

US EPA ARCHIVE DOCUMENT

## Chapter 2 Affected Environment, Environmental Consequences, and Mitigation Measures

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This chapter describes the current state of the resources in the project area and identifies the likely impacts of implementing the proposed project. In general, each subsection below will describe the present conditions, discuss the likely impacts of building the proposed project, and indicate what measures would be taken to mitigate those impacts.

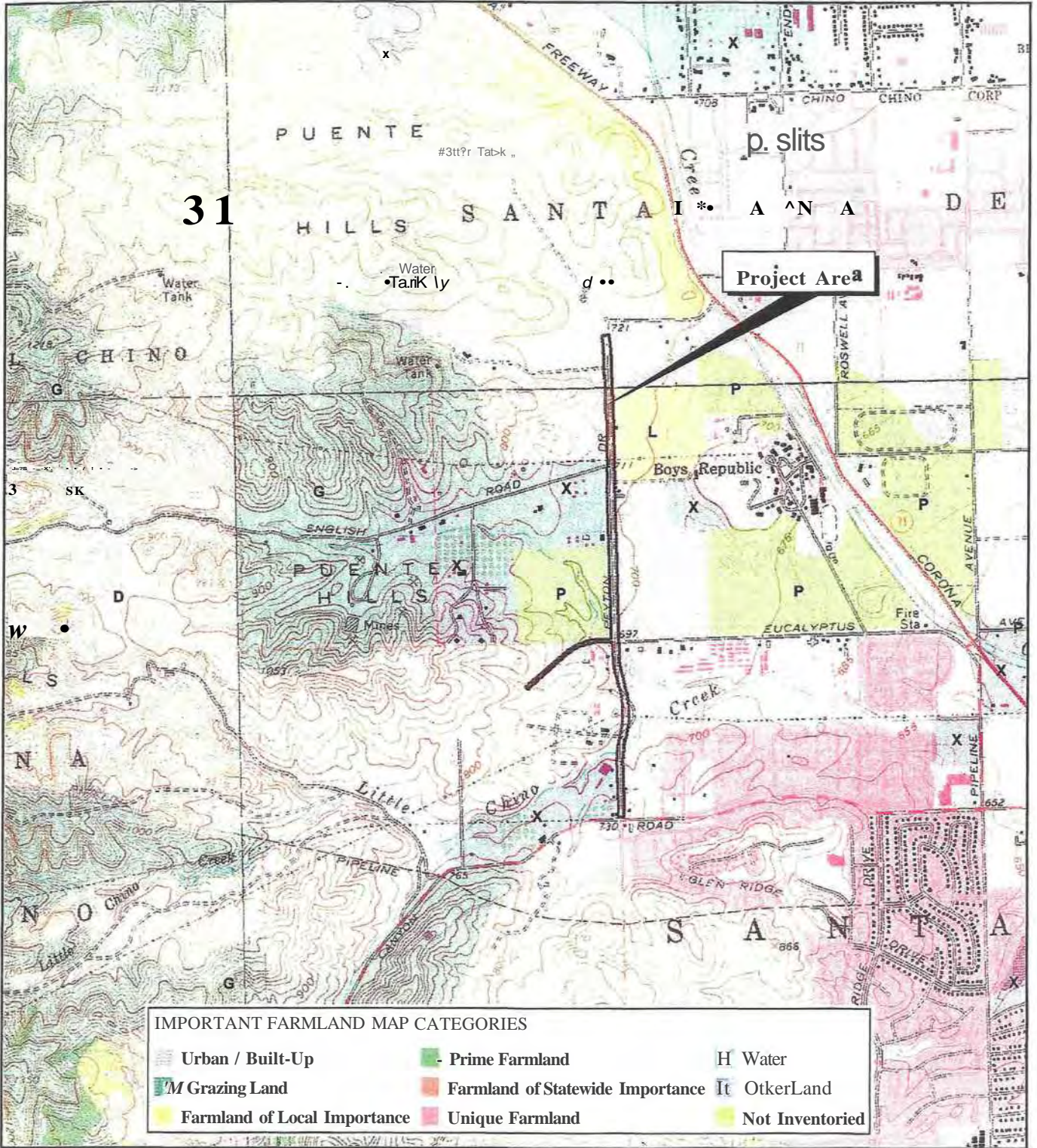
The environmental analysis contained within the following chapter considers the potential environmental consequences associated with implementation of the proposed Build Alternatives and the No Build Alternative. For the purposes of this analysis the proposed Build Alternative is analyzed concurrently with the No Build Alternative where potential environmental impacts would be similar; however, where applicable, the Build Alternative and No Build Alternative analyses are separated and discussed individually. The environmental impact analyses discuss potential impacts in four general categories: human environment, physical environment, biological environment, and cumulative impacts.

