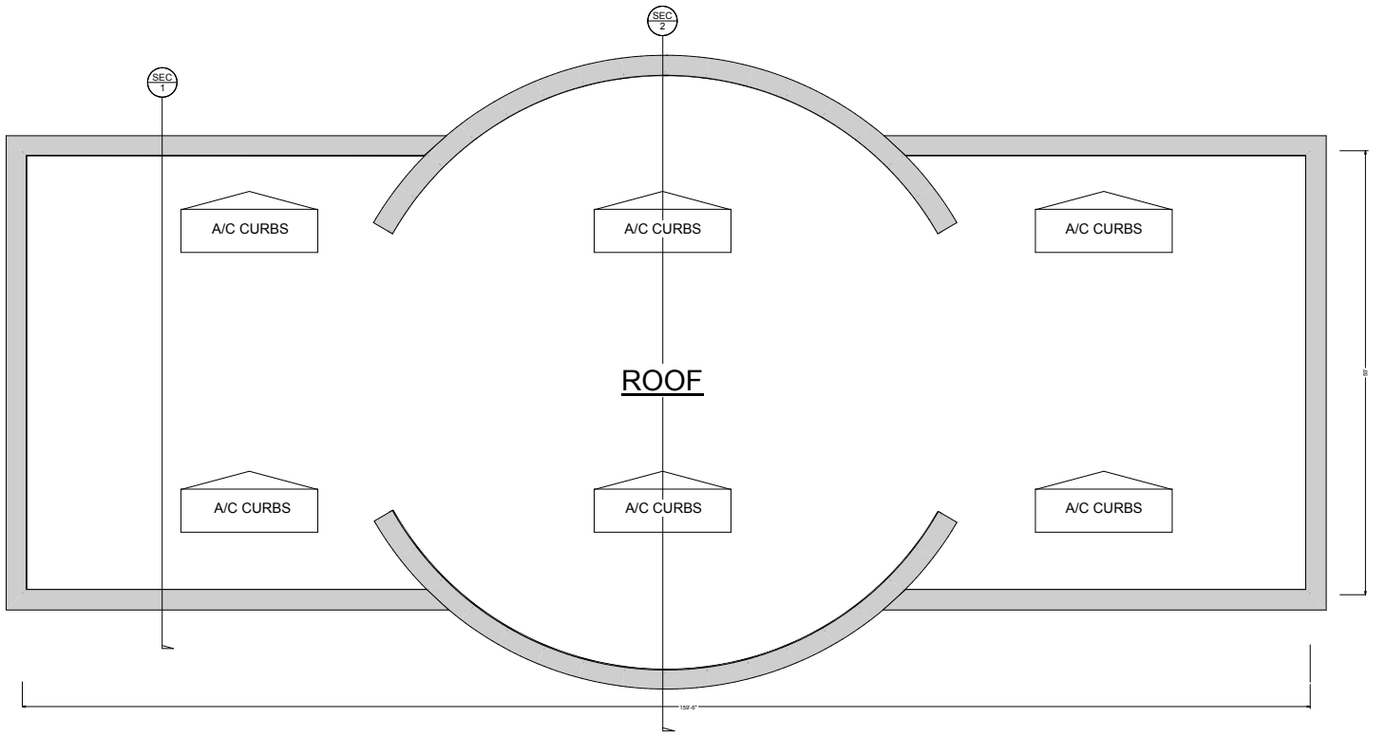
SITE PLAN

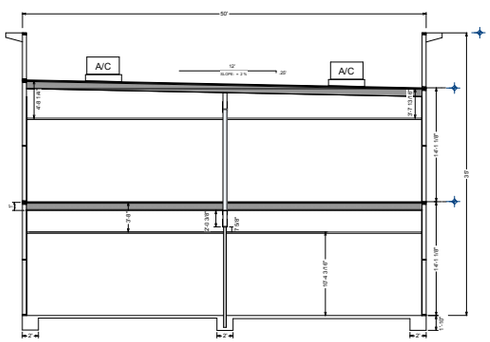
SD-1

LOMA LINDA MEDICAL BUILDING

PROPOSED MEDICAL OFFICE BUILDING

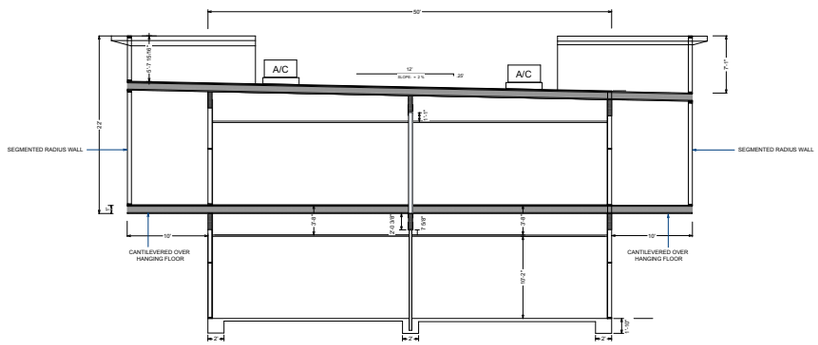
25915 BARTON ROAD, LOMA LINDA CA.





SEC 1

SCALE: 1/8" = 1'



SEC 2

SCALE: 1/8" = 1'

NOTES:

design SYSTEMS

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21787 5TH ST. HIGHLAND CA. 92346

PROJECT:

LOMA LINDA

CITY OF LOMA LINDA CA.
PARCEL #0293O1-011-24-0000
PLAN CK #

OWNER:

LINK WORLD
INVESTMENT
&
PROPERTY
MANAGEMENT

REVISIONS

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PROJECT NO:
DRAWN BY:
CAD DWG FILE:
DATE:

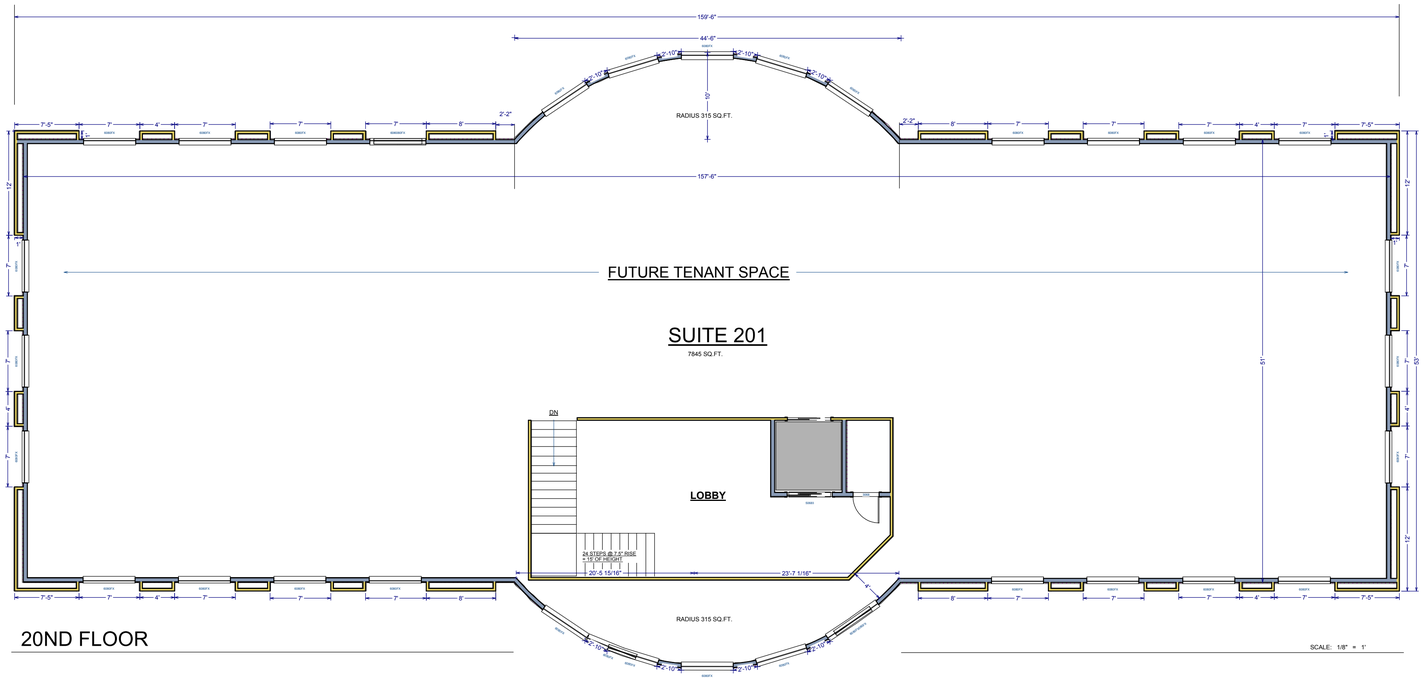
SHEET TITLE

ROOF PLAN

A-4

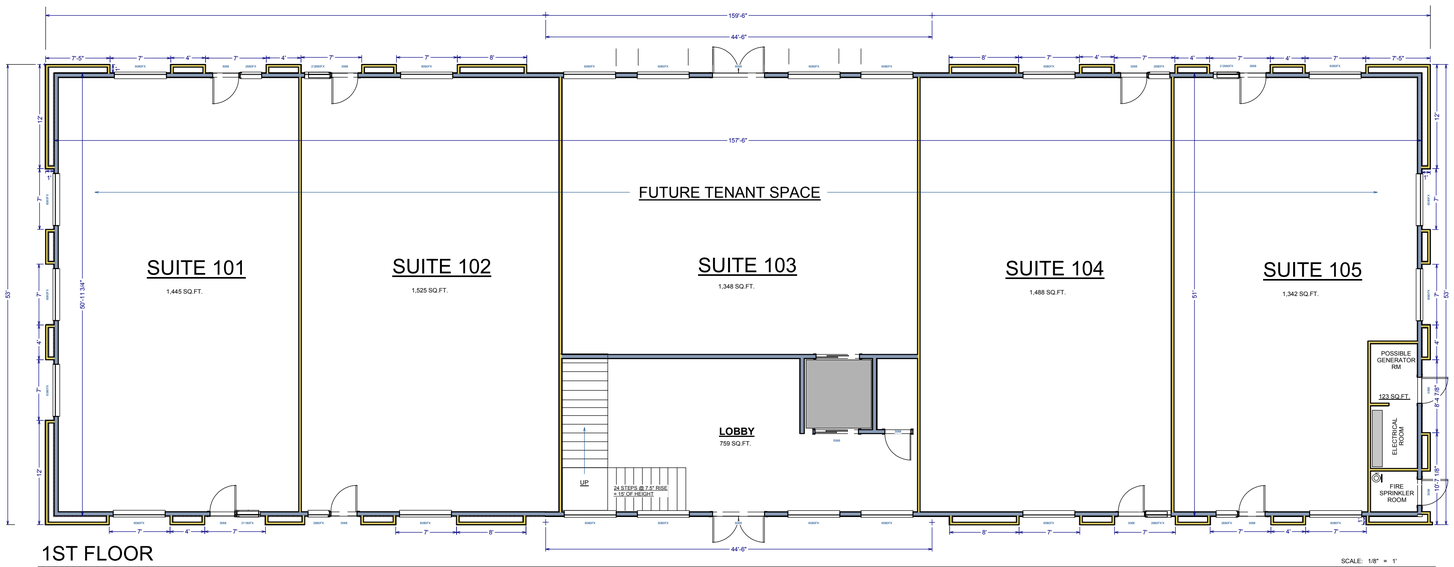
LOMA LINDA MEDICAL BUILDING

25915 BARTON ROAD, LOMA LINDA CA.



20ND FLOOR

SCALE: 1/8" = 1'



1ST FLOOR

SCALE: 1/8" = 1'

PROJECT NORTH
SCALE: 1/8" = 1'

design SYSTEMS

PHONE: (951) 213-8282 cadesignsystems@gmail.com
27167 5TH ST. HIGHLAND CA. 92346

PROJECT:

LOMA LINDA

CITY OF LOMA LINDA CA.
PARCEL #029301-011-24-0000
PLAN CK #

OWNER:

LINK WORLD
INVESTMENT
&
PROPERTY
MANAGEMENT

REVISIONS

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PROJECT NO:
DRAWN BY:
CAD DWG FILE:
DATE:

SHEET TITLE

FLOOR
PLAN

A-1

TRAFFIC IMPACT STUDY

LOMA LINDA MEDICAL OFFICE
25915 BARTON ROAD

CITY OF LOMA LINDA

SAN BERNARDINO COUNTY, CALIFORNIA

LSA

December 14, 2015

EXHIBIT - E

TRAFFIC IMPACT STUDY

LOMA LINDA MEDICAL OFFICE
25915 BARTON ROAD

CITY OF LOMA LINDA

SAN BERNARDINO COUNTY, CALIFORNIA

Prepared for:

Romo Planning Group
Post Office Box 4158
Covina, California 91724

Prepared by:

LSA Associates, Inc.
1500 Iowa Avenue, Suite 200
Riverside, California 92507
(951) 781-9310

LSA Project No. RMO1501

LSA

December 14, 2015

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INTRODUCTION

This traffic impact study (TIS) has been prepared to assess the potential circulation impacts associated with the proposed Loma Linda Medical Office Project to be located at 25915 Barton Road in the City of Loma Linda (City). Figure 1 illustrates the regional and project location.

The traffic analysis examines the following scenarios:

- Existing traffic conditions;
- Existing with project traffic conditions;
- Opening year traffic conditions;
- Opening year with project traffic conditions;
- Cumulative traffic conditions;
- Cumulative with project traffic conditions;
- Year 2035 traffic conditions; and
- Year 2035 with project traffic conditions.

The study examines two access alternatives for the project:

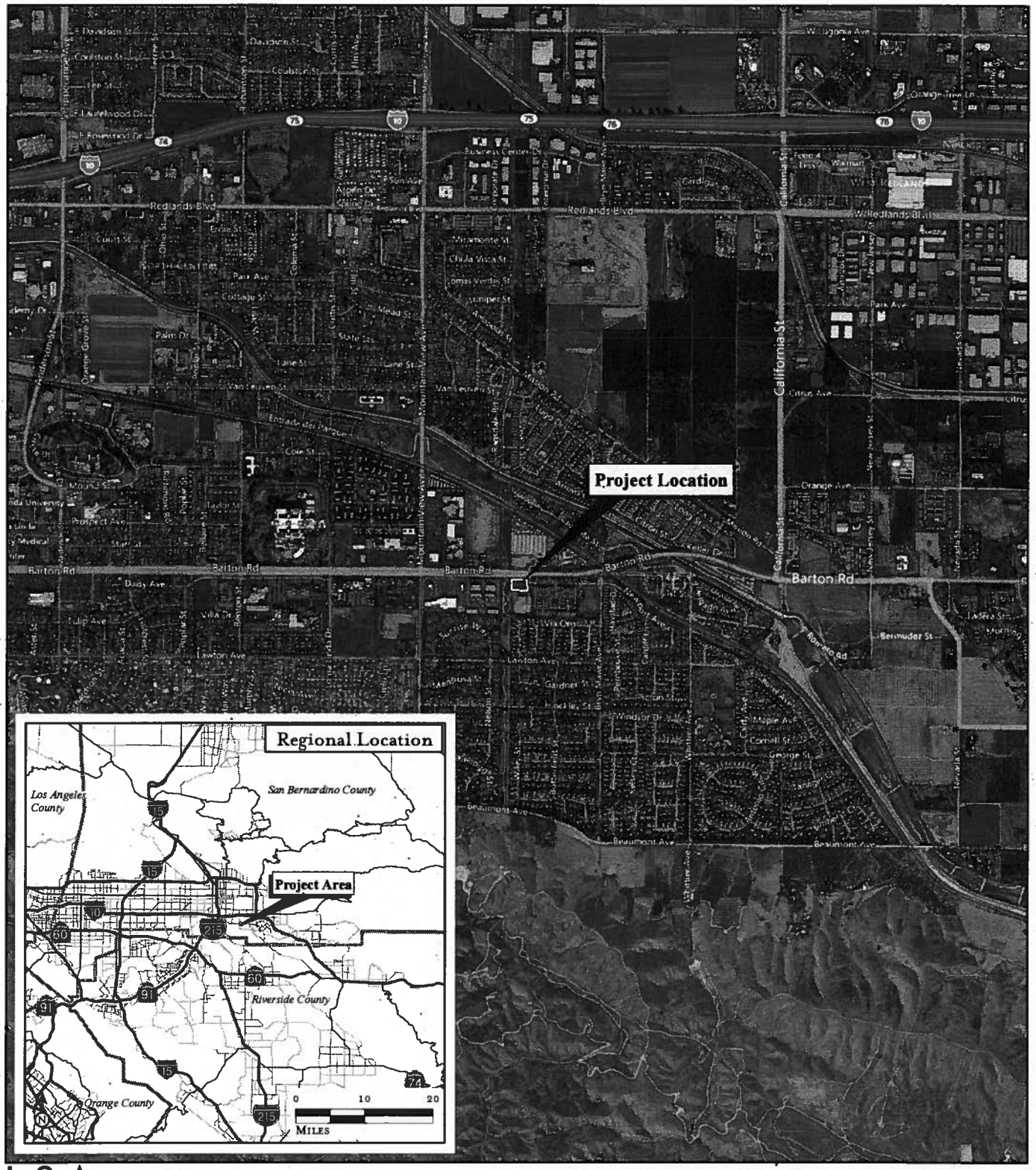
- **Access Alternative 1:** Under this alternative, one project driveway at Driveway 1/Barton Road will provide right-in right-out ingress/egress movements.
- **Access Alternative 2:** Under this alternative, Driveway 1/Barton Road is removed and full-access ingress/egress movements are provided at Post Office Access/Driveway 2.

The analysis provides an assessment of traffic impacts and determination of traffic mitigation as required for California Environmental Quality Act (CEQA) compliance. This traffic impact study has been prepared in accordance with the San Bernardino Associated Governments (SANBAG) Congestion Management Program (CMP) TIA Guidelines.

For each scenario, traffic operations at study intersections are evaluated for the a.m. and p.m. peak hours. The a.m. peak hour is defined as the one hour of highest traffic volumes occurring between 7:00 and 9:00 a.m. The p.m. peak hour is defined as the one hour of highest traffic volumes occurring between 4:00 and 6:00 p.m.

PROJECT DESCRIPTION

The proposed project is a 15,880-square foot medical office building. The project is located on the southwest corner of Newport Avenue/Barton Road. As stated previously, under Access Alternative 1, access to the project will be provided by one right-in/right-out driveway at Driveway 1/Barton Road. Under Access Alternative 2, Driveway 1/Barton Road is removed and full-access ingress-egress movements are provided at Post Office Access/Driveway 2. Figure 2 illustrates the site plan. The opening year of the project is 2016.



LSA

FIGURE 1

N

0 1,000 2,000

FEET

SOURCE: Bing Aerial, 2010-2015; ESRI Streetmap, 2013.

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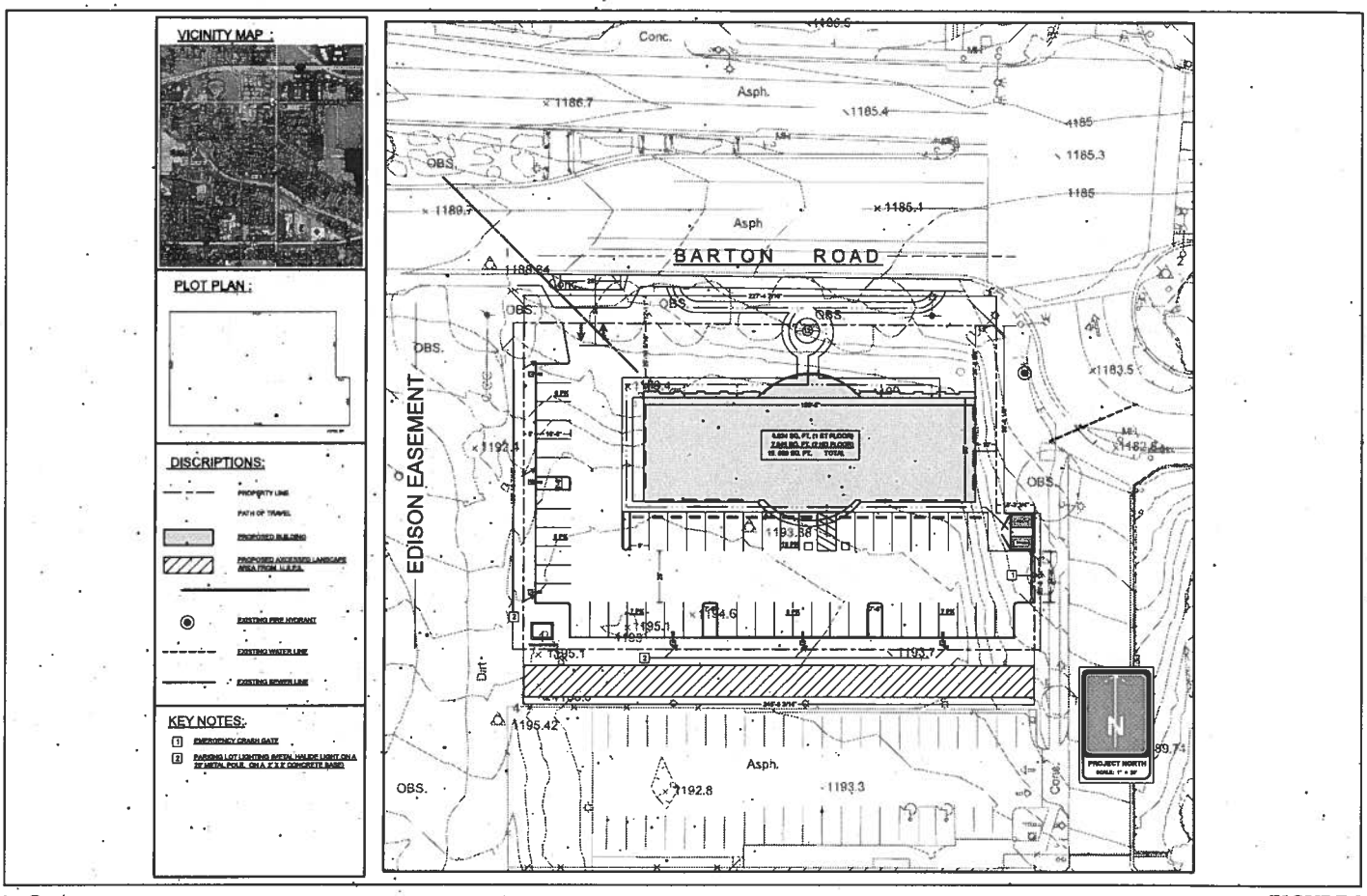
Loma Linda Medical Office
Focused Traffic Impact Study

Regional and Project Location



LSA

FIGURE 2

0 32.5 65
FEET

SOURCE: Design Systems, 2015

I:\RMO1501\Reports\Traffic\fig2_SitePlan.cdr (07/14/2015)

Loma Linda Medical Office
Focused Traffic Impact Study
Conceptual Site Plan

LEVEL OF SERVICE DEFINITIONS AND PROCEDURES

Roadway operations and the relationship between capacity and traffic volumes are generally expressed in terms of levels of service (which are defined using the letter grades A through F). These levels recognize that, while an absolute limit exists as to the amount of traffic traveling through a given intersection (the absolute capacity), the conditions that motorists experience rapidly deteriorate as traffic approaches the absolute capacity. Under such conditions, congestion is experienced. There is general instability in the traffic flow, which means that relatively small incidents (e.g., momentary engine stall) can cause considerable fluctuations in speeds and delays. This near-capacity situation is labeled Level of Service (LOS) E. Beyond LOS E, capacity has been exceeded, and arriving traffic will exceed the ability of the intersection to accommodate it. An upstream queue will then form and continue to expand in length until the demand volume again declines.

A complete description of the meaning of level of service can be found in the Transportation Research Board Special Report 209, *Highway Capacity Manual* (HCM). The HCM establishes levels of service A through F as shown in Table A.

Table A: Level of Service Definitions

LOS	Description
A	No approach phase is fully utilized by traffic and no vehicle waits longer than one red indication. Typically, the approach appears quite open, turns are made easily and nearly all drivers find freedom of operation.
B	This service level represents stable operation, where an occasional approach phase is fully utilized and a substantial number are approaching full use. Many drivers begin to feel restricted within platoons of vehicles.
C	This level still represents stable operating conditions. Occasionally drivers may have to wait through more than one red signal indication, and backups may develop behind turning vehicles. Most drivers feel somewhat restricted, but not objectionably so.
D	This level encompasses a zone of increasing restriction approaching instability at the intersection. Delays to approaching vehicles may be substantial during short peaks within the peak period; however, enough cycles with lower demand occur to permit periodic clearance of developing queues, thus preventing excessive backups.
E	Capacity occurs at the upper end of this service level. It represents the most vehicles that any particular intersection approach can accommodate. Full utilization of every signal cycle is seldom attained no matter how great the demand.
F	This level describes forced flow operations at low speeds, where volumes exceed capacity. These conditions usually result from queues of vehicles backing up from a restriction downstream. Speeds are reduced substantially and stoppages may occur for short or long periods of time due to the congestion. In the extreme case, both speed and volume can drop to zero.

Table B shows the level of service criteria for unsignalized and signalized intersections.

Table B: Level of Service Criteria for Unsignalized and Signalized Intersections

Level of Service	Unsignalized Intersection Average Delay per Vehicle (sec.)	Signalized Intersection Average Delay per Vehicle (sec.)
A	≤ 10	≤ 10
B	> 10 and ≤ 15	> 10 and ≤ 20
C	> 15 and ≤ 25	> 20 and ≤ 35

Table B: Level of Service Criteria for Unsignalized and Signalized Intersections

Level of Service	Unsignalized Intersection Average Delay per Vehicle (sec.)	Signalized Intersection Average Delay per Vehicle (sec.)
D	> 25 and ≤ 35	> 35 and ≤ 55
E	> 35 and ≤ 50	> 55 and ≤ 80
F	> 50	> 80

For all study area intersections, the 2010 *Highway Capacity Manual* (HCM 2010) analysis methodologies were used to determine intersection levels of service. All levels of service were calculated using *Synchro 9.0* software, using the HCM 2010 methodologies.

Level of Service Standards

All study intersections are under the jurisdiction of the City of Loma Linda, which uses LOS C as its level of service standard for intersections. Therefore, study intersections in the City operating at LOS D, E, or F are required to be mitigated to LOS C or better.

ANALYSIS METHODOLOGY

Study Area Determination

The study area was determined based on discussion with City staff and includes the following intersections:

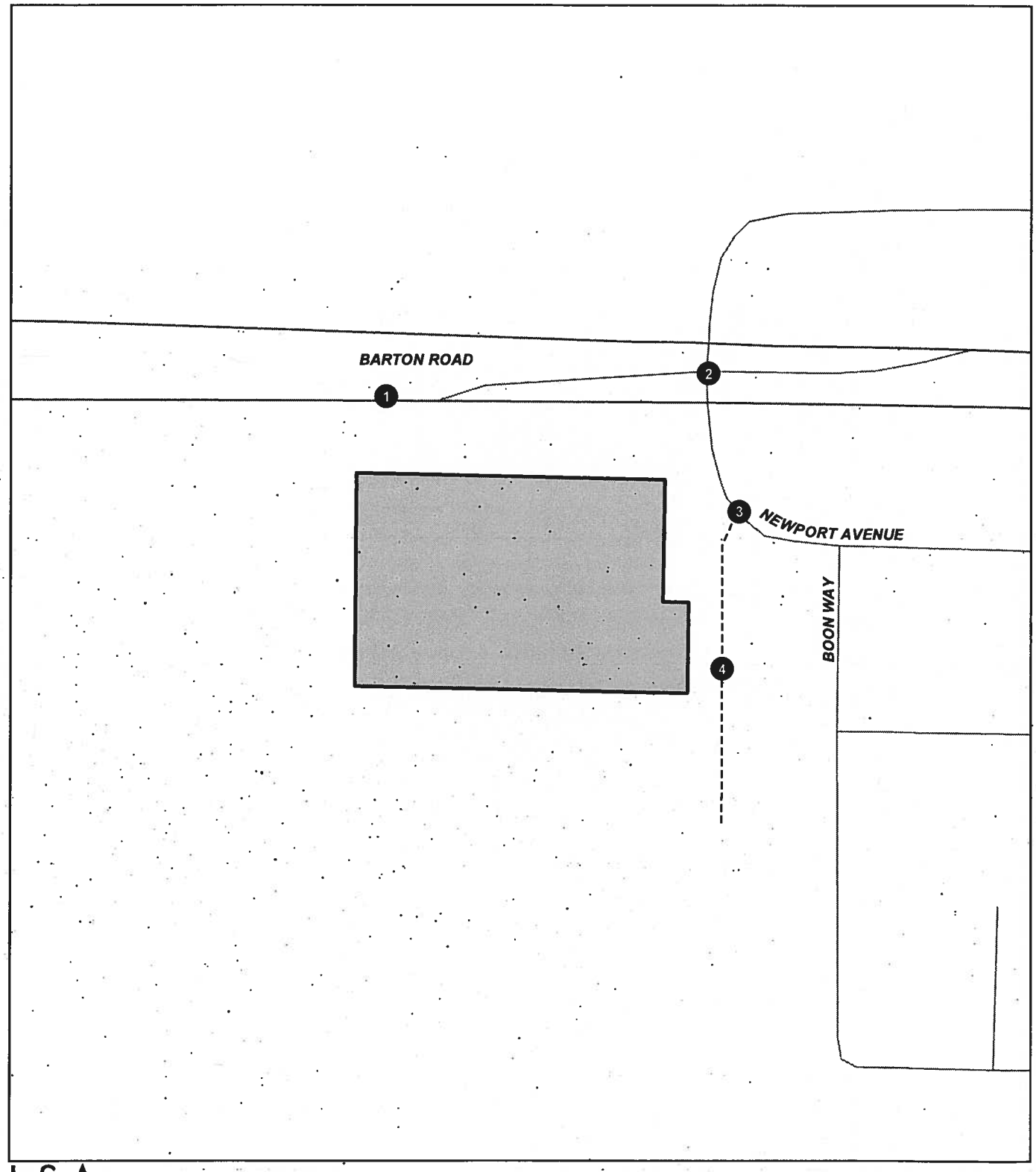
1. Project Driveway 1/Barton Road;
2. Newport Avenue/Barton Road;
3. Newport Avenue/Barton Road; and
4. Post Office Access/Driveway 2.

Figure 3 illustrates the study area intersections.

WITHOUT PROJECT TRAFFIC VOLUMES

Existing Traffic Volumes

Existing traffic volumes are based on peak hour intersection turn movement counts collected by National Data and Surveying Services in October 2015. Count sheets are contained in Appendix A. Vehicle classification counts were conducted for the intersection of Newport Avenue/Barton Road. Classification counts separate vehicle types into passenger cars, 2-axle trucks, 3-axle trucks, and 4-axle trucks. The concept of passenger car equivalents (PCEs), employed in all operational analysis in this report, accounts for the larger impact of trucks on traffic operations. It does so by assigning each type of truck a PCE factor that represents the number of passenger vehicles that could travel through an intersection in the same time that a particular type of truck could. For example, trucks with four or more axles have been assigned a PCE factor of 3.0, indicating that three passenger vehicles could travel through an intersection in the same amount of time required for a single truck with four or more



LSA

FIGURE 3

Project Location

Post Office Access

Study Area Intersection

N

0 50 100

FEET

Loma Linda Medical Office
Focused Traffic Impact Study

SOURCE: ESRI Streetmap, 2013.

Study Area Intersections

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axles. PCE volumes for study area locations with classification counts were computed using San Bernardino County Congestion Management Plan PCE factors of 1.5 for 2-axle trucks, 2.0 for 3-axle trucks, and 3.0 for trucks with four or more axles. Detailed volume development worksheets are included in Appendix B.

Figure 4 illustrates the existing intersection geometrics and stop control. The existing a.m. and p.m. peak hour traffic volumes (in PCEs) for the study intersections are illustrated in Figure 5.

Opening Year Traffic Volumes

Opening year traffic volumes (in PCEs) were developed by applying an annual growth rate of 2 percent per year (2015 to 2016) to the existing traffic volumes (in PCEs) at the intersections.

Figure 6 illustrates the opening year a.m. and p.m. peak hour traffic volumes. Detailed volume development worksheets are included in Appendix B.

Cumulative Traffic Volumes

Information concerning cumulative projects in the vicinity of the proposed project was obtained from City staff. Trip distribution patterns were determined by examining the locations of the cumulative projects in relation to surrounding land uses and the regional roadway network.

Trip generation for the cumulative projects was developed using rates from the Institute of Transportation Engineers (ITE) *Trip Generation*, 9th Edition.

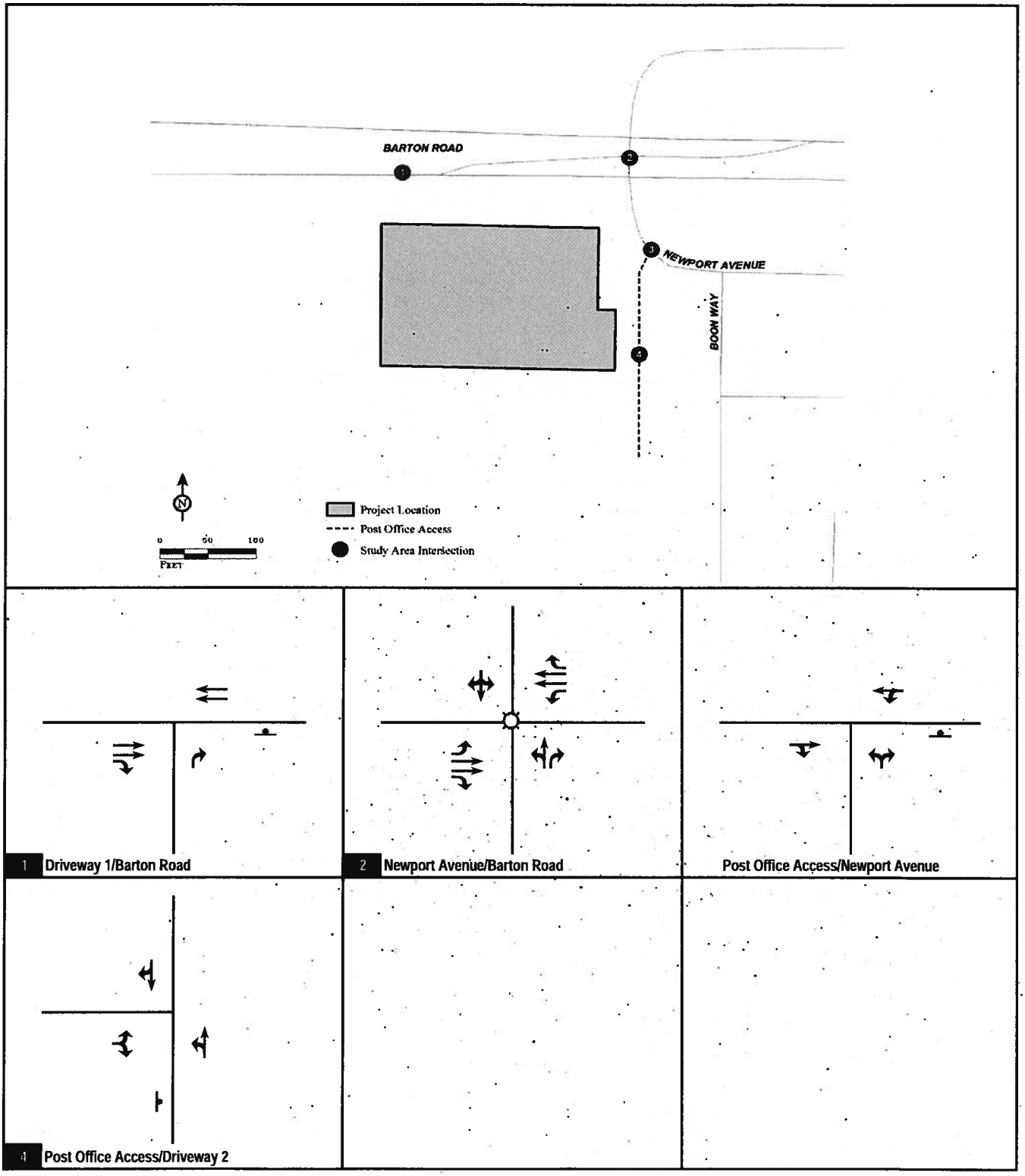
As shown in Table C, the cumulative projects are expected to generate 17,457 net daily trips, 671 a.m. peak hour net trips and 1,223 p.m. peak hour net trips (in PCEs). Figure 7 illustrates the total cumulative project trip volumes at each of the study area intersections. Figure 8 illustrates the cumulative a.m. and p.m. peak hour traffic volumes. Detailed volume development worksheets are included in Appendix B.

Year 2035 Without Project Traffic Volumes

Year 2035 traffic volumes were developed using the San Bernardino Traffic Analysis Model (SBTAM). The following describes the methodology used to post-process model volumes to develop the peak hour intersection volumes for the year 2035 background (without project) conditions.

Volume development worksheets are included in Appendix B. The methodology used is consistent with San Bernardino Associated Governments (SANBAG) procedures for post-processing of modeled traffic volumes. The base year for the model is 2008 and the forecast year is 2035. The following describes in detail the methodology employed to determine the a.m. and p.m. peak hour intersection turn movements for year 2035 without project conditions:

1. The difference between the modeled 2008 and 2035 peak period directional arterial traffic volumes in PCEs (for each intersection approach and departure) was identified from loaded network plots. This difference defines growth in traffic over the 27-year period.



LSA

FIGURE 4

Legend

Signal

Stop Sign

Loma Linda Medical Center

Traffic Study

Existing With Project Intersection Geometrics and Stop Control

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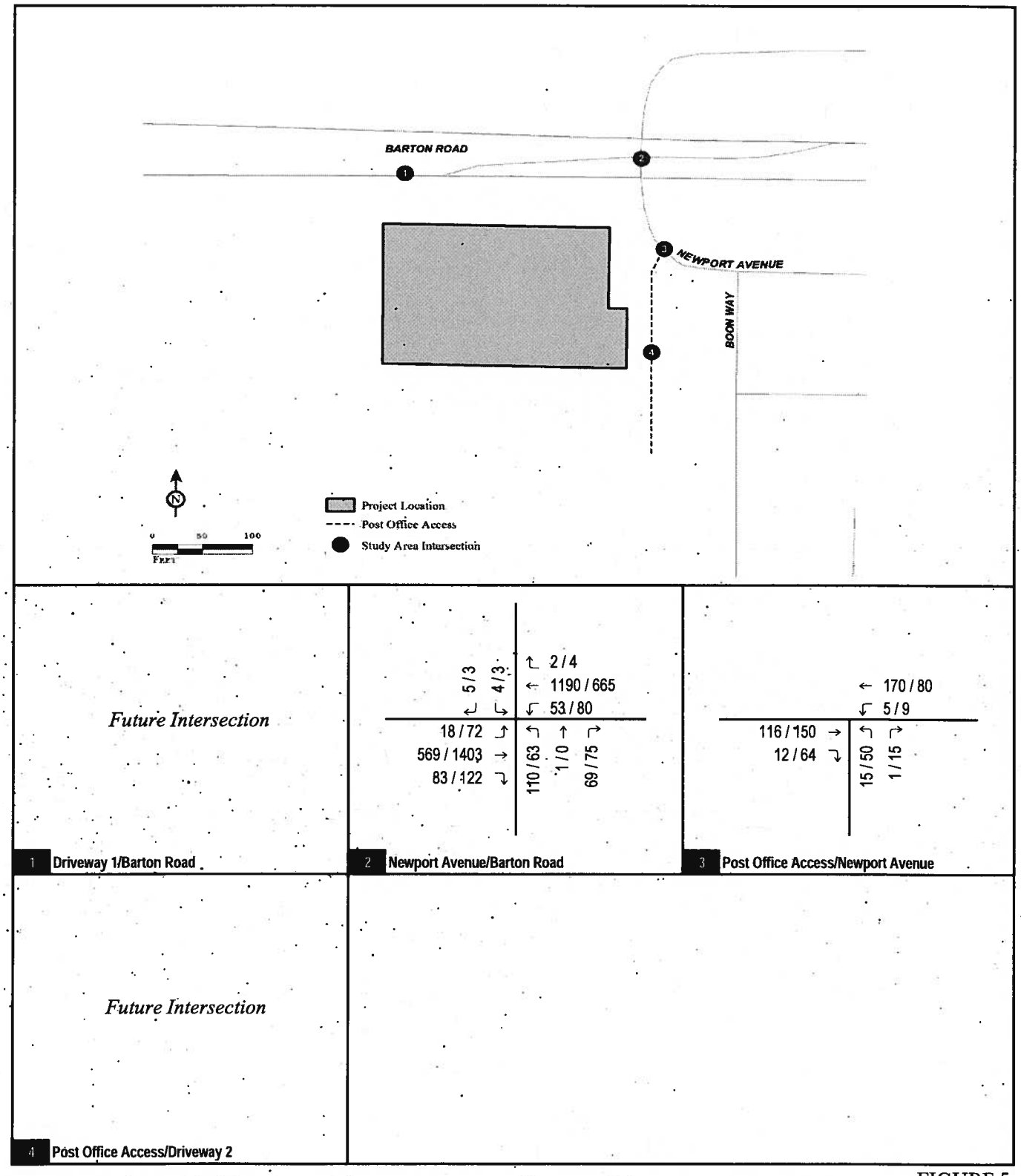