As part of the scoping and environmental analysis conducted for the project, the following environmental resources were considered, but no potential for adverse impacts to these resources was identified. Consequently, there is no further discussion regarding these resources in this document:

### ***Farmland/Timberland***

According to the U.S. Department of Agriculture (USDA) Farmland Conversion Impact Rating Form, 0.1-hectare (ha) (0.25-acres [ac]) of the proposed project is located in an area of unique or prime farmlands and subject to the provisions of Section 658.2(a) of the Farm Protection Policy Act (FPPA). The Farmland Conversion Impact Rating Form gives this agricultural area a score of less than 160 and, according to the Natural Resource Conservation Service, sites receiving a score of less than 160 need not be given further consideration for protection and no additional sites need to be evaluated. Refer to Figure 2-1, Farmlands Map.

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Source: Community Impact Assessment, LSA Associates, Inc., April 2004.

**Growth**

The proposed project is located near existing roadways providing access to existing developed areas. The project would not provide new access to undeveloped areas and is not expected to induce growth that is inconsistent with the general planning goals of the City of Chino Hills. The project has been developed to accommodate the growth in traffic volumes that has resulted from planned projects in the area and not to provide excess capacity. Therefore, the project is not considered growth inducing.

**2.1 Human Environment**

**2.1.1 Land Use**

The following describes existing land use functions and general plan designated uses, and assesses potential impacts caused by the proposed project on existing and proposed land uses within the project area. The *City of Chino Hills General Plan* was reviewed to identify designated land uses, approved development projects, and planning policies and goals. Aerial photographs were examined to identify existing land uses, and development applications were reviewed at the City of Chino Hills to identify foreseeable recent development projects within the project area. The table below lists the land uses and its proximity to the proposed project.

**TABLE 2-1. Existing and Proposed Land Uses**

Land Use	Distance from Project	Direction from Project
<b>Existing Uses</b>		
Chino Hills Sheriff Station	Adjacent	Southeast corner of Grand Avenue/Peyton Drive
Chino Hills Community Park	Adjacent	Southeast corner of Grand Avenue/Peyton Drive
U.S. Post Office	Adjacent	East side of Peyton south of St. Paul the Apostle Catholic Church
Ruben S. Ayala High School	Adjacent	East side of Peyton north of Gerald F. Litel Elementary School
Boys Republic High School	Adjacent	East side of Peyton north of Ruben S. Ayala High School
Gerald F. Litel Elementary School	Adjacent	East side of Peyton north of Eucalyptus Avenue
Momingfield Park	Adjacent	West side of Peyton between Eucalyptus Avenue and Chino Hills Parkway (SR-142)
McCoy Equestrian Center	Adjacent	West side of Peyton north of Eucalyptus Avenue and future community park/residential development
Country Springs Elementary	Within 1.5 miles	West of Peyton
English Springs Park	Within 1.5 miles	West of Peyton
English Creek Park	Within 1.5 miles	West of Peyton
Church of Jesus Christ of Latter Day Saints	Adjacent	Southeast corner of Peyton and Eucalyptus Avenue
Chino Valley Community Church	Adjacent	East side of Peyton south of Church of Jesus Christ of Latter Day Saints
Loving Savior of the Hills Lutheran Church and School	Adjacent	East side of Peyton west of Momingfield Park
St. Paul the Apostle Catholic Church	Adjacent	East side of Peyton south Chino Hills Community Park
<b>Proposed Uses</b>		
Chino Hills Town Center	Adjacent	Southeast corner of Grand Avenue and Peyton
Community Park/Residential	Adjacent	West side of Peyton between Eucalyptus Avenue and McCoy Equestrian Center

Source: *Community Impact Assessment*, October 2005.

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## AFFECTED ENVIRONMENT

The proposed project is located in the southwestern portion of San Bernardino County and is situated within an urbanized area in the western portion of the City of Chino Hills. The City of Chino Hills maintains a rural character provided by a sense of openness and preservation of agricultural uses, yet is experiencing rapid population growth.

The project area includes a variety of urbanized land uses, including residential, commercial, and equestrian uses (refer to Table 2-1, Land Uses, above). There are several pockets of residential development located adjacent to Peyton Drive within the project area, as well as associated community schools, parks, and churches. A senior citizen community is currently being constructed in the southeastern portion of the project limits north of Chino Hills Parkway/SR-142.

The Payne Ranch Center commercial development is located at the southwestern corner of Grand Avenue and Peyton Drive. There are several equestrian uses located along Peyton Drive, including the McCoy Equestrian Center, The Western Horse Company, and Diamond I Ranch.

### ***City of Chino Hills General Plan***

The *City of Chino Hills General Plan* was consulted to determine the land use policies for the study area. The *City of Chino Hills General Plan* provides land use policies that address specific needs and concerns within the plan area.

The Land Use Element of the *City of Chino Hills General Plan* identifies the following land use designations for adjoining properties:

- Rural Residential (0.2-2 dwelling units [du]/acre [ac] or less) with development permitted on very large lots, with a minimum of 0.2 hectares (ha) (Yi ac) or larger;
- Low Density Residential (2-6 du/ac) with single-family detached housing permitted;
- Commercial designated areas (0.3:1 Floor Area Ratio [FAR]) of concentrated retail use;
- Institutional (0.50:1 FAR) which includes government properties, public and private schools, churches and fire stations; and

- Agricultural/Ranches designation (0-0.2 du/ac or less) with development permitted on large lots 2 ha (5 ac) in size or more.

As discussed in the *Chino Hills Specific Plan*, land use within the City is assigned to one of five development categories: Village Cores, Preferred Development Envelopes, Development Envelopes, Development Sensitive Areas, and Mixed Use Areas. The project study area lies on the border of two Village Cores: the Woodview and Los Ranchos Villages. Village Cores are the commercial and visual hubs of each village. Village cores are located in relatively flat areas having good pedestrian and vehicular access and potential for moderate- to high-density residential development within a quarter-mile radius. Relevant land use-related goals and policies stipulated in the *City of Chino Hills General Plan* and *City of Chino Hills Specific Plan* are summarized below:

- Coordination of land development with the provision of needed public services and facilities in a timely and efficient manner.
- Los Ranchos Village: Parkway landscaping should consist of a non-uniform arrangement of planting masses, including trees, shrubs, and ground covers.
- Woodview Village: Eucalyptus windrows should be continued or introduced along drainage ways, medians, and parkways.
- The following street shall have a landscaped center median: Peyton Drive from Soquel Canyon Road to the intersection with Riverside Drive and SR-71.

#### *City of Chino Hills Circulation Element*

The *City of Chino Hills General Plan* Circulation Element designates Peyton Drive as a six-lane Major Arterial between Grand Avenue and Eucalyptus and a four-lane major highway between Eucalyptus and Chino Hills Parkway/SR-142. Eucalyptus west of Peyton is designated as a two-lane collector. The goals of the *City of Chino Hills General Plan* Circulation Element is to provide an effective circulation system that reflects and complements the character of Chino Hills and to maintain consistency with current and future transportation planning activities at the State, regional, and local levels. Policy 2-6 of the *City of Chino Hills General Plan* requires that projects must be completed with local, regional, and State agencies to ensure that planned circulation improvements are compatible with and contribute to the effectiveness of the regional transportation system.

### **Regional Plans**

The proposed improvements are included within the Southern California Association of Governments' (SCAG) 2001 Regional Transportation Plan (RTP) and 2004 Regional Transportation Improvement Program (RTIP) for fiscal year 2004/2005-2009/2010. These documents recommend widening improvements to Peyton Drive and completing the construction of Eucalyptus Avenue.