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FIGURE 5

XX / YY AM / PM Peak Hour Traffic Volumes

Loma Linda Medical Center

Traffic Study

Existing Peak Hour Traffic Volumes (In PCEs)

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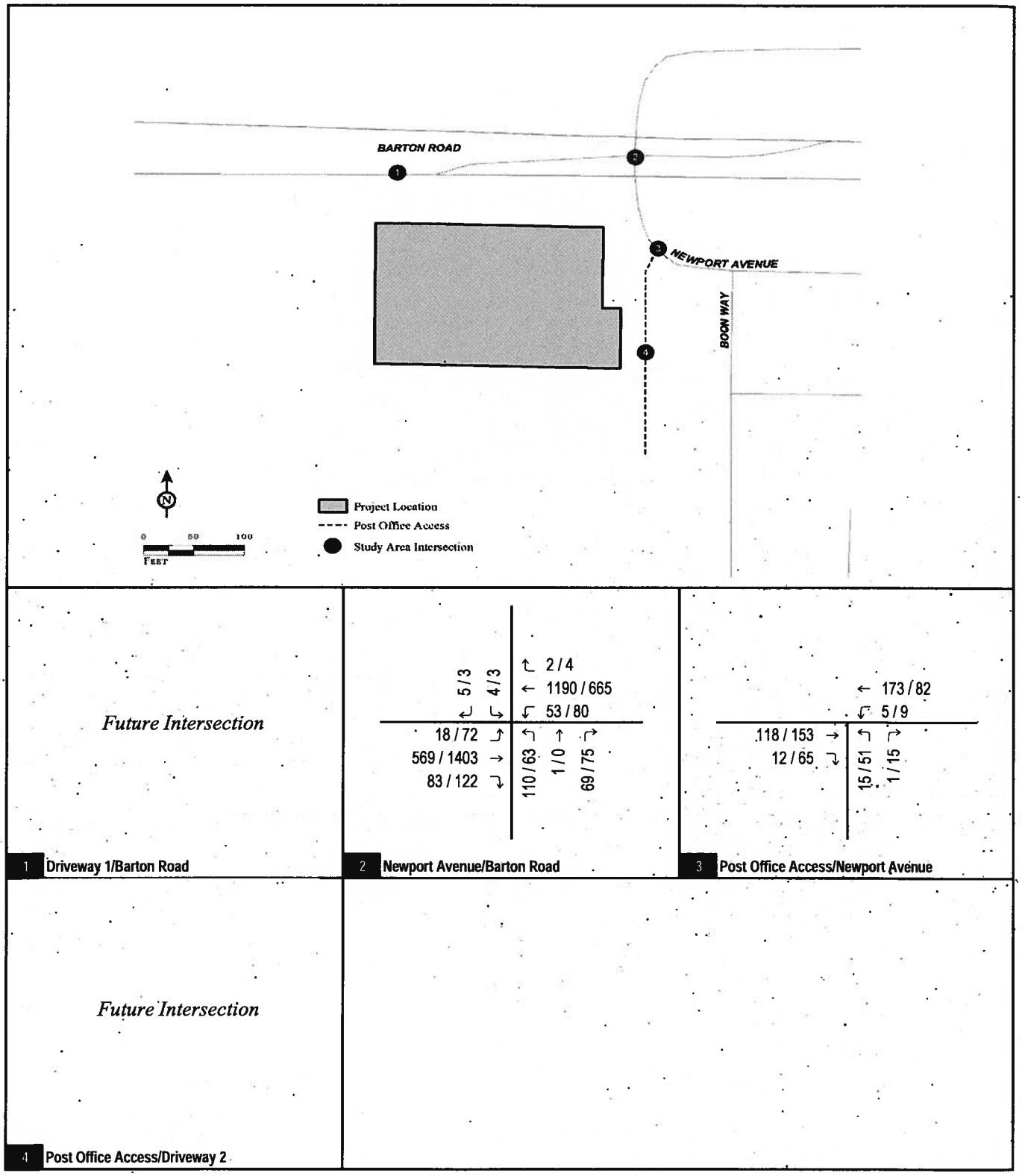

LSA

FIGURE 6

XX / YY AM / PM Peak Hour Traffic Volumes

Loma Linda Medical Center
- Traffic Study
Opening Year Peak Hour Traffic Volumes (In PCEs)

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Table C - Cumulative Projects Trip Generation

Land Use	Units	Rate	A.M. Peak Hour In	A.M. Peak Hour Out	A.M. Peak Hour Total	P.M. Peak Hour In	P.M. Peak Hour Out	P.M. Peak Hour Total	Daily
1 . Southwest corner of Van Leuven Street and Ent Del Parque									
Multi-Family Residential	87 DU	Trips/Unit[1]	0.10	0.41	0.51	0.40	0.22	0.62	6.65
		Trip Generation	9	36	45	36	18	54	579
		Total Net Trip Generation	**9**	**36**	**45**	**36**	**18**	**54**	**579**
2 . West of California Street between Misson Road and Redlands Boulevard									
Single-Family Residential	230 DU	Trips/Unit[2]	0.19	0.56	0.75	0.63	0.37	1.00	9.52
		Trip Generation	43	130	173	145	85	230	2,190
Senior Apartments	125 DU	Trips/Unit[3]	0.07	0.13	0.20	0.14	0.12	0.25	3.44
		Trip Generation	9	16	25	17	14	31	430
Mixed Use	221 DU	Trips/Unit[1]	0.10	0.41	0.51	0.40	0.22	0.62	6.65
		Trip Generation	23	90	113	89	48	137	1,470
Commercial/Mixed use	300.6 TSF	Trips/Unit[4]	0.60	0.36	0.96	1.78	1.93	3.71	42.7
		Trip Generation	179	110	289	535	580	1,115	12,834
		Pass-by[5]				(190)	(189)	(379)	(379)
		Net Trip Generation	179	110	289	345	391	736	12,455
		Total Net Trip Generation	**254**	**346**	**600**	**596**	**538**	**1,134**	**16,545**
3 . Southeast corner of Citrus Avenue and California Street									
Single-Family Residential	35 DU	Trips/Unit[2]	0.19	0.56	0.75	0.63	0.37	1.00	9.52
		Trip Generation	7	19	26	22	13	35	333
		Total Net Trip Generation	**7**	**19**	**26**	**22**	**13**	**35**	**333**
		Total Net Cumulative Project Trips	**270**	**401**	**671**	**654**	**569**	**1,223**	**17,457**

Notes:

DU = Dwelling Units; TSF = Thousand Square Feet

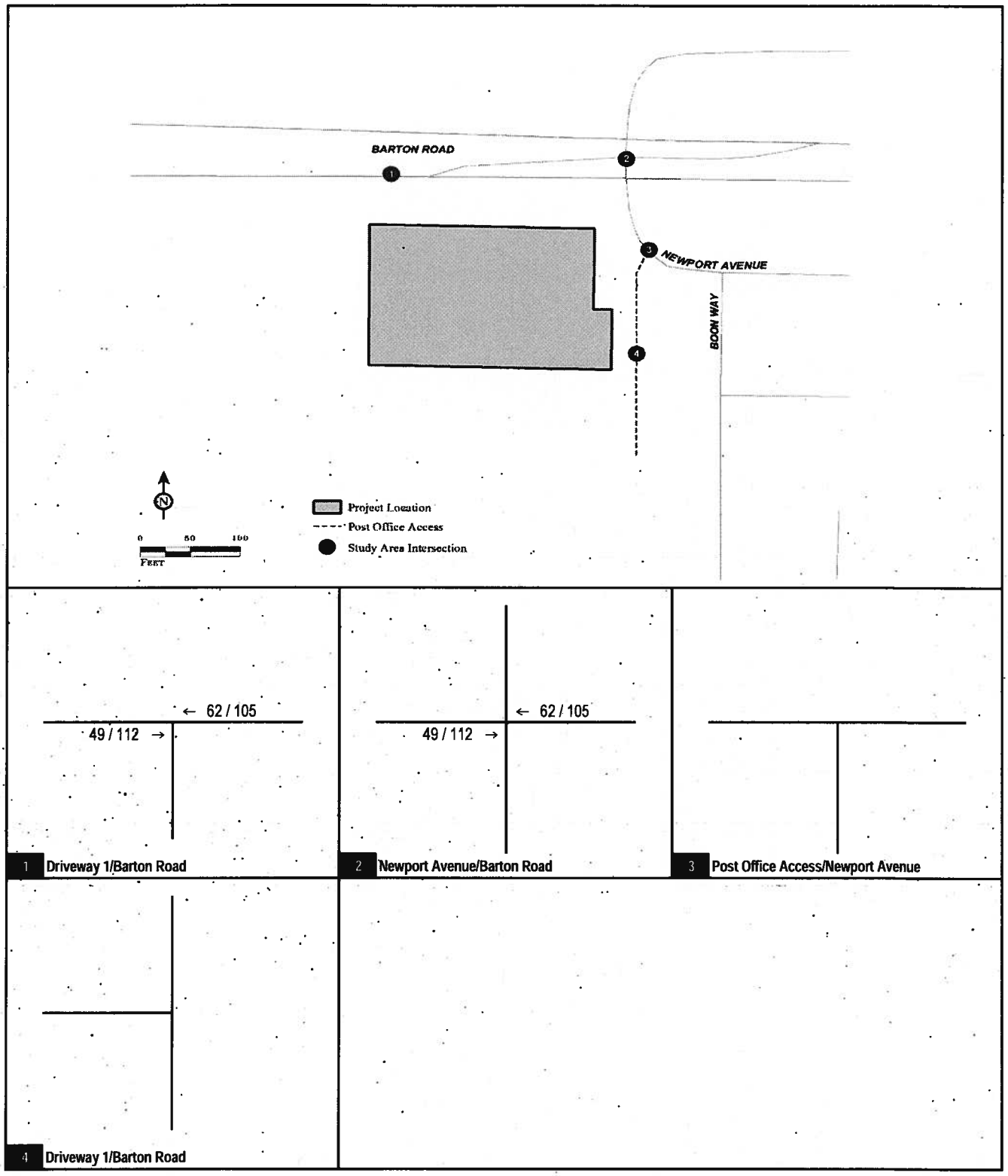
[1] Rates based on Land Use 220 - "Apartment" from Institute of Transportation Engineers (ITE), *Trip Generation*, 9th Edition.

[2] Rates based on Land Use 210 - "Single-Family Detached Housing" from ITE *Trip Generation*, 9th Edition.

[3] Rates based on Land Use 252 - "Senior Adult Housing - Attached " from ITE Trip Generation 9th, Edition.

[4] Rates based on Land Use 820 - "Shopping Center" from ITE *Trip Generation*, 9th Edition.

[5] Pass-by rates based on Land Use 820 - "Shopping Center" from the ITE *Trip Generation Handbook*, 2nd Edition. A pass-by rate of 34% was used for the p.m. peak hour. No a.m. peak hour and daily pass-by rates are provided. Therefore, p.m. peak hour pass-by trips were applied to daily pass-by trips.



LSA

FIGURE 7

XX / YY AM / PM Peak Hour Trips

Loma Linda Medical Center

Traffic Study

Cumulative Projects Trip Assignment

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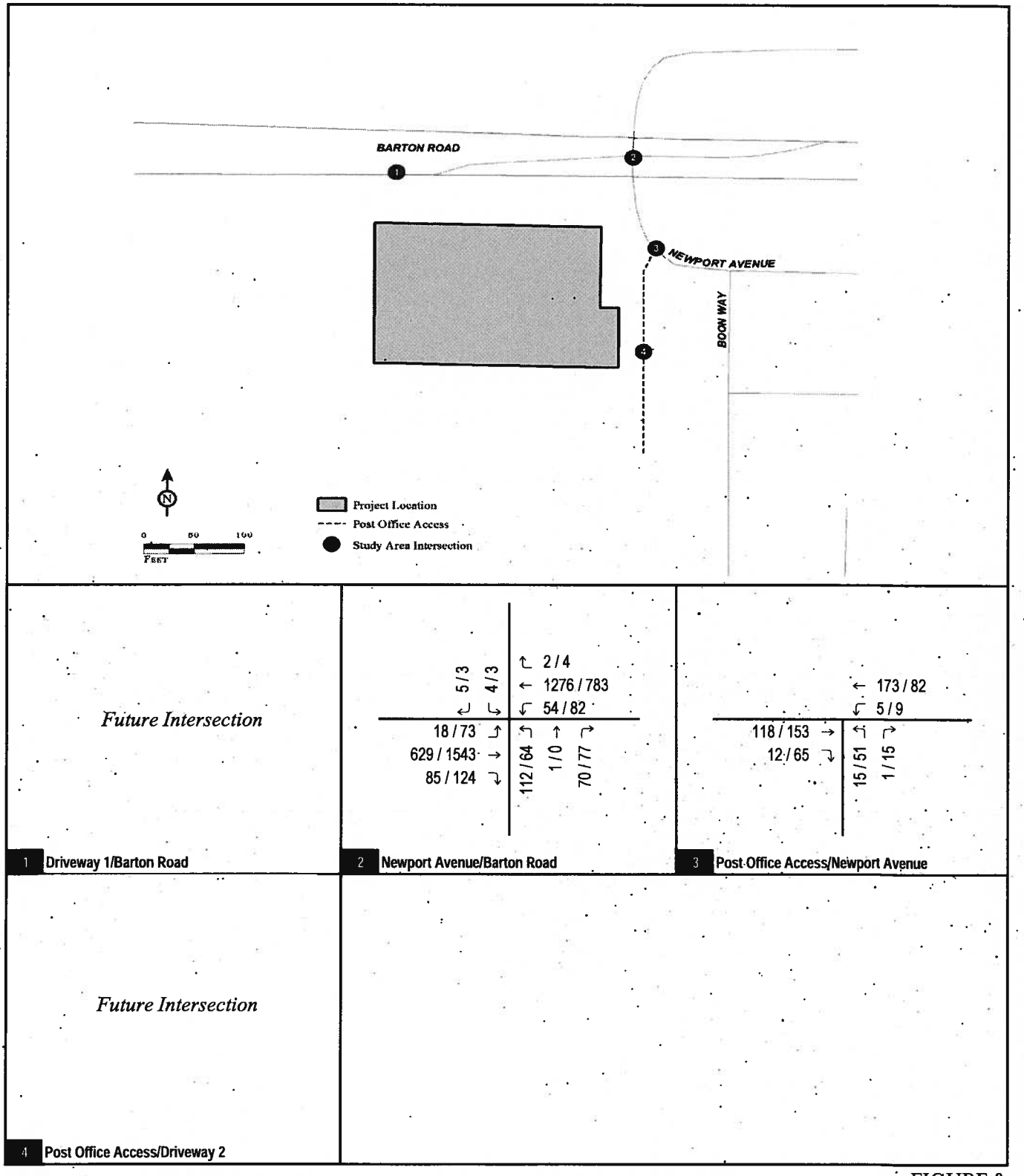

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FIGURE 8

XX / YY AM / PM Peak Hour Traffic Volumes

Loma Linda Medical Center
Traffic Study
Cumulative Peak Hour Traffic Volumes (In PCEs)

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2. The incremental growth in peak period approach and departure volumes between 2008 and 2035 was factored to develop the incremental change in peak hour volumes. The SBTAM use a three-hour a.m. peak period and a four-hour p.m. peak period. The Southern California Association of Governments (SCAG) has established that the a.m. peak hour comprises 38 percent of the peak period and the p.m. peak hour comprises 28 percent of the peak period. Therefore, the incremental changes in peak period volumes were multiplied by the appropriate factors to develop incremental changes in peak hour volumes.
3. The incremental growth in approach and departure volumes between 2008 and 2035 was factored to reflect the forecast growth between the year of the ground counts (2015) and build-out (2035). For this purpose, linear growth between the 2008 base condition and the forecast 2035 condition was assumed. As the increment between existing (2015) and build-out (2035) is 20 years of the 27-year time span, a factor of 0.74 (i.e., 20/27) was used.
4. The forecast growth in approach and departure volumes through build-out year (2035) conditions was added to the 2015 ground counts, resulting in "post-processed" build-out year (2035) link volumes.
5. Forecast year 2035 turn volumes were developed using existing (2015) turn volumes and the future approach and departure volumes, based on the methodologies contained in National Cooperative Highway Research Program Report (NCHRP) 255: *Highway Traffic Data for Urbanized Area Project Planning and Design* (Transportation Research Board, December 1982).

Detailed volume development worksheets are included in Appendix B. Figure 9 illustrates year 2035 a.m. and p.m. peak hour traffic volumes.

PROJECT TRAFFIC

Project Trip Generation

Trip generation for the proposed project was developed using rates for Land Use 720, "Medical-Dental Office Building" from the ITE *Trip Generation,* 9th Edition. Table D summarizes the a.m. and p.m. peak hour and daily project trip generation and shows that the project is expected generate 38 trips in the a.m. peak hour, 57 trips in the p.m. peak hour, and 574 daily trips.

Project Trip Distribution (Access Alternative 1)

The distribution of project trips was developed based on the regional roadway network and the location of the proposed project in relation to the surrounding areas. Figure 10 illustrates the trip distribution for Access Alternative 1. Trip assignment for project trips is the product of the project trip generation and the trip distribution percentages. Figure 11 illustrates the project trip assignment for Access Alternative 1.

Project Trip Distribution (Access Alternative 2)

The distribution of project trips for Access Alternative 2 was developed using the same regional distribution as Access Alternative 1 and adjusted to reflect the removal of Driveway 1/Barton Road and the addition of Post Office Access/Barton Road. Figure 12 illustrates the trip distribution for

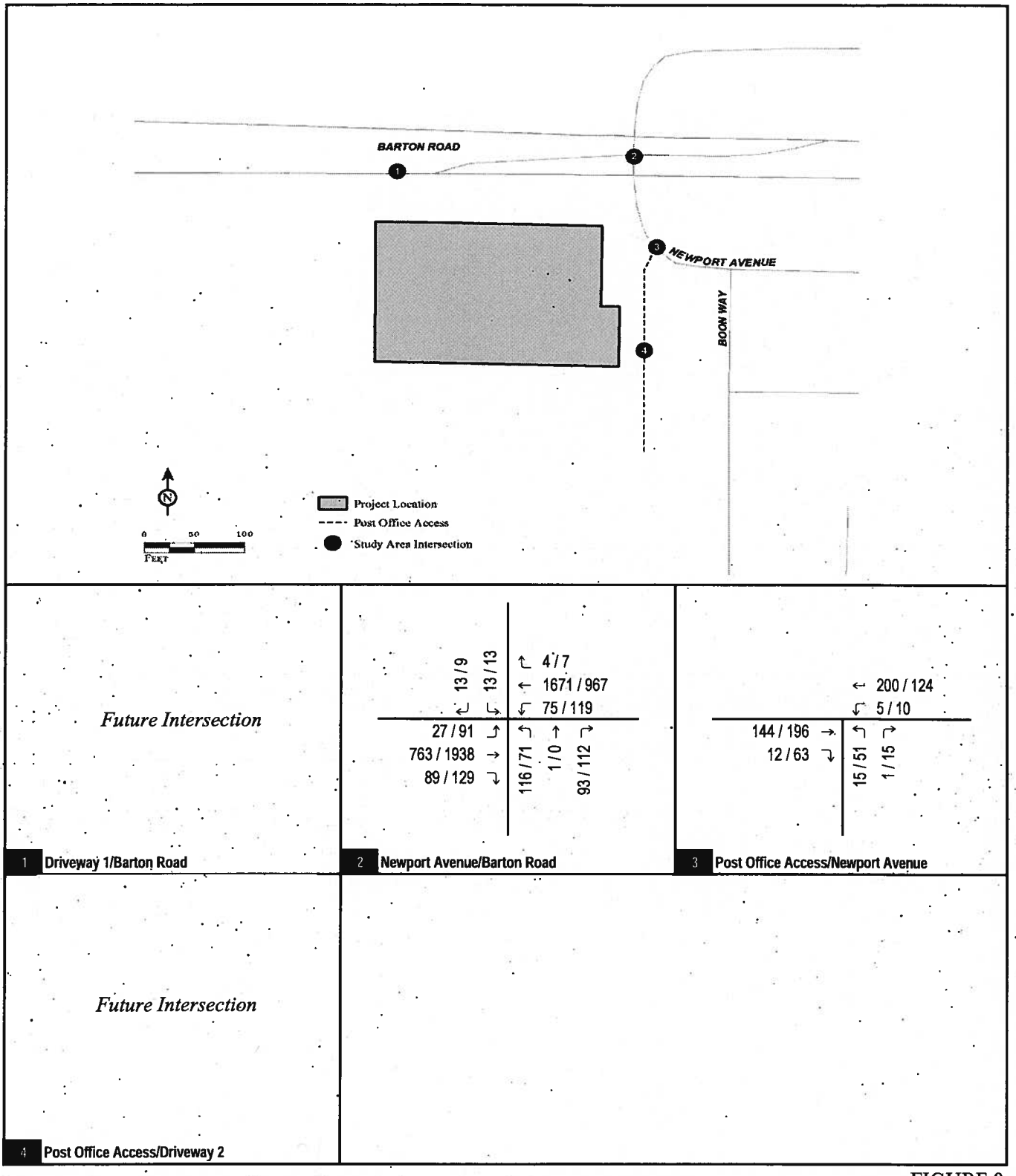

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FIGURE 9

XX / YY AM / PM Peak Hour Traffic Volumes

Loma Linda Medical Center
Traffic Study
Year 2035 Peak Hour Traffic Volumes (In PCEs)

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Table D - Project Trip Generation

Land Use	Units	A.M. Peak Hour			P.M. Peak Hour			Daily
		In	Out	Total	In	Out	Total	
Medical Office Building	15.88 TSF							
Trips/Unit[1]		1.89	0.50	2.39	1.00	2.57	3.57	36.13
Trip Generation		30	8	38	16	41	57	574

Note: values may not add up due to rounding.