## **PERMANENT IMPACTS**

### ***Build Alternative***

The proposed project would expand the existing Peyton Drive roadway geometries by adding one additional lane south of Payne Ranch Road and adding two lanes south of Eucalyptus Avenue to match the adjacent roadway pattern north of Payne Ranch Road. Eucalyptus Avenue is designed to match existing roadway geometries by constructing a two-lane road approximately 160-m (530-ft) west of Peyton Drive. The construction and expansion of the proposed project will result in the acquisition of a residential parcel. The affected property consists of a single-family home located on the southeast corner of the Eucalyptus Avenue/Peyton Drive intersection. The proposed project will require the full acquisition of two residential properties and partial acquisitions within fifteen properties, including one residential property. A more detailed analysis relative to community impacts and environmental justice is provided in Section 2.1.2, Community Impacts.

It is not anticipated that the proposed Build Alternative will create any long-term shifts in the planned land use types. The proposed project will improve vehicular circulation within an area of the City of Chino Hills that is currently developed. The proposed project would not induce development in the project area. However, the City of Chino Hills will retain the ability to manage growth at desired levels and land uses that conform to existing plans. The proposed project would also temporarily impact businesses, community services, and facilities. Refer to Section 2.1.2 for a detailed description of these impacts.

### ***Consistency with General Plans***

The proposed project is considered to be consistent with the local land use plans and policies applicable to the project area. The proposed project is specifically identified in the *City of Chino Hills General Plan* Circulation Element for both Peyton Drive and Eucalyptus Avenue. The project will conform to the existing road layout of the community, as it will facilitate and improve access while matching the pattern and



design of major thoroughfares adjacent to the project within the City of Chino Hills. The proposed project is intended to meet the traffic needs in the area based upon the local land use plans.

### ***Compatibility with Existing Land Use***

The proposed project would generally be consistent with the residential and commercial land uses in the immediate project area. These uses would only be temporarily affected during the construction period, as access and mobility could be periodically disrupted by construction activities. Once operational, the proposed roadway improvements would be compatible with the residential and commercial land uses within the proposed project area, because Peyton Drive is already a major thoroughfare and no residential or commercial uses are present within the Eucalyptus Avenue completion area. Additionally, the new travel lanes provided as part of the project would match, but not exceed, the neighboring roadway land configurations in the area.

### ***No Build Alternative***

The No Build Alternative would not provide any improvements to Peyton Drive or Eucalyptus Avenue to relieve the projected traffic congestion along these roadways and adjacent intersections. The No Build Alternative would not be consistent with the project goal of improving access and traffic flow along Peyton Drive and Eucalyptus Avenue. It is probable that many of the pending and approved projects within the vicinity of the project site would eventually be developed, even without the roadway improvements. This will create increased air quality and traffic impacts on existing and future land uses in the area. Although there are no impacts on land uses under this alternative, the widening of Peyton Drive and Eucalyptus Avenue could occur at a later date.

## **TEMPORARY IMPACTS**

### ***Build Alternative***

Temporary impacts associated with the proposed project are primarily construction related and involve increases in dust, air pollutants, and noise; access limitations; and an increase in traffic congestion due to construction/worker vehicle traffic (refer to Sections 2.1.2, 2.2.5, and 2.2.6 for detailed discussions). Implementation of various measures referenced throughout this Environmental Assessment/Initial Study (EA/IS) would mitigate the effects of temporary project-related impacts.

Construction activities will not significantly reduce the capability of the Ruben S. Ayala High School to perform any vital function. However, minor, temporary disruptions of access may occur during project construction. Construction activities in the vicinity of the high school will consist of minor curb and sidewalk reconstruction, asphalt overlays, and restriping, which require only a limited amount of construction equipment. Full access to the parking area will be facilitated during project construction, thereby allowing unrestricted access to the school grounds.

Indirect disturbances may consist of construction noise and dust; however, these impacts are considered short-term and would cease upon project completion. Given the limited area to be improved in the vicinity of the school, implementation of standard construction measures would minimize air and noise impacts.

Construction impacts are expected to be temporary and are not considered long-term substantial impacts. Construction staging activities will be sited to avoid inconveniencing adjacent land uses to the extent feasible. No construction staging areas outside of the project area will be permitted. Staging and other construction activities will be accomplished in a manner that limits potential impacts and inconveniences on adjacent properties. Additionally, construction activities are not expected to affect local plans. No substantial differences in the type or duration of impacts for the Build Alternative area are expected to occur.

### **No Build Alternative**

No construction-related impacts would occur under the No Build Alternative.

### **AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES**

Refer to the impact discussion below under Sections 2.1.2, 2.2.5, and 2.2.6 for detailed construction-related mitigation measures.

- LU1. Final engineering plans shall specify that no construction staging or stockpiling of materials or equipment shall occur on-site at the Ruben S. Ayala High School.
- LU2. Access to all school facilities shall be maintained throughout the duration of construction activities. Appropriate construction signage and access shall be provided to route pedestrians, staff, and patrons safely around construction. Crossing guards shall be located near Ruben S. Ayala High School when construction impacts the movement of students to ensure student safety.

LU3. The City of Chino Hills Police Department and Chino Hills Independent Fire Department shall be notified and supplied with construction plans before the construction begins. Such information shall include traffic management plans, referring to temporary street closures of adjacent streets and any other restrictions that may be necessary while the project is being completed. The high school shall be informed of traffic lane closures and closed drop-off zones to ensure safe arrival and departure of students.

### 2.1.2 Community Impacts

#### COMMUNITY CHARACTER AND COHESION

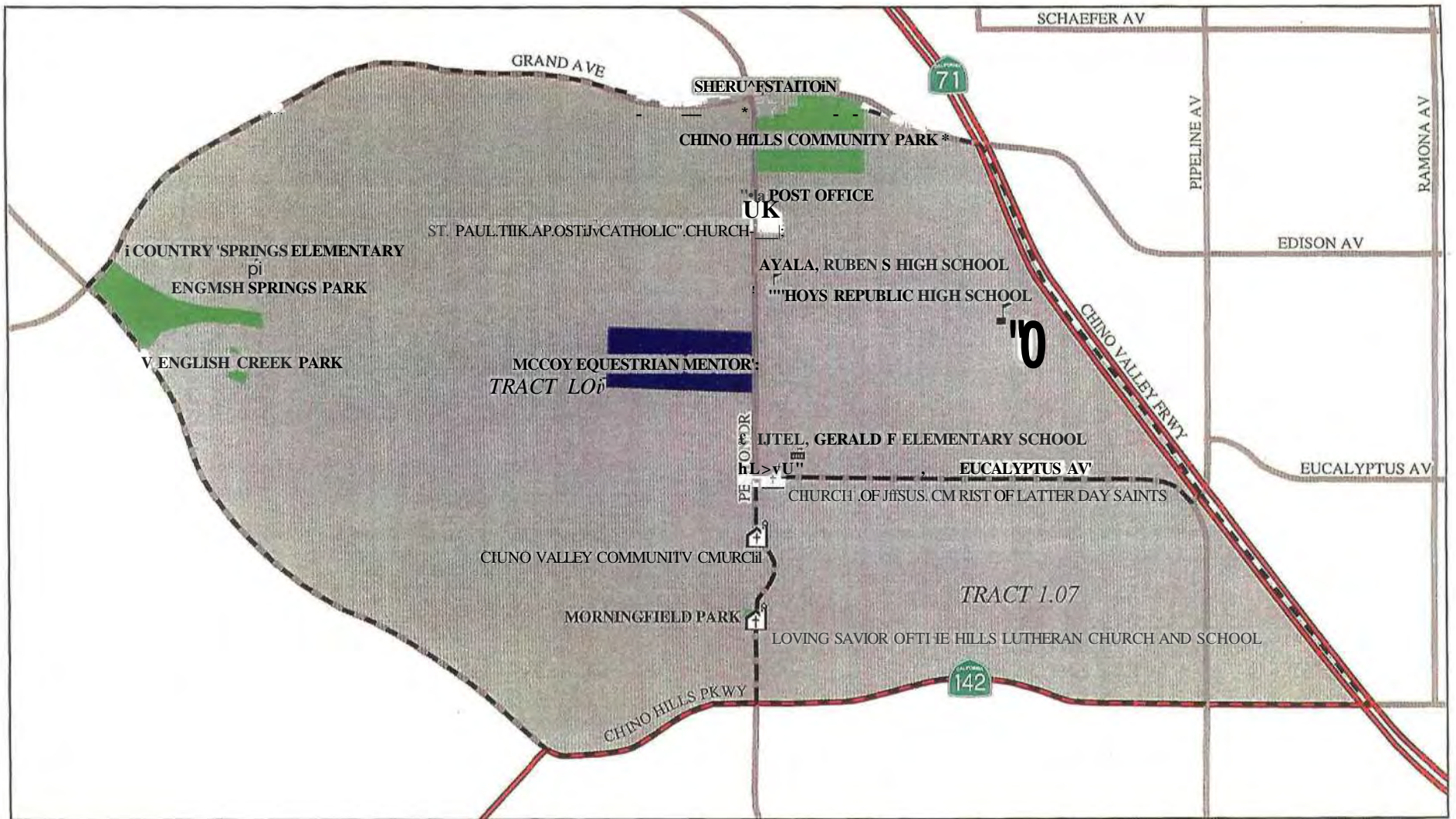
The National Environmental Policy Act of 1969, as amended (NEPA), established that the Federal government use all practicable means to ensure for all Americans safe, healthful, productive, and aesthetically and culturally pleasing surroundings [42 U.S.C. 4331(b)(2)]. The Federal Highway Administration (FHWA) in its implementation of NEPA [23 U.S.C. 109(h)] directs that final decisions regarding projects are to be made in the best overall public interest. This requires taking into account adverse environmental impacts such as destruction or disruption of human-made resources, community cohesion, and the availability of public facilities and services.