DU = dwelling unit

[1] Rates from Institute of Transportation Engineers (ITE) *Trip Generation* (9th Edition), Land Use 720 - "Medical-Dental Office Building"

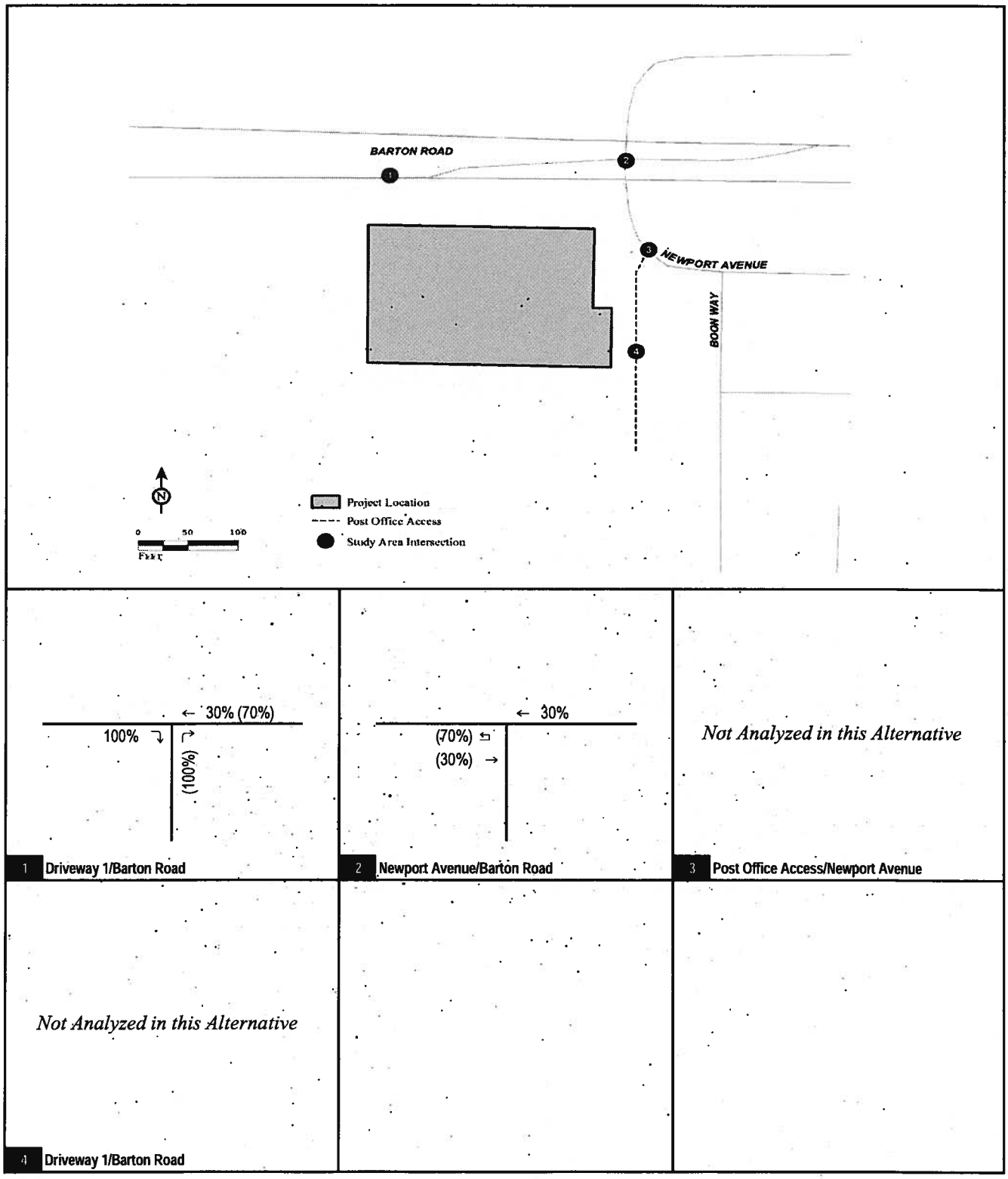

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FIGURE 10

XX% (YY%) Inbound% (Outbound%) Trip Distribution

Loma Linda Medical Center

Traffic Study

Project Trip Distribution (Access Alternative 1)

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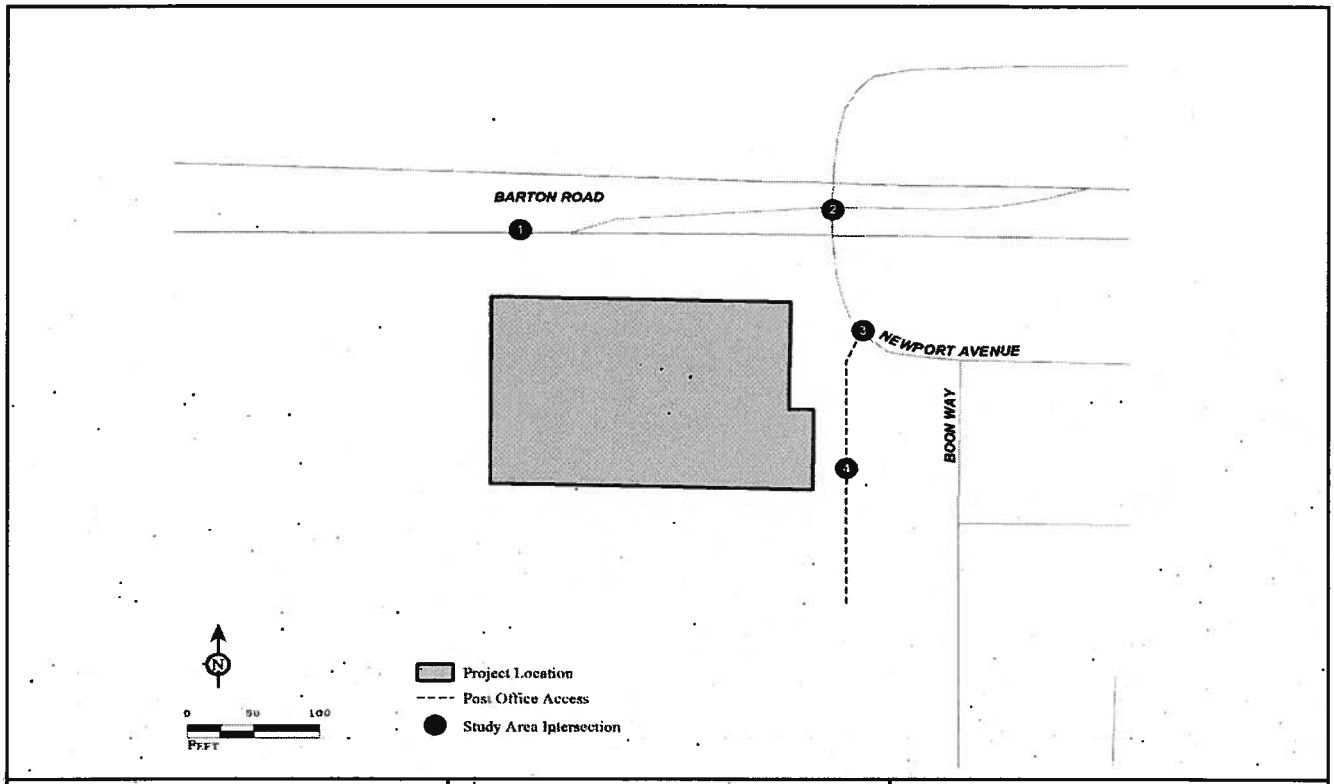

1 Driveway 1/Barton Road

← 15 / 34
30 / 16 ↴
↱
8 / 41

2 Newport Avenue/Barton Road

← 9 / 5
6 / 29 ↰
2 / 12 →

3 Post Office Access/Newport Avenue

Not Analyzed in this Alternative

4 Driveway 1/Barton Road

Not Analyzed in this Alternative

LSA

FIGURE 11

XX / YY AM / PM Peak Hour Trips

Loma Linda Medical Center
Traffic Study
Project Trip Assignment (Access Alternative I)

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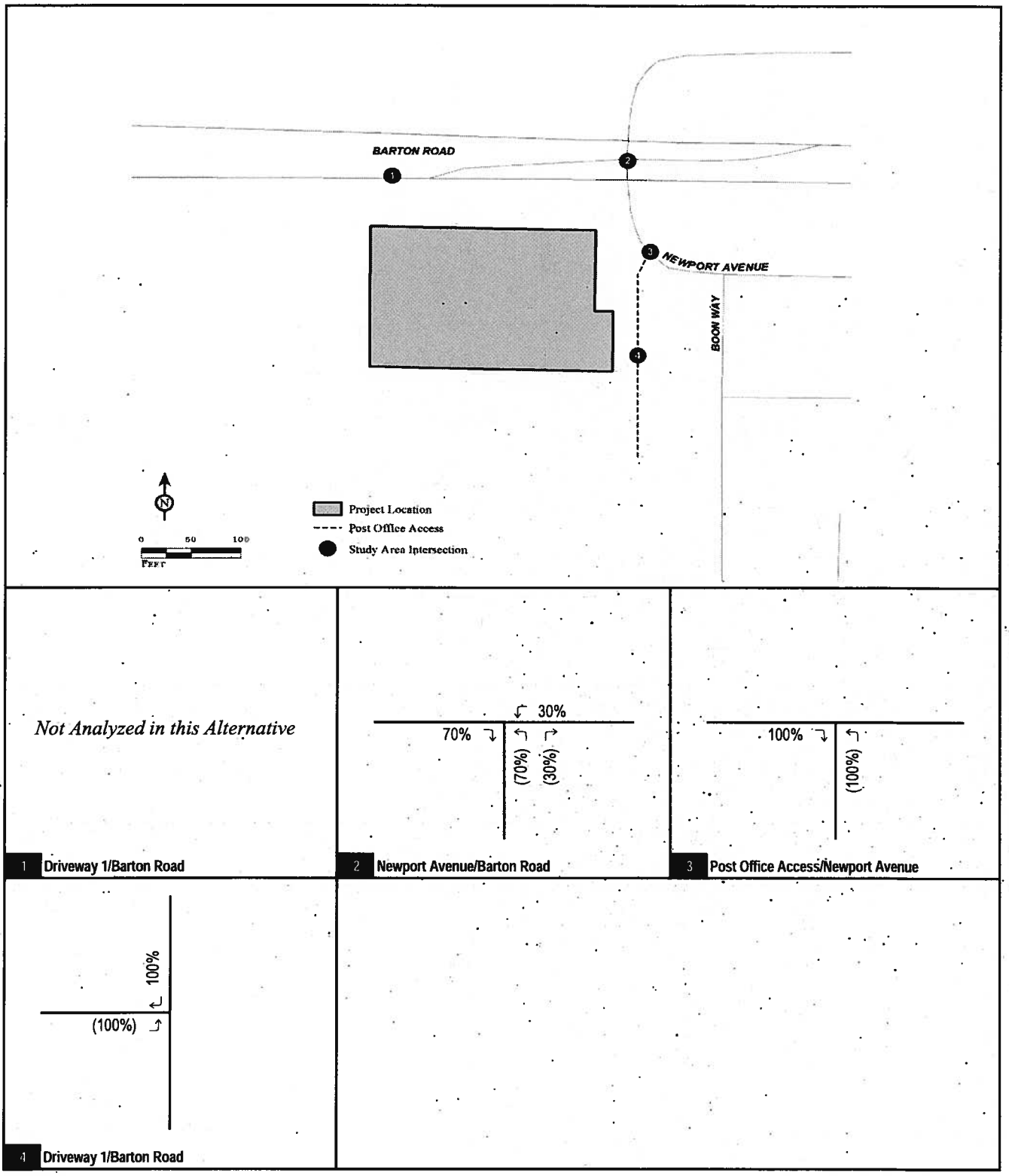


LSA

FIGURE 12

XX% (YY%) Inbound% (Outbound%) Trip Distribution

Loma Linda Medical Center

Traffic Study

Project Trip Distribution (Access Alternative 2)

R:\RMO1501\Traffic\z12 - Dist2 12/10/2015

Access Alternative 2. Trip assignment for project trips is the product of the project trip generation and the trip distribution percentages. Figure 13 illustrates the project trip assignment for Access Alternative 2.

WITH PROJECT TRAFFIC VOLUMES

Access Alternative 1

Existing, opening year, cumulative, and year 2035 with project traffic volumes for Access Alternative 1 were developed by adding project traffic from Access Alternative 1 to the corresponding without project scenarios. Figure 14 illustrates the existing with project (Access Alternative 1) a.m. and p.m. peak hour traffic volumes. Figure 15 illustrates the opening year with project (Access Alternative 1) a.m. and p.m. peak hour traffic volumes. Figure 16 illustrates the cumulative with project (Access Alternative 1) a.m. and p.m. peak hour traffic volumes. Figure 17 illustrates the year 2035 with project (Access Alternative 1) a.m. and p.m. peak hour traffic volumes.

Access Alternative 2

Existing, opening year, cumulative, and year 2035 with project traffic volumes for Access Alternative 2 were developed by adding project traffic from Access Alternative 2 to the corresponding without project scenarios. Figure 18 illustrates the existing with project (Access Alternative 2) a.m. and p.m. peak hour traffic volumes. Figure 19 illustrates the opening year with project (Access Alternative 2) a.m. and p.m. peak hour traffic volumes. Figure 20 illustrates the cumulative with project (Access Alternative 2) a.m. and p.m. peak hour traffic volumes. Figure 21 illustrates the year 2035 with project (Access Alternative 2) a.m. and p.m. peak hour traffic volumes.

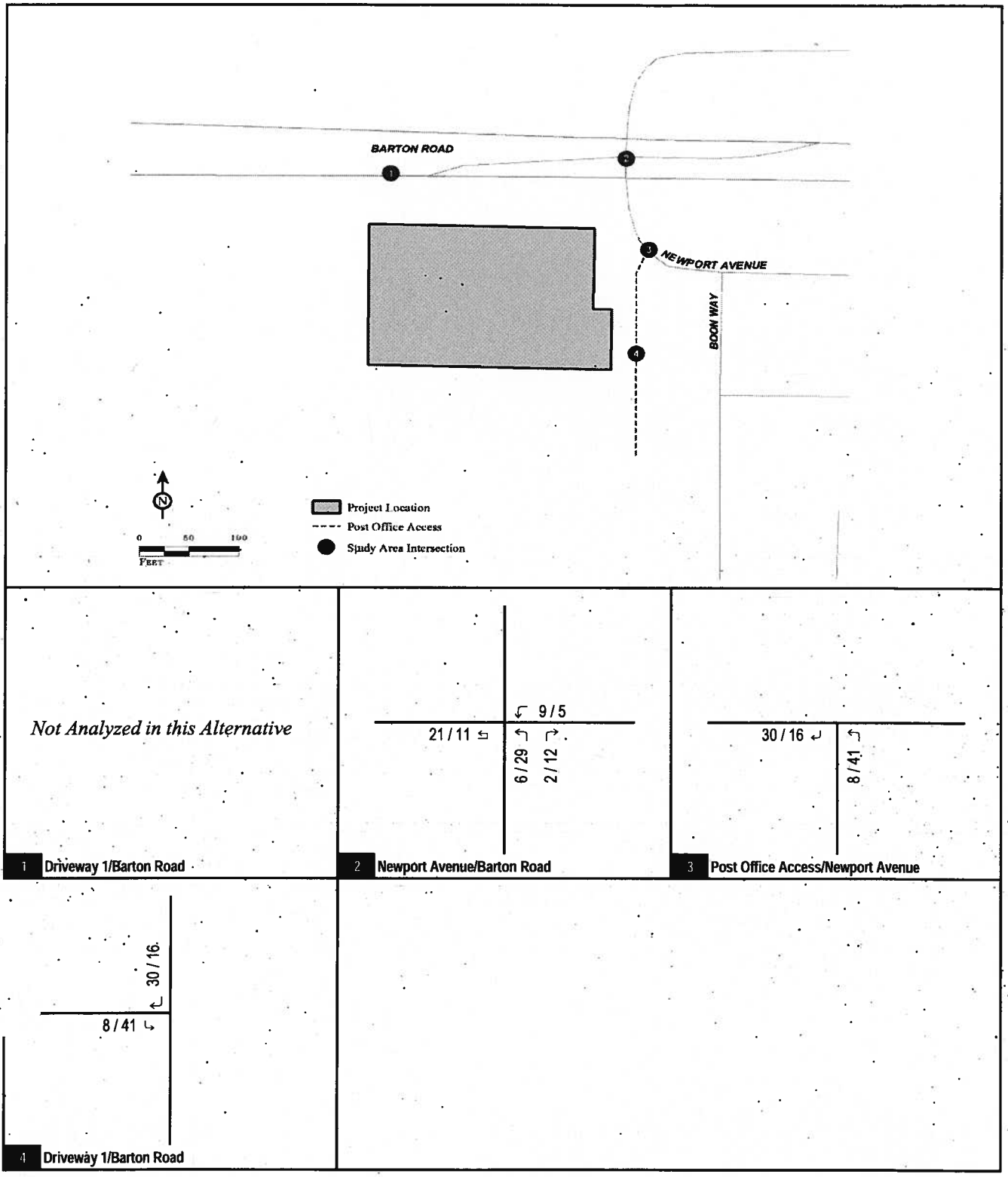
INTERSECTION LEVELS OF SERVICE

Existing and Existing With Project Access Alternative 1 Levels of Service

Existing and existing with project Access Alternative 1 traffic volumes were developed using the approaches discussed in the traffic volumes without and with project scenarios sections. Intersection level of service analyses were conducted for existing and existing with project Access Alternative 1 conditions to determine current and projected intersection performance. Table E summarizes the results of these analyses and shows that all intersections are currently and projected to operate at satisfactory levels of service. Level of service calculation worksheets are contained in Appendix C.

Opening Year and Opening Year With Project Access Alternative 1 Levels of Service

Opening year and opening year with project Access Alternative 1 traffic volumes were developed using the approaches discussed in the traffic volumes without and with project scenarios sections. Intersection level of service analyses were conducted for opening year and opening year with project Access Alternative 1 conditions to determine intersection performance. Table F summarizes the results of these analyses and shows that all intersections are projected to operate at satisfactory levels of service. Level of service calculation worksheets are contained in Appendix C.