Under the California Environmental Quality Act (CEQA), an economic or social change by itself is not to be considered a significant effect on the environment. However, if a social or economic change is related to a physical change, then social or economic change may be considered in determining whether the physical change is significant. Furthermore, since this project would physically change the environment, it is appropriate to consider changes in community character and cohesion in assessing the significance of the project's effects.

#### AFFECTED ENVIRONMENT

The proposed project study area analyzed by the *Community Impact Assessment* (CIA), dated October 2005, includes those areas beyond the project area anticipated to be directly impacted by the proposed project. The project area comprises two census tracts (known as Census Tract 1.05 and Census Tract 1.07) from the 2000 census and contains an area greater than the project area itself. The project area is predominantly single-family housing, with some commercial and equestrian uses. Other uses include the Payne Ranch Center commercial development, located at the southwest corner of Grand Avenue and Peyton Drive.

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- |                     |                              |                        |
|---------------------|------------------------------|------------------------|
| □ Census Tracts     | • Athletic Field or Track    | 🏠 Post Office          |
| • Recreation Center | 🏫 School - Public Elementary | X School - Public High |
| 🌳 Park              | 👮 Sheriff Station            | 🏛 Churches             |

Source: Community Impact Assessment, LSA Associates<sup>®</sup> Inc., April 2004.



6/1/04 JN 65-100044-11126

PEYTON DRIVE WIDENING PROJECT

## Community and Services in Vicinity

Equestrian uses are located along Peyton Drive, including the McCoy Equestrian Center, the Western Horse Company, and the Diamond I Ranch (Refer to Figure 2-2, Community Services and Facilities).

**Existing Population and Housing - Regional Demographics**

The U.S. Census Bureau reported the County of San Bernardino's population in 1980 as 909,700. By July 2000, the population for the County had nearly doubled, increasing to 1,718,928. In July 2003, the population of the County had increased to 1,859,678 people. SCAG projects that growth will continue for the next two decades and the population in the County will rise over 60 percent to 2,778,000 by the year 2025.

**Existing Population and Housing - Local Demographics**

The City of Chino Hills has experienced a higher degree of population growth than the County since the City's incorporation in December 1991. Population at incorporation in 1991 was estimated at 42,000. According to the 1990 Census, the population was 27,608; by year 2000, the Census had recorded a population of 66,787. The State Department of Finance (DOF) estimated the population on January 2003 as 72,994. SCAG projects the rate of population growth in the City to increase over the next two decades, with the population expected to rise by 31 percent to 87,700 by year 2025.

The distribution of population by age within the census tracts is comparable to the distribution within the City. The number of seniors over 64, however, is much lower within the study area as compared to the County of San Bernardino. Projections by SCAG anticipate that the percentage of senior citizens in the southern California region will continue to rise over the next two decades, with one in six people expected to be a senior citizen in the year 2025. The following table summarizes the age distribution for the City and County.

**TABLE 2-2. Age Distribution**

	Population <18	Population 18-64	Population >64	Transit-Dependent Population
County	35%	56%	9%	44%
City	33%	63%	4%	37%
Source: Community Impact Assessment, October 2005.				

SCAG reports that the County will be more racially and ethnically diverse in the year 2025 than it is today. There will be no ethnic majority group in the County in the

year 2025, but Hispanics are projected to be the largest group, accounting for 49 percent of the population. While Orange County and Los Angeles County are projected to lose White populations, the Non-Hispanic White population in the County of San Bernardino is expected to grow very slowly over the next two decades. The Asian population is projected to expand, increasing over 100 percent by the year 2025. The Black population is projected to nearly double, from natural births and inter-County migrations. The table below illustrates the ethnic composition of the County and City.

**TABLE 2-3. Ethnic Composition**

	White	Black	Native American	Asian	Hawaiian	Other	Hispanic
San Bernardino County	63%	10%	2%	6%	0.5%	24%	39%
City of Chino Hills	56%	6%	1%	22%	0.1%	16%	26%

Source: *Community Impact Assessment*, October 2005.

Overall local and regional demographics are seen in Table 2-4, Demographics, below. The population growth in the City of Chino Hills was much greater than the growth of the County. The City of Chino Hills median household income is \$78,374, the highest in all of San Bernardino County (Refer to Figure 2-3, Vicinity Household Incomes). Furthermore, the proportion of persons living in poverty in the City was much lower than in the County. There were approximately 21,354 housing units in the City; of those, 875 were multi-family units. Home ownership rates in the City was at 85%, higher than that of the County at 65%. The household occupancy rate of the City of Chino Hills is 3.33, as compared with 3.15 for the County.

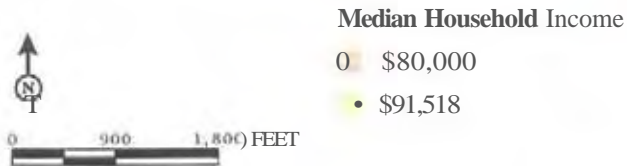
**TABLE 2-4. Demographics**

Characteristic	City of Chino Hills	San Bernardino County
Population Change (1990 to 2000)	142%	21%
Median Household Income	\$78,374	\$42,066
Persons below poverty	5%	16%
College Graduates	38%	16%
Home Ownership Rate	85%	65%
Persons per Household	3.33	3.15

Source: *Community Impact Assessment*, October 2005.



Source: Community Impact Assessment, LSA Associates, Inc. January 2005.



PEYTON DRIVE WIDENING PROJECT  
**Vicinity Household Incomes**

Figure 2-3



## PERMANENT IMPACTS

### ***Build Alternative***

The proposed project is part of a large transportation program designed to accommodate anticipated growth in the region. Such transportation improvements also have the potential to improve circulation and access within the project area. Short-term benefits to the local economy would result from project expenditures and secondary spending by construction-related workers.

The roadway widening and extension project is not anticipated to alter the location, distribution, density or growth rate of the human population in the City of Chino Hills or surrounding communities. The project would be consistent with the *City of Chino Hills General Plan Circulation Element*, and therefore no growth-related impacts are anticipated. Implementation of the proposed project would not directly increase either population or housing growth, and would not affect the existing ethnic composition of the study area.