LSA

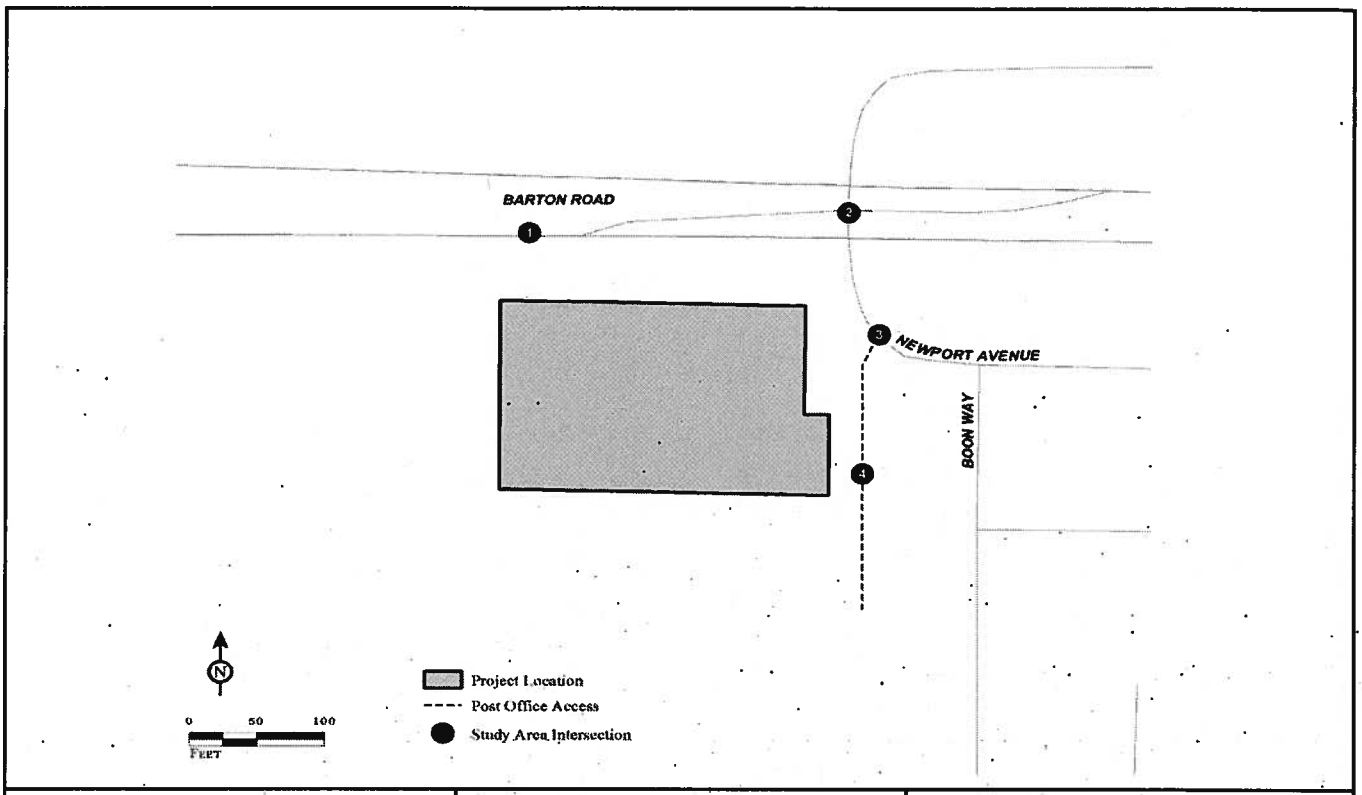
FIGURE 13

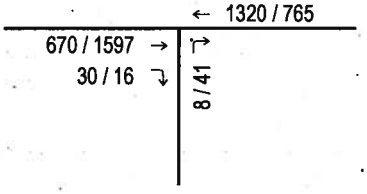
XX / YY AM / PM Peak Hour Trips

Loma Linda Medical Center

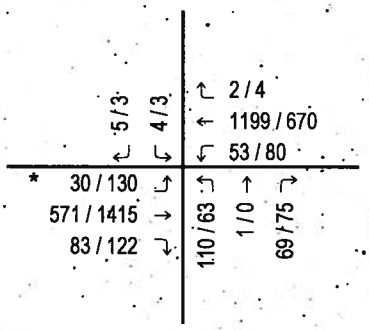
Traffic Study

Project Trip Assignment (Access Alternative 2)





1 Driveway 1/Barton Road



2 Newport Avenue/Barton Road

Not Analyzed in this Alternative

3 Post Office Access/Newport Avenue

Not Analyzed in this Alternative

4 Post Office Access/Driveway 2

LSA

FIGURE 14

XX / YY AM / PM Peak Hour Traffic Volumes

* Includes U-Turns

Loma Linda Medical Center

Traffic Study

Existing With Project (Access Alternative I) Peak Hour Traffic Volumes (In PCEs)

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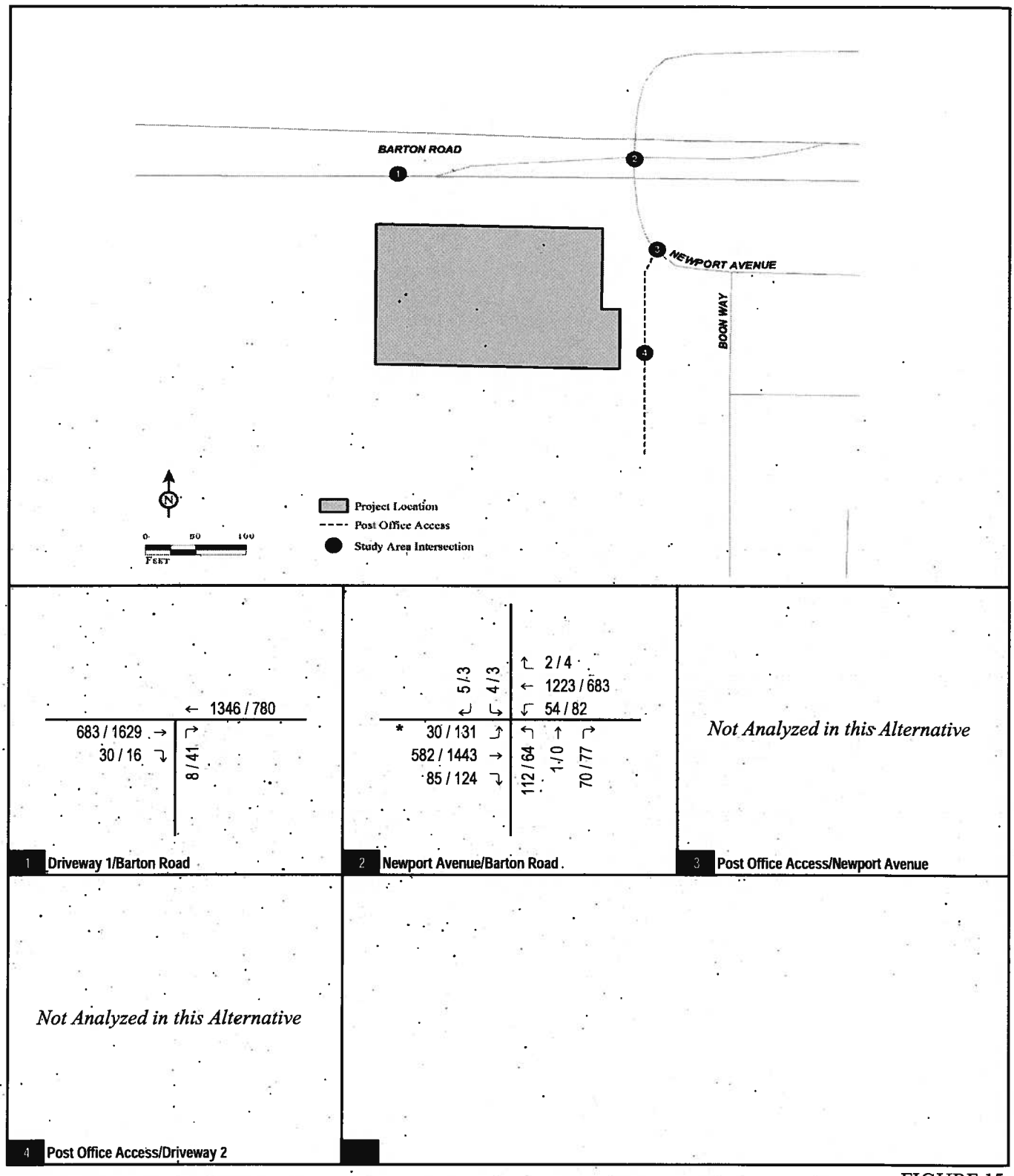


LSA

FIGURE 15

XX / YY AM / PM Peak Hour Traffic Volumes

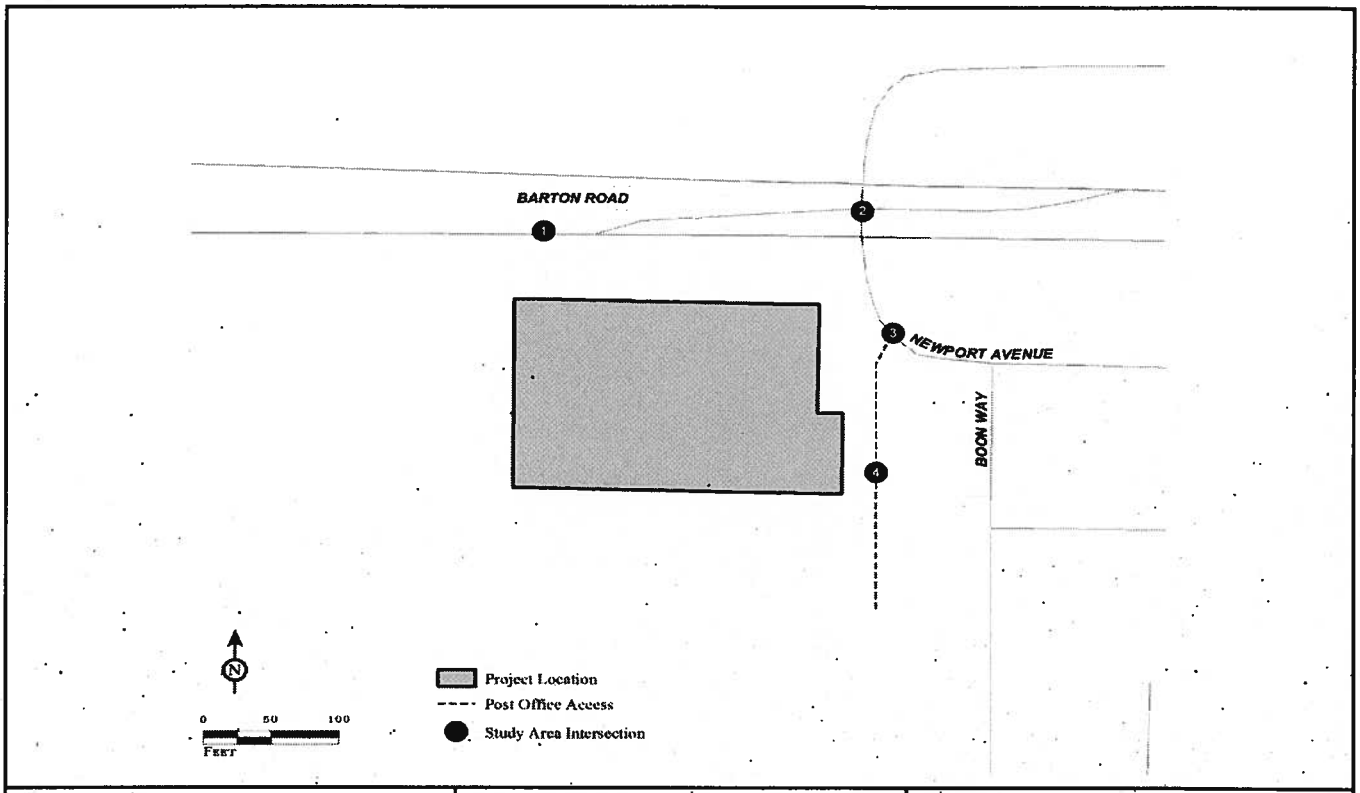
* Includes U-Turns

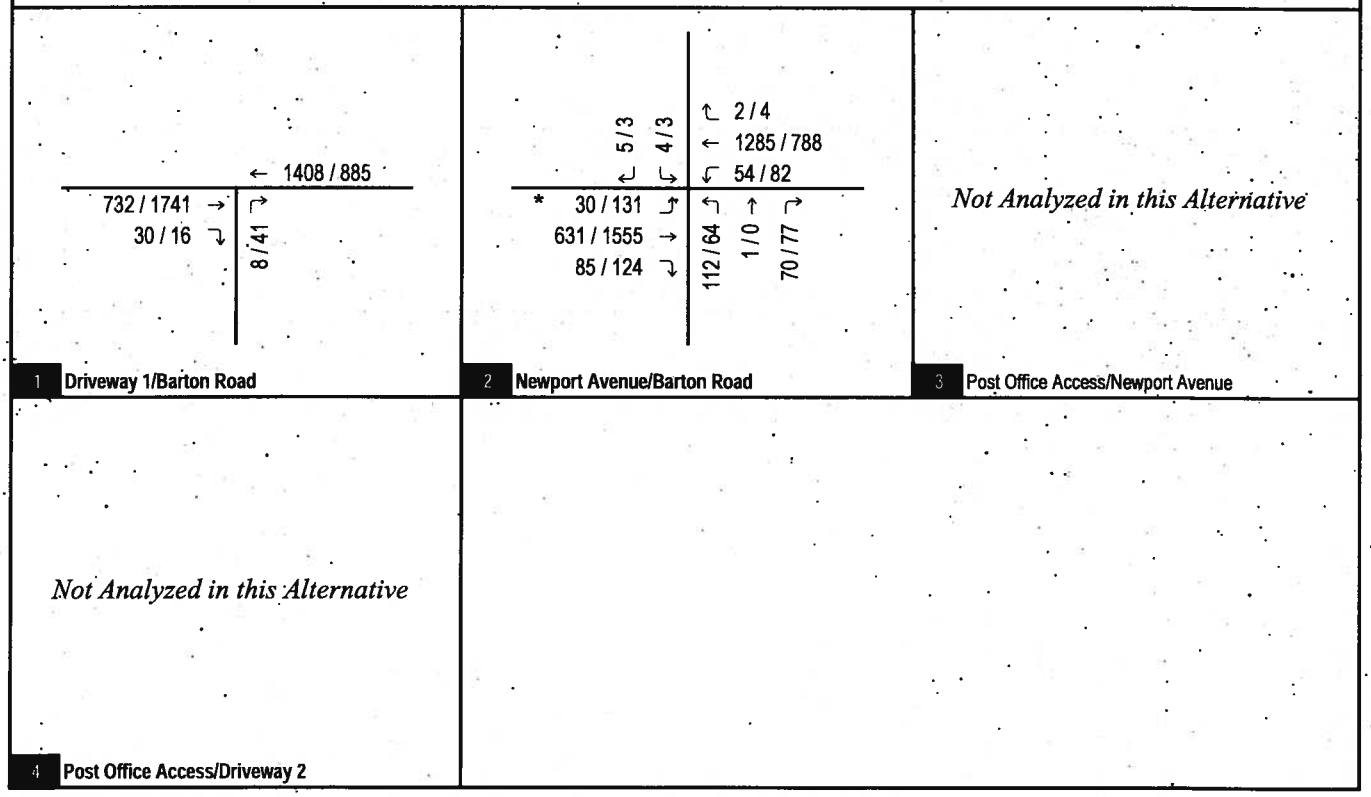
Loma Linda Medical Center

Traffic Study

Opening Year With Project (Access Alternative 1) Peak Hour Traffic Volumes (In PCEs)

R:\RMO1501\Traffic\z12 - Vol_OY P 12/10/2015





LSA

FIGURE 16

XX / YY AM / PM Peak Hour Traffic Volumes

* Includes U-Turns

Loma Linda Medical Center

Traffic Study

Cumulative With Project (Access Alternative 1) Peak Hour Traffic Volumes (In PCEs)

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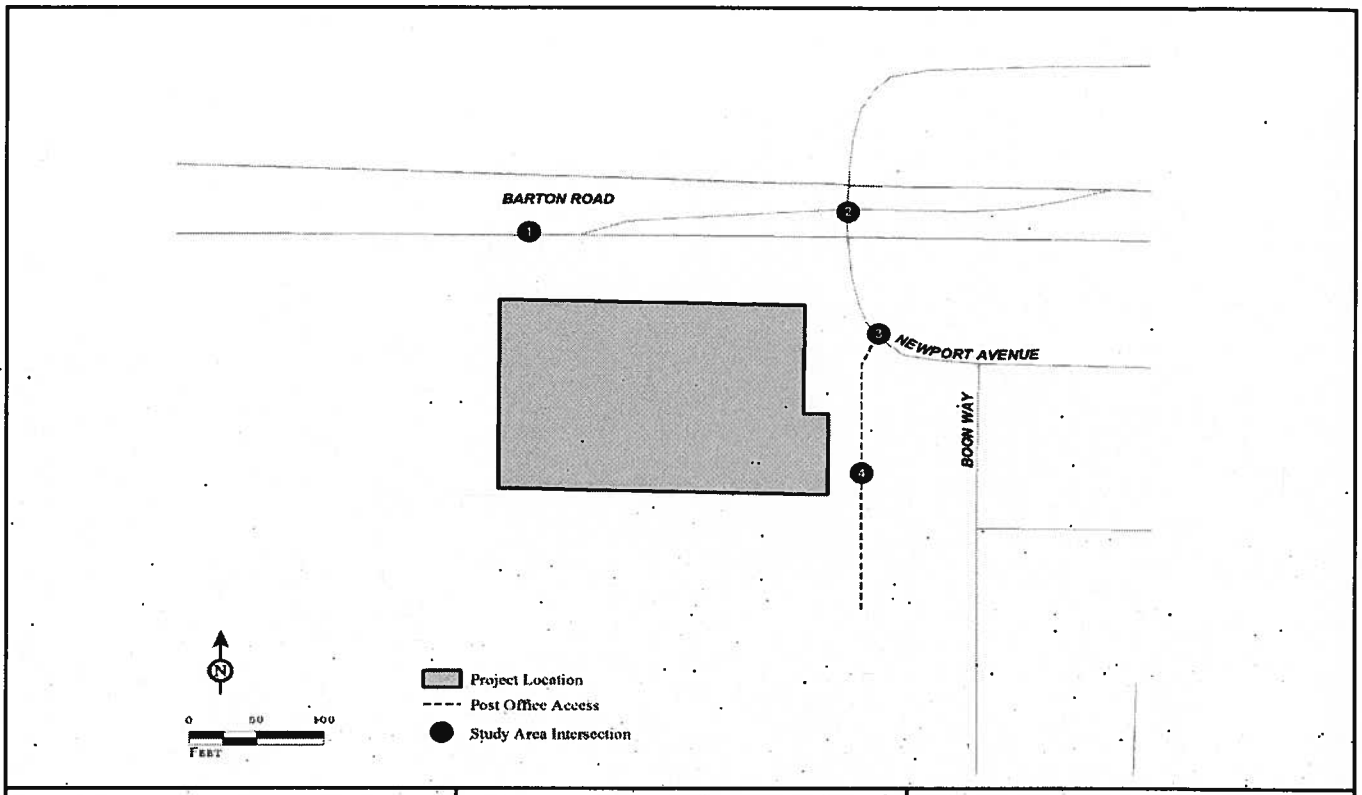
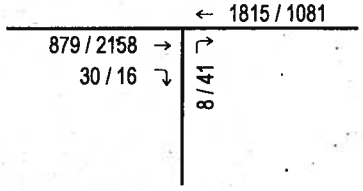
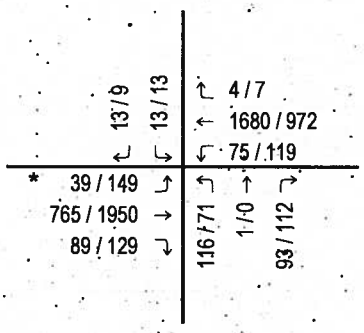




1 Driveway 1/Barton Road



2 Newport Avenue/Barton Road

Not Analyzed in this Alternative

3 Post Office Access/Newport Avenue

Not Analyzed in this Alternative

4 Post Office Access/Driveway 2

LSA

FIGURE 17

XX / YY AM / PM Peak Hour Traffic Volumes

* Includes U-Turns

Loma Linda Medical Center

Traffic Study

Year 2035 With Project (Access Alternative 1) Peak Hour Traffic Volumes (In PCEs)

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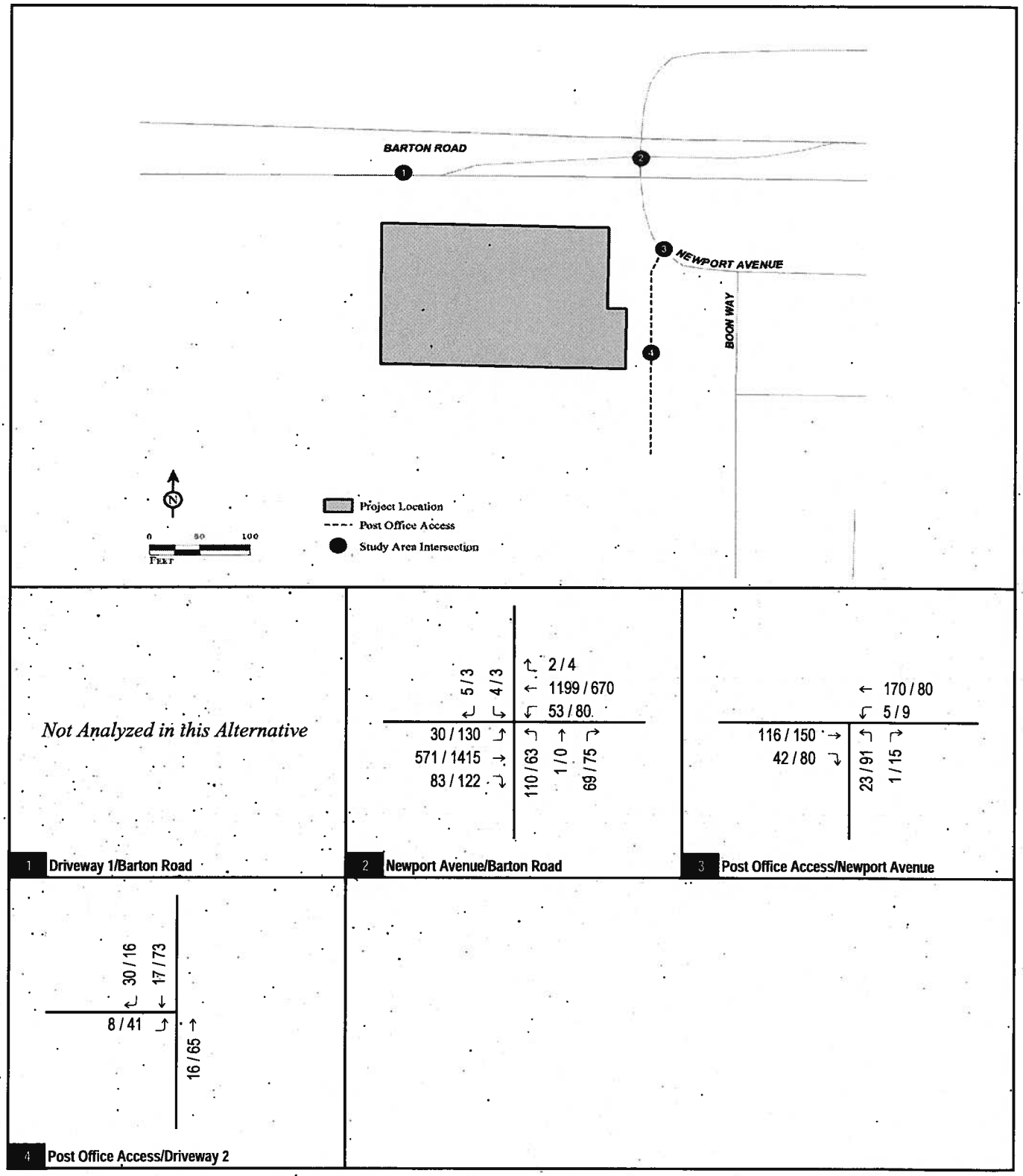

LSA

FIGURE 18

XX / YY AM / PM Peak Hour Traffic Volumes

Loma Linda Medical Center

Traffic Study

Existing With Project (Access Alternative 2) Peak Hour Traffic Volumes (In PCEs)

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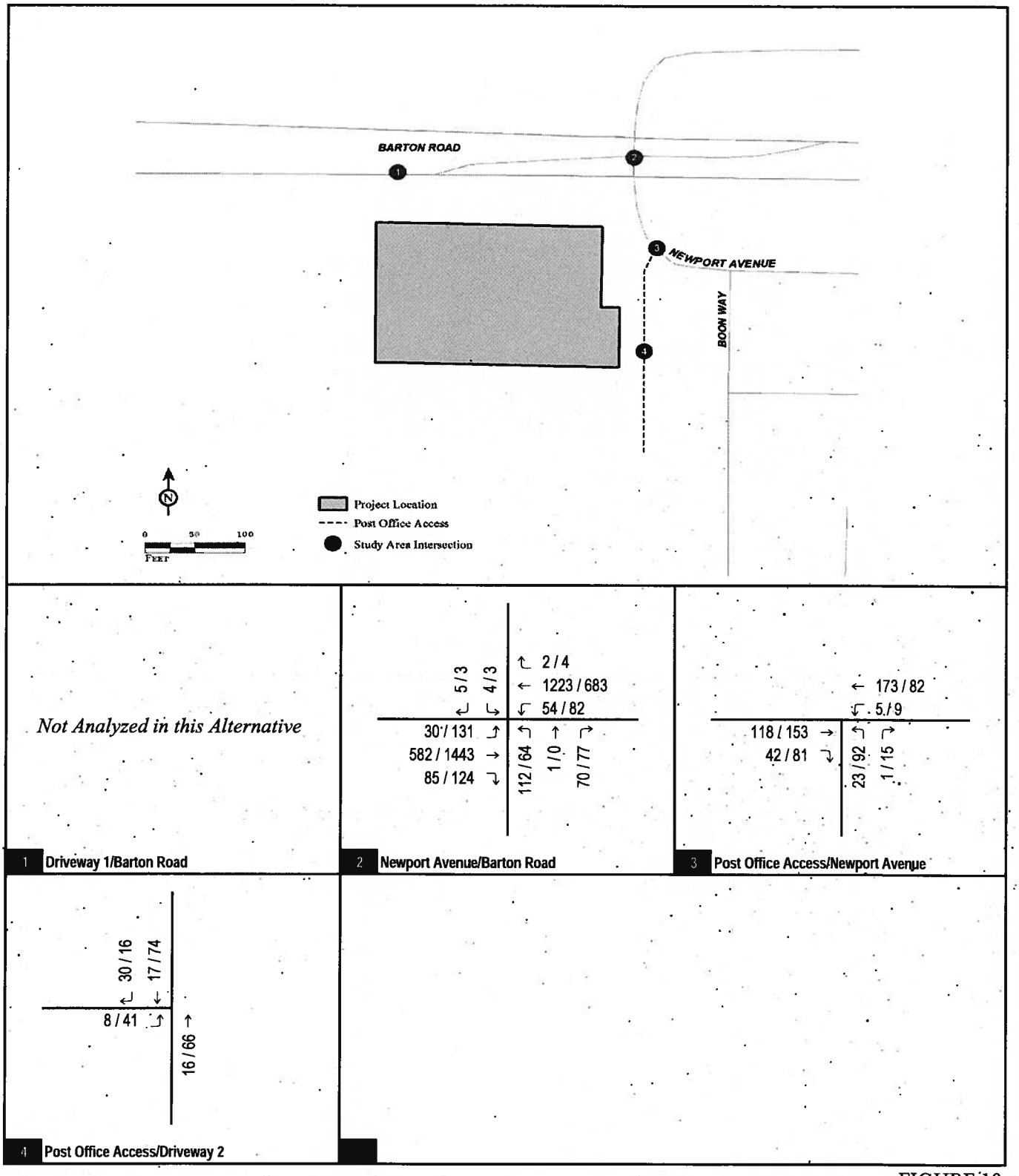

LSA

FIGURE 19

XX / YY AM / PM Peak Hour Traffic Volumes

Loma Linda Medical Center

Traffic Study

Opening Year With Project (Access Alternative 2) Peak Hour Traffic Volumes (In PCEs)

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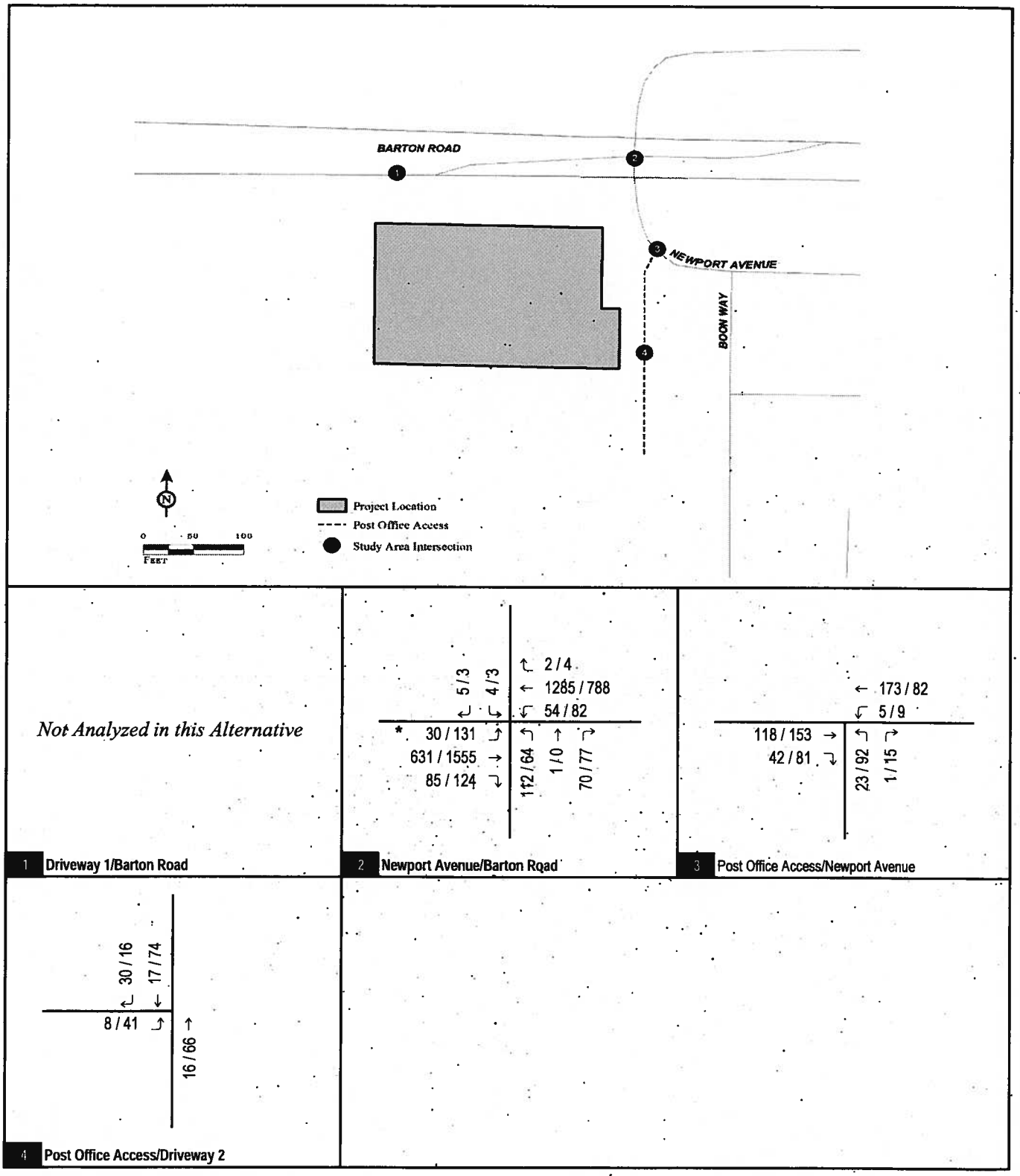

LSA

FIGURE 20

XX / YY AM / PM Peak Hour Traffic Volumes

Loma Linda Medical Center

Traffic Study

Cumulative With Project (Access Alternative 2) Peak Hour Traffic Volumes (In PCEs)

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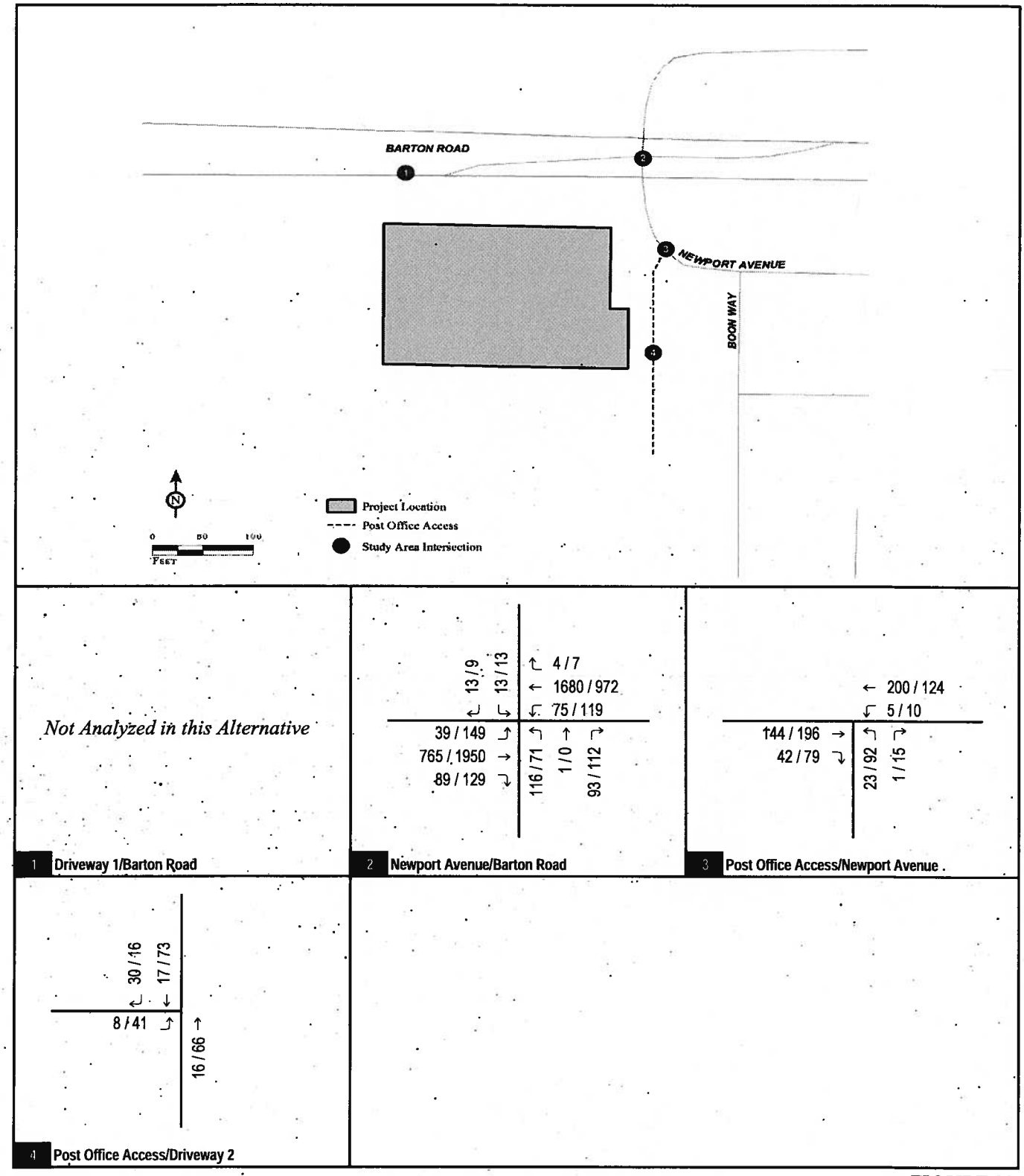

LSA

FIGURE 21

XX / YY AM / PM Peak Hour Traffic Volumes

Loma Linda Medical Center

Traffic Study

Year 2035 With Project (Access Alternative 2) Peak Hour Traffic Volumes (In PCEs)

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Table E - Existing With Access Alternative 1 Conditions Intersection Levels of Service

Intersection	Control	Without Project				With Project			
		A.M. Peak Hour		P.M. Peak Hour		A.M. Peak Hour		P.M. Peak Hour	
		Delay (sec.)	LOS	Delay (sec.)	LOS	Delay (sec.)	LOS	Delay (sec.)	LOS
1. Driveway 1/Barton Road	TWSC	*Future Intersection*		*Future Intersection*		10.7	B	19.1	C
2. Newport Avenue/Barton Road	Signal	19.6	B	20.4	C	20.9	C	21.0	C

Notes:
TWSC = Two-Way Stop Control
Delay = Average control delay in seconds (For TWSC intersections, reported delay is for worst-case movement).
LOS = Level of Service
* Exceeds LOS Standard

Table F - Opening Year With Access Alternative 1 Conditions Intersection Levels of Service

Intersection	Control	Without Project				With Project			
		A.M. Peak Hour		P.M. Peak Hour		A.M. Peak Hour		P.M. Peak Hour	
		Delay (sec.)	LOS	Delay (sec.)	LOS	Delay (sec.)	LOS	Delay (sec.)	LOS
1 . Driveway 1/Barton Road	TWSC	*Future Intersection*		*Future Intersection*		10.8	B	19.5	C
2 . Newport Avenue/Barton Road	Signal	20.5	C	21.3	C	21.7	C	21.8	C

Notes:
TWSC = Two-Way Stop Control
Delay = Average control delay in seconds (For TWSC intersections, reported delay is for worst-case movement).
LOS = Level of Service
* Exceeds LOS Standard

Cumulative and Cumulative With Project Access Alternative 1 Levels of Service

Cumulative and cumulative with project Access Alternative 1 traffic volumes were developed using the approaches discussed in the traffic volumes without and with project scenarios sections. Intersection level of service analyses were conducted for cumulative and cumulative with project Access Alternative 1 conditions to determine intersection performance. Table G summarizes the results of these analyses and shows that all intersections are projected to operate at satisfactory levels of service. Level of service calculation worksheets are contained in Appendix C.

Year 2035 Levels of Service

Year 2035 traffic volumes were developed using the approaches discussed in the traffic volumes without project scenarios sections. Intersection level of service analysis was conducted for year 2035 conditions to determine intersection performance. Table H summarizes the results of this analysis and shows that all intersections are projected to operate at satisfactory levels of service. Level of service calculation worksheets are contained in Appendix C.

Year 2035 With Project Access Alternative 1 Levels of Service

Year 2035 with project Access Alternative 1 traffic volumes were developed using the approaches discussed in the traffic volumes with project scenarios sections. Intersection level of service analysis was conducted for year 2035 with project Access Alternative 1 conditions to determine intersection performance. Table H summarizes the results of this analysis and shows that all intersections are projected to operate at satisfactory levels of service with the exception of Driveway 1/Barton Road in the p.m. peak hour. Level of service calculation worksheets are contained in Appendix C.

Existing and Existing With Project Access Alternative 2 Levels of Service

Existing and existing with project Access Alternative 2 traffic volumes were developed using the approaches discussed in the traffic volumes without and with project scenarios sections. Intersection level of service analyses were conducted for existing and existing with project Access Alternative 2 conditions to determine current and projected intersection performance. Table I summarizes the results of these analyses and shows that all intersections are currently and projected to operate at satisfactory levels of service. Level of service calculation worksheets are contained in Appendix C.

Opening Year and Opening Year With Project Access Alternative 2 Levels of Service

Opening year and opening year with project Access Alternative 2 traffic volumes were developed using the approaches discussed in the traffic volumes without and with project scenarios sections. Intersection level of service analyses were conducted for opening year and opening year with project Access Alternative 2 conditions to determine intersection performance. Table J summarizes the results of these analyses and shows that all intersections are projected to operate at satisfactory levels of service. Level of service calculation worksheets are contained in Appendix C.

Table G - Opening Year Cumulative With Access Alternative 1 Conditions Intersection Levels of Service

Intersection	Control	Without Project				With Project			
		A.M. Peak Hour		P.M. Peak Hour		A.M. Peak Hour		P.M. Peak Hour	
		Delay (sec.)	LOS	Delay (sec.)	LOS	Delay (sec.)	LOS	Delay (sec.)	LOS
1 . Driveway 1/Barton Road	TWSC	*Future Intersection*		*Future Intersection*		11.0	B	21.2	C
2 . Newport Avenue/Barton Road	Signal	20.9	C	25.5	C	22.1	C	26.2	C

Notes:
TWSC = Two-Way Stop Control
Delay = Average control delay in seconds (For TWSC intersections, reported delay is for worst-case movement).
LOS = Level of Service
* Exceeds LOS Standard

Table H - Year 2035 With Access Alternative 1 Conditions Intersection Levels of Service

Intersection	Control	Without Project				With Project			
		A.M. Peak Hour		P.M. Peak Hour		A.M. Peak Hour		P.M. Peak Hour	
		Delay (sec.)	LOS	Delay (sec.)	LOS	Delay (sec.)	LOS	Delay (sec.)	LOS
1. Driveway 1/Barton Road	TWSC	*Future Intersection*		*Future Intersection*		11.6	B	28.0	D *
2. Newport Avenue/Barton Road	Signal	21.8	C	28.0	C	22.0	C	30.0	C

Notes:
TWSC = Two-Way Stop Control
Delay = Average control delay in seconds (For TWSC intersections, reported delay is for worst-case movement).
LOS = Level of Service
* Exceeds LOS Standard

Table I - Existing With Access Alternative 2 Conditions Intersection Levels of Service

Intersection	Control	Without Project				With Project			
		A.M. Peak Hour		P.M. Peak Hour		A.M. Peak Hour		P.M. Peak Hour	
		Delay (sec.)	LOS	Delay (sec.)	LOS	Delay (sec.)	LOS	Delay (sec.)	LOS
2 . Newport Avenue/Barton Road	Signal	19.6	B	20.4	C	20.4	C	21.6	C
3 . Post Office Access/Newport Avenue	TWSC	10.8	B	10.7	B	11.1	B	11.3	B
4 . Post Office Access/Driveway 2	TWSC	*Future Intersection*		*Future Intersection*		8.8	A	9.5	A

Notes:
TWSC = Two-Way Stop Control
Delay = Average control delay in seconds (For TWSC intersections, reported delay is for worst-case movement).
LOS = Level of Service
* Exceeds LOS Standard

Table J - Opening Year With Access Alternative 2 Conditions Intersection Levels of Service

Intersection	Control	Without Project				With Project			
		A.M. Peak Hour		P.M. Peak Hour		A.M. Peak Hour		P.M. Peak Hour	
		Delay (sec.)	LOS	Delay (sec.)	LOS	Delay (sec.)	LOS	Delay (sec.)	LOS
2 . Newport Avenue/Barton Road	Signal	20.5	C	21.3	C	20.6	C	22.8	C
3 . Post Office Access/Newport Avenue	TWSC	10.8	B	10.7	B	11.1	B	11.4	B
4 . Post Office Access/Driveway 2	TWSC	*Future Intersection*		*Future Intersection*		8.8	A	9.6	A

Notes:
TWSC = Two-Way Stop Control
Delay = Average control delay in seconds (For TWSC intersections, reported delay is for worst-case movement).
LOS = Level of Service
* Exceeds LOS Standard

Cumulative and Cumulative with Project Access Alternative 2 Levels of Service

Cumulative and cumulative with project Access Alternative 2 traffic volumes were developed using the approaches discussed in the traffic volumes without and with project scenarios sections. Intersection level of service analyses were conducted for cumulative and cumulative with project Access Alternative 2 conditions to determine intersection performance. Table K summarizes the results of these analyses and shows that all intersections are projected to operate at satisfactory levels of service. Level of service calculation worksheets are contained in Appendix C.

Year 2035 and Year 2035 with Project Access Alternative 2 Levels of Service

Year 2035 with project Access Alternative 2 traffic volumes were developed using the approaches discussed in the traffic volumes with project scenarios sections. Intersection level of service analysis was conducted for year 2035 with project Access Alternative 2 conditions to determine intersection performance. Table L summarizes the results of this analysis and shows that all intersections are projected to operate at satisfactory levels of service with the exception of Driveway 1/Barton Road in the p.m. peak hour. Level of service calculation worksheets are contained in Appendix C.

CIRCULATION IMPROVEMENTS

Year 2035 with Project Access Alternative 1

At intersections where the project would have an impact, the City requires that improvements be identified to maintain conformance with City LOS standards as per Measure V. The unsignalized intersection of Driveway 1/Barton Road operates at unsatisfactory LOS under year 2035 with project Access Alternative 1 conditions. The project creates this deficiency; therefore, it has a direct impact at this location. However, due to the close proximity of Driveway 1/Barton Road and Newport Avenue/Barton Road, no feasible mitigation is possible and a significant and unavoidable impact remains at this location. A possible alternative mitigation could be using the emergency access as a project egress driveway. This would eliminate the project's significant impact.

SITE ACCESS ANALYSIS

For both project alternatives, site access issues have been identified that may cause potential access safety and operational concerns. For access alternative 1 a weaving analysis has been conducted to determine if northbound right-turn egress movements out of Driveway 1 could potentially cause vehicle conflicts with eastbound traffic travelling on Barton Road. For access alternative 2, a queuing analysis was conducted at Newport Avenue/Barton Road because of the unique orientation of the south leg and close proximity of the intersection of Post Office Access/Newport Avenue.

Access Alternative 1 Weaving Analysis

A weaving analysis was conducted for Access Alternative 1 for exiting traffic from Driveway 1with eastbound traffic on Barton Road to determine if a potential safety/operational issue would occur on Barton Road. Weaving distance is the distance needed for a vehicle exiting Driveway 1 to maneuver across the travel lanes and into the left-turn lane at the downstream intersection of Newport Avenue/Barton Road. Exiting right-turn traffic from Driveway 1 trying to make a u-turn at Newport

Table K - Opening Year Cumulative With Access Alternative 2 Conditions Intersection Levels of Service

Intersection	Control	Without Project				With Project			
		A.M. Peak Hour		P.M. Peak Hour		A.M. Peak Hour		P.M. Peak Hour	
		Delay (sec.)	LOS	Delay (sec.)	LOS	Delay (sec.)	LOS	Delay (sec.)	LOS
2. Newport Avenue/Barton Road	Signal	20.9	C	25.5	C	20.9	C	26.7	C
3. Post Office Access/Newport Avenue	TWSC	10.8	B	10.7	B	11.1	B	11.3	B
4. Post Office Access/Driveway 2	TWSC	*Future Intersection*		*Future Intersection*		8.8	A	9.6	A

Notes:
TWSC = Two-Way Stop Control
Delay = Average control delay in seconds (For TWSC intersections, reported delay is for worst-case movement).
LOS = Level of Service
* Exceeds LOS Standard

Table L - Year 2035 Access Alternative 2 Conditions Intersection Levels of Service

Intersection	Control	Without Project				With Project			
		A.M. Peak Hour		P.M. Peak Hour		A.M. Peak Hour		P.M. Peak Hour	
		Delay (sec.)	LOS	Delay (sec.)	LOS	Delay (sec.)	LOS	Delay (sec.)	LOS
2 . Newport Avenue/Barton Road	Signal	21.8	C	28.0	C	22.2	C	28.9	C
3 . Post Office Access/Newport Avenue	TWSC	10.8	B	11.2	B	11.1	B	12.0	B
4 . Post Office Access/Driveway 2	TWSC	*Future Intersection*		*Future Intersection*		8.8	A	9.5	A

Notes:
TWSC = Two-Way Stop Control
Delay = Average control delay in seconds (For TWSC intersections, reported delay is for worst-case movement).
LOS = Level of Service
* Exceeds LOS Standard

Avenue/Barton Road will require vehicles to turn into the closest lane, followed by signaling and changing lanes until positioned in the left-turn lane at Newport Avenue/Barton Road. When the distance to accomplish these weaving maneuvers is not adequate, vehicles may make abrupt lane changes, cross multiple lanes in one movement, stop, or partially block a through lane, resulting in potential vehicle conflicts.

Research on weaving analysis from the Oregon Department of Transportation recommends, for a posted speed above 35 mph, the minimum weaving distance be determined from the number of lane changes and the design vehicle type listed in Table M. For the weaving path from Driveway 1 to Newport Avenue, vehicles would require three lane changes. As shown in Table M, the minimum weaving distance for three lane changes is 260 feet for passenger cars, measured from the proposed driveway approach centerline to the back of the queue in the left-turn lane. Since the distance from the centerline of the driveway approach to the back of queue is approximately 50 feet, which is significantly less than the minimum 260 feet, the available weaving distance is not sufficient. Therefore, LSA recommends not providing access via this driveway due to anticipated safety and operational concerns.

Access Alternative 2 Queuing Analysis

Access alternative 2 proposed to provide access to project traffic via the existing Post Office Access. A vehicle queuing analysis was conducted at the intersection of Newport Avenue/Barton Road under Access Alternative 2 to determine the sufficiency of the northbound through/left-turn pocket storage space. The intersection was selected for evaluation based on the short storage length of approximately 30 feet and the close proximity to the intersection of Post Office Access/Newport Avenue. This analysis was conducted using Synchro software based on the queue analysis methodology in HCM 2010. The queue length or back of queue is the number of vehicles that are queued based on arrival patterns of vehicles and vehicles that do not clear the intersection during a given green phase. The Synchro software predicts the average back of queue and 95th percentile back of queues. Based on the average queue, the northbound left-turn lane maximum queue length is 83 feet under year 2035 without project and 88 feet under year 2035 with project conditions. The northbound through/left-turn lane maximum queue could potentially block traffic entering from Post Office Access/Newport Avenue. Therefore, under Access Alternative 2, it is recommended that a "Keep Clear" marking be installed at the end of the striped northbound left-turn lane.

Although, both access alternatives will potentially create operational problems, access alternative 1 will also have significant safety concerns. For access alternative 2, although queuing is projected to be a concern both without and with the project, this could be mitigated using appropriate signage and striping at the project access location. Thus, LSA recommends providing access to the site via the existing Post Office Access driveway.

SUMMARY AND CONCLUSIONS

This section of the report summarizes the results of the traffic analysis for the proposed Loma Linda Medical Office Project to be located at 25915 Barton Road in the City of Loma Linda. The proposed project would generate 38 a.m. peak hour trips, 57 p.m. peak hour trips, and 574 daily trips.

Table M: Urban Weaving Distance

Number of Lane Changes	Weaving Distance from Proposed Approach to Back of Queue or Start of Ramp Taper		
	Passenger Car	Single Unit Truck	WB-67 Truck
1	130 feet	160 feet	205 feet
2	195 feet	225 feet	270 feet
3	260 feet	290 feet	335 feet

Source: Oregon Department of Transportation

Under Access Alternative 1, existing, opening year, and cumulative scenarios would operate at satisfactory levels of service. Under year 2035 without project conditions, all study intersections are projected to operate at satisfactory levels of service. Under year 2035 with project Access Alternative 1, the unsignalized intersection of Driveway 1/Barton Road operates at an unsatisfactory LOS. The project creates this deficiency; therefore, it has a direct impact at this location. However, due to the close proximity of Driveway 1/Barton Road and Newport Avenue/Barton Road, no feasible mitigation is possible and a significant and unavoidable impact remains at this location.

A weaving distance analysis was conducted for Access Alternative 1 from the weaving path of Driveway 1/Barton Road to Newport Avenue/Barton Road to determine if a potential safety/ operational issue exists on Barton Road. The analysis shows that the minimum weaving distance for three lane changes is 260 feet for passenger cars. Since the actual distance of 50 feet is significantly less than the minimum 260 feet, the available weaving distance is not sufficient. Therefore, LSA recommends not providing access via this driveway due to anticipated safety and operational concerns.

Under Access Alternative 2, all scenarios would operate at satisfactory levels of service. A vehicle queuing analysis was conducted at the intersection of Newport Avenue/Barton Road under Access Alternative 2 to determine the sufficiency of the northbound through/left-turn pocket storage space. Based on the average queue, the northbound left-turn lane maximum queue length is 83 feet under year 2035 without project and 88 feet under year 2035 with project conditions. The northbound through/left-turn lane maximum queue could potentially block traffic entering from Post Office Access/Newport Avenue. Therefore, under Access Alternative 2, it is recommended that a "Keep Clear" marking be installed at the end of the striped northbound left-turn lane.

Although, both access alternatives will potentially create operational problems, access alternative 1 will also have significant safety concerns. For access alternative 2, although queuing is projected to be a concern both without and with the project, this could be mitigated using appropriate signage and striping at the project access location. Thus, LSA recommends providing access to the site via the existing Post Office Access driveway.

CONDITIONS OF APPROVAL
PRECISE PLAN OF DESIGN (PPD) NO. 14 - 154

COMMUNITY DEVELOPMENT DEPARTMENT

General

1. Within one year of this approval, the Precise Plan of Design shall be exercised by substantial construction or the permit/approval shall become null and void. In addition, if after commencement of construction, work is discontinued for a period of one year, the permit/approval shall become null and void.

PROJECT:	**EXPIRATION DATE:**
PRECISE PLAN OF DESIGN (PPD) NO. 14- 154	**March 2, 2017**

2. The review authority may, upon application being filed 30 days prior to the expiration date and for good cause, grant a one-time extension not to exceed 12 months. The review authority shall ensure that the project complies with all current Development Code provisions.
3. In the event that this approval is legally challenged, the City will promptly notify the applicant of any claim or action and will cooperate fully in the defense of the matter. Once notified, the applicant agrees to defend, indemnify, and hold harmless the City, Redevelopment Agency (RDA), their affiliates officers, agents and employees from any claim, action or proceeding against the City of Loma Linda. The applicant further agrees to reimburse the City and RDA of any costs and attorneys fees, which the City or RDA may be required by a court to pay as a result of such action, but such participation shall not relieve applicant of his or her obligation under this condition.
4. Construction shall be in substantial conformance with the plan(s) approved by the Planning Commission. Minor modification to the plan(s) shall be subject to approval by the Director through a minor administrative variation process. Any modification that exceeds 10% of the following allowable measurable design/site considerations shall require the refilling of the original application and a subsequent hearing by the appropriate hearing review authority if applicable:
    a. On-site circulation and parking, loading and landscaping;
    b. Placement and/or height of walls, fences and structures;
    c. Reconfiguration of architectural features, including colors, and/or modification of finished materials that do not alter or compromise the previously approved theme; and,
    d. A reduction in density or intensity of a development project.
5. No vacant, relocated, altered, repaired or hereafter erected structure shall be occupied or no change of use of land or structure(s) shall be inaugurated, or no new business commenced as authorized by this permit until a Certificate of

Occupancy has been issued by the Building Division. A Temporary Certificate of Occupancy may be issued by the Building Division subject to the conditions imposed on the use, provided that a deposit is filed with the Community Development Department prior to the issuance of the Certificate, if necessary. The deposit or security shall guarantee the faithful performance and completion of all terms, conditions and performance standards imposed on the intended use by this permit.

6. This permit or approval is subject to all the applicable provisions of the Loma Linda Municipal Code, Title 17 in effect at the time of approval, and includes development standards and requirements relating to: dust and dirt control during construction and grading activities; emission control of fumes, vapors, gases and other forms of air pollution; glare control; exterior lighting design and control; noise control; odor control; screening; signs, off-street parking and off-street loading; and, vibration control. Screening and sign regulations compliance are important considerations to the developer because they will delay the issuance of a Certificate of Occupancy until compliance is met. Any exterior structural equipment, or utility transformers, boxes, ducts or meter cabinets shall be architecturally screened by wall or structural element, blending with the building design and include landscaping when on the ground.

7. Signs are not approved as a part of this permit. Prior to establishing any new signs, the applicant shall submit an application, and receive approval, for a sign permit from the Planning Division (pursuant to LLMC, Chapter 17.18) and building permit for construction of the signs from the Building Division, as applicable.

8. The applicant shall comply with all of the Public Works Department requirements for recycling prior to issuance of a Certificate of Occupancy.

9. Prior to issuance of Certificate of Occupancy, the applicant shall submit a photometric plan and final lighting plan to City staff showing the exact locations of light poles and the proposed orientation and shielding of the fixtures to prevent glare onto the existing home to the east.

10. During construction of the site, the project shall comply with Section 9.20 (Prohibited Noises) which limit construction activities to the hours between 7:00 a.m. to 10:00 p.m. Monday through Friday, with no heavy construction occurring on weekends or national holidays. Additionally, all equipment is required to be properly equipped with standard noise muffling apparatus. Adhering to the City's noise ordinance and implementation of the above mitigation measure would ensure impacts from construction noise would be less than significant.

11. The following shall also be implemented to help reduce the noise impacts to meet the City's interior (45dB) noise level.

    a. Dual pane windows and entry doors with solid core wood and weather stripping construction shall be utilized.

12. The applicant shall implement SCAQMD Rule 403 and standard construction practices during all operations capable of generating fugitive dust, which will

include but not be limited to the use of best available control measures and reasonably available control measures such as:

a. Water active grading areas and staging areas at least twice daily as needed;
b. The project proponent shall ensure that all disturbed areas are treated to prevent erosion until the site is constructed upon.
c. The project proponent shall ensure that landscaped areas are installed as soon as possible to reduce the potential for wind erosion.
d. Suspend grading activities when wind gusts exceed 25 mph;
e. Sweep public paved roads if visible soil material is carried off-site;
f. Enforce on-site speed limits on unpaved surface to 15 mph; and
g. Discontinue construction activities during Stage 1 smog episodes.

13. The applicant shall implement the following construction practices during all construction activities to reduce VOC emission as stipulated in the project Initial Study and identified as mitigation measures:

a. The contractor shall utilize (as much as possible) pre-coated building materials and coating transfer or spray equipment with high transfer efficiency, such as high volume, low pressure (HVLP) spray method, or manual coating applications such as paint brush, hand roller, trowel, dauber, rag, or sponge.

b. The contractor shall utilize water-based or low VOC coating of 100 g/l of VOC (allowing approximately 31,500 square feet painted per day) to 250 g/l of VOC (allowing approximately 12,950 square feet painted per day). The following measures shall also be implemented:

- Use Super-Compliant VOC paints whenever possible.
- If feasible, avoid painting during peak smog season: July, August, and September.
- Recycle leftover paint. Take any left-over paint to a household hazardous waste center; do not mix leftover water-based and oil-based paints.
- Keep lids closed on all paint containers when not in use to prevent VOC emissions and excessive odors.
- For water-based paints, clean up with water only. Whenever possible, do not rinse the clean-up water down the drain or pour it directly into the ground or the storm drain. Set aside the can of clean-up water and take it to a hazardous waste center (www.cleanup.org).
- Recycle the empty paint can.
- Look for non-solvent containing stripping products.
- Use Compliant Low-VOC cleaning solvents to clean paint application equipment.
- Keep all paint and solvent laden rags in sealed containers to prevent VOC emissions.
- The developer/contractor shall use building materials that do not require

painting, where feasible.

- The developer/contractor shall use pre-painted construction materials where feasible.

14. The applicant shall work with the City's franchised solid waste hauler to follow a debris management plan to divert the material from landfills by the use of separate recycling bins (e.g., wood, concrete, steel, aggregate, glass) during demolition and construction to minimize waste and promote recycle and reuse of the materials.
15. To reduce emissions, all equipment used in grading and construction must be tuned and maintained to the manufacturer's specification to maximize efficient burning of vehicle fuel.
16. The project proponent shall ensure that existing power sources are utilized where feasible via temporary power poles to avoid on-site power generation during construction.
17. The project proponent shall ensure that construction personnel are informed of ride sharing and transit opportunities.
18. The operator shall maintain and effectively utilize and schedule on-site equipment in order to minimize exhaust emissions from truck idling.
19. The operator shall comply with all existing and future CARB and SCAQMD regulations related to diesel-fueled trucks, which may include among others: (1) meeting more stringent emission standards; (2) retrofitting existing engines with particulate traps; (3) use of low sulfur fuel; and (4) use of alternative fuels or equipment.
20. The proposed project shall contribute on a fair share basis, through an adopted traffic impact fee schedule, in the implementation of the recommended intersection lane improvements or in dollar equivalent in lieu mitigation contributions, or in the implementation of additional capacity on parallel routes to offset potential impacts to study area intersections as listed the Traffic Impact Analysis.
21. All Development Impact fees shall be paid to the City of Loma Linda prior to the issuance of any building and/or construction permits.
22. Prior to issuance of any Building and/or Construction Permits, the applicant shall submit to the Community Development Department proof of payment or waiver from both the City of San Bernardino for sewer capacity fees and Redlands Unified School District for school impact fees.
23. The applicant shall pay all required development impact fees to cover 100 percent of the pro rata share of the estimated cost of public infrastructure, facilities, and services.
24. The developer shall provide infrastructure for the Loma Linda Connected Community Program, which includes providing a technologically enabled development that includes coaxial, cable and fiber optic lines to all outlets in each unit of the development. Plans for the location of the infrastructure shall be provided with the precise plan of design, which includes providing a technologically enabled development that includes coaxial, cable, and fiber optic lines to all outlets in each

unit of the development. Plans for the location of the infrastructure shall be provided with the precise grading plans and reviewed and approved by the City of Loma Linda prior to issuing grading permits.

25. The project shall comply with the City Art in Public Places Ordinance (LLMC Chapter 17.26), which establishes grounds for compliance for new enterprises to facilitate public art. The establishment of artistic assets will be financed and/or constructed by the development community as part of the development requirements.

26. Should paleontological resources be uncovered during grading, a qualified vertebrate paleontologist shall be contracted to perform a field survey to determine and record any nonrenewable paleontological resources found on-site. The paleontologist will determine the significance, and make recommendations for appropriate mitigation measures in compliance with the guidelines of the California Environmental Quality Act.

27. In the event that human remains are encountered during grading, all provisions of state law requiring notification of the County Coroner, contacting the Native American Heritage Commission, and consultation with the most likely descendant, shall be followed.

28. The project shall comply with all non-exempt provisions of Measure V and shall pay the full amount of any recalculated development impact fees, including traffic impact fees, prior to occupancy.

29. The applicant shall provide elevation details of the proposed trash enclosure. Trash enclosure design should incorporate matching colors and finishes to those found on the proposed hotel building.

Landscaping

30. The applicant shall submit three sets of the final landscape plan prepared by a state licensed Landscape Architect, subject to the approval of the Community Development Department, and Public Works Department for landscaping in the public right-of-way. Landscape plans for the Landscape Maintenance District shall be on separate plans.

31. Final landscape and irrigation plans shall be in substantial conformance with the approved conceptual landscape plan and these conditions of approval. Any and all fencing shall be illustrated on the final landscape plan.

32. Landscape plans shall depict the utility laterals, concrete improvements, and tree locations. Any modifications to the landscape plans shall be reviewed and approved by the Public Works and Community Development Departments prior to issuance of permits.

33. The applicant, property owner, and/or business operator shall maintain the property and landscaping in a clean and orderly manner and all dead and dying plants shall be replaced with similar or equivalent type and size of vegetation.

34. Should the relocation or removal of any tree be required, the applicant shall submit an Arborist Report prior to site disturbance. Any removal or replacement of trees shall be in accordance with the City's Tree Preservation Ordinance.

35. The applicant shall perform a Phase I Environmental Site Assessment to determine if the project site includes any contamination prior to the issuance of building permits.

36. The applicant shall prepare a study for the presence of hazardous chemicals, mercury, and asbestos containing materials (ACM) as a result of the demolition of the existing on-site structures. If other hazardous chemicals, lead-based paints (LPB) or products, mercury or ACMs are identified, proper precautions should be taken during demolition activities. Additionally, the contaminants should be remediated in compliance with California environmental regulations and policies.

37. Should future project construction require soil excavation or filling in certain areas, soil sampling may be required. If soil is contaminated, it must be properly disposed. Land Disposal Restrictions (LDRs) may be applicable to such soils. Soil sampling shall also be conducted on any imported soil.

38. If it is determined that hazardous wastes are, or will be generated by the proposed operation of the facility, the wastes shall be managed in accordance with the California Hazardous Waste Control Law and the Hazardous Waste Control Regulations. If it is determined that hazardous wastes will be generated, the facility shall obtain a United States Environmental Protection Agency Identification Number. Certain hazardous waste treatment processes or hazardous materials, handling, storage or uses may require authorization from the local Certified Unified Program Agency (CUPA).

39. If clean up oversight is required of the project, the applicant shall be required to obtain an Environmental Oversight Agreement with the DTSC.

FIRE DEPARTMENT

40. The applicant shall submit a complete set of plans to the Loma Linda Fire Department for review and approval prior to the issuance of building permits.

41. All construction shall meet the requirements of the editions of the California Building Code (CBC) and the California Fire Code (CFC)/International Fire Code (IFC) as adopted and amended by the City of Loma Linda and legally in effect at the time of issuance of building permit.

42. Pursuant to CFC Section 903, as amended in Loma Linda Municipal Code (LLMC) Sections 15.28.230-450, the building(s) shall be equipped with automatic fire sprinkler system(s). Pursuant to CFC Section 901.2, plans and specifications for the fire sprinkler system(s) shall be submitted to Fire Prevention for review and approval prior to installation. Fire flow test data for fire sprinkler calculations must be current within the last 6 months. Request flow test data from Loma Linda Fire Prevention.

43. On-site civil engineering improvement plans shall be submitted to Fire Prevention for review and approval prior to construction. Plans shall show the proposed

locations for water mains and fire hydrants; driveways, drive aisles and access roadways for fire apparatus.

44. The site address shall be as assigned by the Fire Marshal in a separate document, following approval of the project, and upon submittal of a working copy of the final approved site plan.

45. The developer shall submit a Utility Improvement Plan showing the location of fire hydrants for review and approval by the Fire Department.

PUBLIC WORKS DEPARTMENT

46. The developer shall submit an engineered grading plan for the proposed project.

47. All utilities shall be underground. The City of Loma Linda shall be the sewer purveyor.

48. All public improvement plans shall be submitted to the Public Works Department for review and approval.

49. Any damage to existing improvements as a result of this project shall be repaired by the applicant to the satisfaction of the City Engineer.

50. Prior to issuance of grading permits, the applicant shall submit to the City Engineer a Notice of Intent (NOI) to comply with obtaining coverage under the National Pollutant Discharge Elimination System (NPDES) General Construction Storm Water Permit from the State Water Resources Control Board. Evidence that this has been obtained (i.e., a copy of the Waste Dischargers Identification Number) shall be submitted to the City Engineer for coverage under the NPDES General Construction Permit.

51. All site drainage shall be handled on-site and shall not be permitted to drain onto adjacent properties.

52. An erosion/sediment control plan and a Water Quality Management Plan are required to address on-site drainage construction and operation.

53. All necessary precautions and preventive measures shall be in place in order to prevent material from being washed away by surface waters or blown by wind. These controls shall include at a minimum: regular wetting of surface or other similar wind control method, installation of straw or fiber mats to prevent rain related erosion. Detention basin(s) or other appropriately sized barrier to surface flow must be installed at the discharge point(s) of drainage from the site. Any water collected from these controls shall be appropriately disposed of at a disposal site. These measures shall be added as general notes on the site plan and a statement added that the operator is responsible for ensuring that these measures continue to be effective during the duration of the project construction.

54. Per the City of Loma Linda recycling policy, the project proponent shall incorporate interior and exterior storage areas for recyclables.

55. The project proponent shall comply with City adopted policies regarding the reduction of construction and demolition (C&D) materials.

56. The project shall comply with the Low Impact Development (LID) Principles and LID Best Management Practices (BMPs) for Southern California.

SHERIFFS DEPARTMENT

57. The developer shall provide sufficient exterior lighting to the site that illuminates otherwise dark corridors which may compromise public safety.
58. The developer shall register with the Crime Free Hotel/Motel Program which closely works with San Bernardino County Sheriffs Department personnel to address crime prevention.
59. The developer shall be required to prevent loitering on site.
60. The developer shall be required to provide clear windows at the lobby area.

COMMUNITY DEPARTMENT

61. The applicant shall comply all items listed in the Letter Dated December 10, 2014.
62. Within forty-eight (48) hours of this approval of the subject project, the applicant shall deliver a payment of two thousand, two hundred and ten dollars and twenty-five cents ($2,210.25), please make check out to the Clerk of the Board of Supervisors. This will enable the City to file the appropriate environmental documentation for the project. If within such forty-eight (48) hour period that applicant has not delivered to the Community Development Department the above noted check, the statue of limitations for any interested party to challenge the environmental determination under the provisions of the California Environmental Quality Act could be significantly lengthened.
63. The applicant shall revise the landscape plan to correspond to the approved site plan.

MITIGATION MEASURES

64. Prior to site disturbance, the applicant shall provide to the City a detailed construction schedule that shall include a 44-day (at a minimum) building coating schedule.
65. In the event historic or archaeological resources are unearthed, a qualified archaeologist shall be contacted to determine if reporting the finds is required and if further monitoring during site earthwork is warranted. If, at any time, resources are identified, the archaeologist shall make recommendations to the City of Loma Linda for appropriate mitigation measures in compliance with the guidelines of the California Environmental Quality Act.
66. Should paleontological resources be uncovered during grading, a qualified vertebrate paleontologist shall be contacted to perform a field survey to determine and record any non-renewable paleontological resources found on-site. The paleontologist shall determine the significance, and make recommendations to the

City of Loma Linda for appropriate mitigation measures in compliance with the guidelines of the California Environmental Quality Act.

67. If human remains of any kind are found during earthwork activities, all activities must cease immediately and the San Bernardino County Coroner and a qualified archaeologist must be notified. The Coroner will examine the remains and determine the next appropriate action based on his or her findings. If the coroner determines the remains to be of Native American origin, he or she will notify the Native American Heritage Commission. The Native American Heritage Commission will then identify the most likely descendants to be consulted regarding treatment and/or reburial of the remains. If a most likely descendant cannot be identified, or the most likely descendant fails to make a recommendation regarding the treatment of the remains within 48 hours after gaining access to them, the contractor shall rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further subsurface disturbance.

68. The Project Proponent shall implement recommendations for the Project's following: foundation design, bearing value, total and differential (static) settlement, earth pressures, slab on grade, pavement design and grading as provided in the recommendations set forth in the May 2013 Preliminary Foundation Soils Exploration report (pages 6 through 10) prepared by Geo-Etka, Inc. for the Project Site.

69. Prior to issuance of grading permits, the applicant shall submit to the City Engineer a Notice of Intent (NOI) to comply with obtaining coverage under the National Pollutant Discharge Elimination System (NPDES) General Construction Storm Water Permit from the State Water Resources Control Board. Evidence that this has been obtained (i.e., a copy of the Waste Dischargers Identification Number) shall be submitted to the City Engineer for coverage under the NPDES General Construction Permit prior to the issuance of grading permits.

70. The Project Proponent shall comply with Best Management Practices set forth in the August 2013 Water Quality Management Plan and as approved by the City Engineer.

71. The developer shall require that all construction equipment is properly maintained with operating mufflers and air intake silencers, and prioritizes the location of equipment staging and storage as far as practical from the existing hotel and residential unit southeast and south of the site, respectively.

72. The Project Proponent shall construct Redlands Boulevard from the west project boundary to the east project boundary at its ultimate half-section width including the Redlands Boulevard/Poplar Street traffic signal improvements, landscaping and parkway improvements in conjunction with development.

73. Sight distance at each project access shall be reviewed with respect to California Department of Transportation/City of Loma Linda standards in conjunction with the preparation of final grading, landscaping, and street improvement plans.

74. The necessary off-site improvement recommendations are included in Table 5 within this Initial Study. The Project Proponent shall contribute towards the cost of necessary study area improvements on a fair share or "pro-rata" basis. The Project's fair share of identified intersection costs is $3,173.

75. The Project Proponent shall comply with City adopted policies regarding the reduction of construction and demolition (C&D) materials.

Applicant signature Date

Owner signature

End of Conditions

PRECISE PLAN OF DESIGN NO. 14-154
MEDICAL OFFICE BUILDING, 25915 BARTON ROAD

MITIGATION MONITORING AND REPORTING PROGRAM

Table 1, Mitigation Monitoring Reporting Program, will be used by the City of Loma Linda to enforce mitigation measures during each phase of the project pursuant to Section 15097 of the State CEQA Statues and Guidelines and Section 21081.6 of the Public Resources Code Section. The City of Loma Linda will be responsible for the implementation for all the mitigation measures listed in Table 1 and shall maintain monitoring documentation on each measure within the Loma Linda files at the address listed below.

The entity responsible for monitoring will change based on the specific requirements identified in each mitigation measure. The phase of the project and monitoring period are also listed. Lastly, while monitoring of a specific measure is being conducted for several project phases, the Notes/Initial column is used to record compliance for each phase. When compliance with a mitigation measure for each project phase has been demonstrated, documentation on the Notes/Initial column is provided and monitoring of the measure will be deemed to be satisfied. No further monitoring will be required for the completed mitigation measure. For measures that require monitoring during operation of the project, annual documentation on the notes/initial column or a separate letter/memorandum shall be provided in the monitoring file that is kept at the City of Loma Linda.

The Mitigation Monitoring and Reporting Program will be kept on file at the following address:

City of Loma Linda
Community Development Department
25541 Barton Road
Loma Linda, CA 92354
909.799.2895
Konrad Bolowich, Assistant City Manager

EXHIBIT – G

Table1. Mitigation Monitoring Reporting Program

Mitigation Measure	Implementation	Monitoring	Notes/Initials
Biological Resources			
MM BIO-1a Because of the presence of suitable nesting habitat on the project site, all construction activities shall occur outside the general nesting season from February through August. If construction activities must occur within the nesting season, the Applicant shall retain the services of a qualified biologist to survey the project site no more than 30 days prior to start of any construction activities. The biologist shall survey the project site for nesting birds. In the event that the biologist determines that such species occur on the project site, MM BIO-1b shall also be required.	**Responsible Party(s)** City of Loma Linda Community Development Department, Building Division **Implementation Phase** Prior to issuance of grading permit; 30 days prior to site disturbance; during site construction	**Responsible Party(s)** City of Loma Linda Community Development Department, Building Division **Monitoring Period** Verify inclusion in project specifications; site inspections	
MM BIO-1b In the event that nesting birds protected under the Migratory Bird Treaty Act of 1918 (MBTA); candidate, sensitive, or special status species; or any other species of note are determined to occur on the project site, no construction activities shall occur within the vicinity of the nest until all fledglings have left the nest and the biologist has evidence that the nest is no longer active. If construction activities must occur within 200-feet of an active nest, the Applicant shall procure the services of a biological monitor to ensure that no direct take of the active nest occurs.	**Responsible Party(s)** City of Loma Linda Community Development Department, Building Division; **Implementation Phase** Prior to issuance of grading permit; and after previous surveys are conducted	**Responsible Party(s)** City of Loma Linda Community Development Department, Building Division; **Monitoring Period** Verify inclusion in project specifications; site inspections	
Cultural Resources			
MM- CR-1: Archaeological Monitoring. If archaeological resources are encountered during implementation of the project, ground-disturbing activities will be temporarily redirected from the vicinity of the find and the Applicant and/or the Applicants representative shall immediately contact the City. The City shall then contact a qualified archaeologist to determine whether the find requires further study. The City shall include a note on the grading plan to inform contractors of this requirement. The Project Archaeologist will be allowed to temporarily divert or redirect grading or excavation activities in the vicinity in order to make an evaluation of the find. If	**Responsible Party(s)** City of Loma Linda Community Development Department, Building Division **Implementation Phase** During earthmoving activities	**Responsible Party(s)** City of Loma Linda Community Development Department, Building Division **Monitoring Period** Verify inclusion in grading plan notes; site inspection	

Mitigation Measure	Implementation	Monitoring	Notes/Initials
the resource is significant, Mitigation Measure CR-2 shall apply.			
MM- CR-2: Archeological Treatment Plan. If a significant archaeological resource(s) is discovered on the property, ground disturbing activities shall be suspended 100 feet around the resource(s). The archaeological monitor and a representative of the appropriate Native American Tribe(s), the Project Proponent, and the City Planning Department shall confer regarding mitigation of the discovered resource(s). A treatment plan shall be prepared and implemented by the archaeologist to protect the identified archaeological resource(s) from damage and destruction. The treatment plan shall contain a research design and data recovery program necessary document the size and content of the discovery such that the resource(s) can be evaluated for significance under CEQA criteria. The research design shall list the sampling procedures appropriate to exhaust the research potential of the archaeological resource(s) in accordance with current professional archaeology standards (typically this sampling level is two (2) to five (5) percent of the volume of the cultural deposit). The treatment plan shall require monitoring by the appropriate Native American Tribe(s) during data recovery excavations of archaeological resource(s) of prehistoric origin, and shall require that all recovered artifacts undergo laboratory analysis. At the completion of the laboratory analysis, any recovered archaeological resources shall be processed and curated according to current professional repository standards. The collections and associated records shall be donated to an appropriate curation facility, or, the artifacts may be delivered to the appropriate Native American Tribe(s) if that is recommended by the City of Loma Linda. A final report containing the significance and treatment findings shall be prepared by the archaeologist and submitted to the City of Loma Linda Planning Department and the San Bernardino County Museum.	**Responsible Party(s)** City of Loma Linda Community Development Department, Building Division, Planning Division **Implementation Phase** During earthmoving activities	**Responsible Party(s)** City of Loma Linda Community Development Department, Building Division, Planning Division **Monitoring Period** Verify inclusion in grading plan notes; site inspection	

Mitigation Measure	Implementation	Monitoring	Notes/Initials
MM-CR-3: Paleontological Monitoring. If paleontological resources are encountered during implementation of the project, ground-disturbing activities will be temporarily redirected from the vicinity of the find and the Applicant and/or the Applicants representative shall immediately contact the City. The City shall then contact a qualified paleontologist to determine whether the find requires further study... The City shall include a note on the grading plan to inform contractors of this requirement. The Project Paleontologist will be allowed to temporarily divert or redirect grading or excavation activities in the vicinity in order to make an evaluation of the find. If the resource is significant, Mitigation Measure CR-2 shall apply.	**Responsible Party(s)** City of Loma Linda Community Development Department, Building Division, Planning Division **Implementation Phase** During earthmoving activities	**Responsible Party(s)** City of Loma Linda Community Development Department, Building Division, Planning Division **Monitoring Period** During earthmoving activities	
MM-CR-4: Paleontological Treatment Plan. If a significant paleontological resource(s) is discovered on the property, in consultation with the Project proponent and the City, the qualified paleontologist shall develop a plan of mitigation which shall include salvage excavation and removal of the find, removal of sediment from around the specimen (in the laboratory), research to identify and categorize the find, curation in the find a local qualified repository, and preparation of a report summarizing the find.	**Responsible Party(s)** City of Loma Linda Community Development Department, Planning Division **Implementation Phase** During earthmoving activities	**Responsible Party(s)** City of Loma Linda Community Development Department, Planning Division **Monitoring Period** During earthmoving activities, final occupancy clearance	
Noise			
NOI-1 Prior to the issuance of a grading permit and building permit, the following notes shall be included on grading plans and building plans: "a) All construction activities shall comply with Chapter 9.0 (Noise Regulations) of the Municipal Code, including but not limited to the requirement that must be limited to the hours of 7 a.m. to 8 p.m., Monday through Friday. Major construction may not take place during weekends or holidays. Minor activities may be	**Responsible Party(s)** City of Loma Linda Public Works Department, Engineering Division, City of Loma Linda Community Development Department, Building Division **Implementation Phase** Verify inclusion on	**Responsible Party(s)** City of Loma Linda Public Works Department, Engineering Division, City of Loma Linda Community Development Department, Building Division **Monitoring Period** Prior to the issuance of a grading permit and	

Mitigation Measure	Implementation	Monitoring	Notes/Initials
permitted on weekends and holidays. b) Construction contractors shall equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers, consistent with manufacturers' standards. c) All stationary construction equipment shall be placed in such a manner so that emitted noise is directed away from any sensitive receptors adjacent to the Project site. d) Construction equipment staging areas shall be located the greatest distance between the staging area and the nearest sensitive receptors. "	grading plan	building permit	

Minutes City of Loma Linda

Community Development

Planning Commission

Regular Meeting of Dec 16, 2015

A regular meeting of the Planning Commission was called to order by Chairman Nichols at 7:00 p.m., Wednesday, December 16, 2015, in the City Council Chambers, 25541 Barton Road, Loma Linda, California.

Commissioners Present: John Nichols, Chairman
Ryan Gallant
Jay Nelson

Staff Present: Konrad Bolowich, Assistant City Manager (ACM)
Nataly Alvizar, Administrative Specialist I

Chairman Nichols led the Pledge of Allegiance. No items were added or deleted; no public participation comments were offered upon invitation of the Chairman.

1. **VARIANCE (VA) NO. 15-138** – A variance request for relief from Section 17.18.030(36) – Definitions, of the Loma Linda Municipal Code (LLMC) which limits the height of a monument sign to six feet in height. The proposed monument sign will have a maximum height of 8-feet measured from the ground up. The proposed sign is for the existing Quaid Harley Davidson located at 25160 Redlands Blvd, in the East Valley Corridor Specific Plan – General Commercial Zone.

ACM Bolowich presented the staff report into evidence. The Applicant requested a variance for relief from Section 17.18.030(36) – "Definitions, of the Loma Linda Municipal Code (LLMC) which limits the height of a monument sign to six feet in height." The proposed monument sign will have a maximum height of 8-feet measured from the ground up. The proposed sign is for the existing Quaid Harley Davidson located at 25160 Redlands Blvd, in the East Valley Corridor Specific Plan – General Commercial Zone.

Chairman Nichols opened Public Hearing.

Commissioner Gallant asked for clarification on the shape of the sign. He expressed his concern that the unique shape of the Harley Davidson logo would make it challenging to reuse the sign should the Quaid organization relocate in the future.

ACM Bolowich clarified that the sign material would be acrylic backing and that the sign could easily be removed.

Commissioner Nelson praised applicant on the design of the sign.

Chairman Nichols requested clarifications as to the why the sign is being placed at the neighboring parcel instead of the center island for example.

ACM Bolowich stated that the applicant owns both parcels and that the sign is easily visible to the public.

Chairman Nichols closed public hearing.

Motion by Gallant, seconded by Nelson and carried unanimously to approve Variance No. 15-138 subject to the conditions as contained in the staff report.

2. **CONDITIONAL USE PERMIT (CUP) NO. 15-154 AND VARIANCE NO. 15-155–** A request to construct a 60-foot wireless telecommunication facility (designed as a Eucalyptus tree) and a variance request to exceed the maximum allowable height located at 25765 Beaumont Avenue in the R-1 Zone.

ACM Bolowich presented the staff report into evidence. The applicant is requesting to construct a new 60-foot cell tower designed as a eucalyptus tree and associated ground equipment to be located at 25765 Beaumont Avenue (APN 0293-052-21) (Exhibit A). The site will be located within undeveloped portion of the Loma Linda Dog Park. The project site is located in the Single Family Residence (R-1) Zone. The applicant is also seeking approval of a variance request to exceed the maximum height allowed in the R-1 zone.

Chairman Nichols opened Public Hearing

Discussion ensued with Planning Commissioners, Staff and applicant regarding:

- Clarification as to a utility infrastructure from a private sector.
- Building materials.
- Wireless coverage maps.
- Neighboring land ownership.
- Completing the project.

Resident Dick Wiley shared his concern about the tower blending in well with the neighboring trees.

Chairman Nichols closed the public hearing.

Motion by Gallant seconded by Nelson and carried unanimously to approve the Conditional Use Permit 15-154 and Variance No. 15-155 subject to the conditions of approval contained in staff report with modifications to include: Rock veneer fencing and additional trees to match the neighboring trees.

REPORTS BY STAFF

No reports by staff or Commissioners.

Meeting adjourned to January 06, 2015 at 7:00 p.m.

Nataly Alvizar
Administrative Specialist I