The proposed project would generate employment opportunities during construction. This would represent a minor beneficial impact on employment. Due to the small size of the construction labor force required, the proposed project is not expected to create a demand for any expansion of the construction labor supply. All permanent impacts associated with the proposed project would not be considered adverse with the implementation of mitigation measures discussed below.

### ***No Build Alternative***

The No Build Alternative would have no short-term construction effects on the community.

## TEMPORARY IMPACTS

The residents and public facilities and services in the project vicinity would be temporarily affected by construction-related activities, such as fugitive dust, noise, air emissions, and traffic resulting from lane closures (refer to Section 2.2.6 and Section 2.2.7 for detailed construction-level air quality and noise evaluations of the Build Alternative, including the No Build Alternative). However, these nuisances would only be temporary and cease upon completion of construction. Refer to impact discussions under Section 2.2.6 and Section 2.2.7 for detailed construction discussions related to adjacent sensitive land uses and access issues.

Access disruptions of Peyton Drive and Eucalyptus Avenue would be temporary and would cease upon project completion. Access to some of the commercial and residential areas, Ruben S. Ayala High School, and places of worship along Peyton Drive would be temporarily impeded during the construction phase of the project.

### **Relocations**

The Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (as amended) and Title 49 Code of Federal Regulations (CFR) Part 24 ensures that persons displaced as a result of a transportation project are treated fairly, consistently, and equitably so that such persons will not suffer disproportionate injuries as a result of projects designed for the benefit of the public as a whole. All relocation services and benefits are administered without regard to race, color, national origin, or sex in compliance with Title VI of the Civil Rights Act (42 U.S.C. 2000d, et seq.). A *Draft Relocation Impact Statement* was prepared for the project dated April 2005.

## **AFFECTED ENVIRONMENT**

Residential and commercial land uses are predominant throughout the project area. Some property acquisitions would be required to provide adequate ROW for the proposed project. These acquisitions are associated with the proposed expanded roadway and extension along Peyton Drive and Eucalyptus Avenue. The types of affected property and the number of resulting displacements are discussed below.

## **PERMANENT IMPACTS**

### **Build Alternative**

Implementation of the proposed project will require the full or partial acquisition of private properties, including two full acquisition of residences and one partial acquisition of a residence which will result in displacement (Table 2-5). Project impacts include both complete acquisitions of existing uses and partial acquisitions that may displace or alter existing uses. Based on the average household occupancy rate of 3.33, mentioned above, it is anticipated that approximately nine people would be displaced with implementation of the proposed project. The residential properties to be displaced as a result of the proposed project are anticipated to be relocated within the City. The relocations will be handled in accordance with the Federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970. The City does not have a formal relocation program; therefore, the City will implement and comply with the Department Relocation Assistance Program.

**TABLE 2-5. Residential Parcels to be Fully or Partially Acquired Resulting in Displacement**

Assessor Parcel Number	Existing Use	Designated Land Use Code	Building Area (ft <sup>2</sup> )
<b>Full Acquisitions</b>			
1025-011-04	Residence	Low-Density Residential	1,945
1032-221-01	Residence	Low-Density Residential	2,324
<b>Partial Acquisitions Resulting in Displacement</b>			
1025-011-24	Residence	Low-Density Residential	800
Source: <i>Community Impact Assessment</i> , October 2005.			

The project will require the partial acquisition of fifteen properties not resulting in relocations, including several horse stables and equestrian uses. Table 2-6 lists the properties to be partially acquired with implementation of the proposed project (Refer to Figure 2-4, Proposed Acquisitions).

*Impacts on Local Businesses*

The property tax assessed and collected from each privately owned property is collected by the County and apportioned to local jurisdictions, including County entities, the City, special districts, and schools within the tax rate area of that property. Property tax revenues would be lost for those parcels to be acquired by the proposed project; based on property taxes paid in 2003 to the Office of the Treasurer - Tax Collector in the County, the potential property tax losses calculated for the project is approximately \$9,411. The annual tax revenue allocated to the City and collected is approximately \$51,487,540; this represents a 0.018 percent loss of property tax revenue for the City.

The project would not require the acquisition or relocation of any businesses generating sales tax. Therefore, no loss of sales tax revenue is anticipated for the City, County, or State as a result of the proposed project.

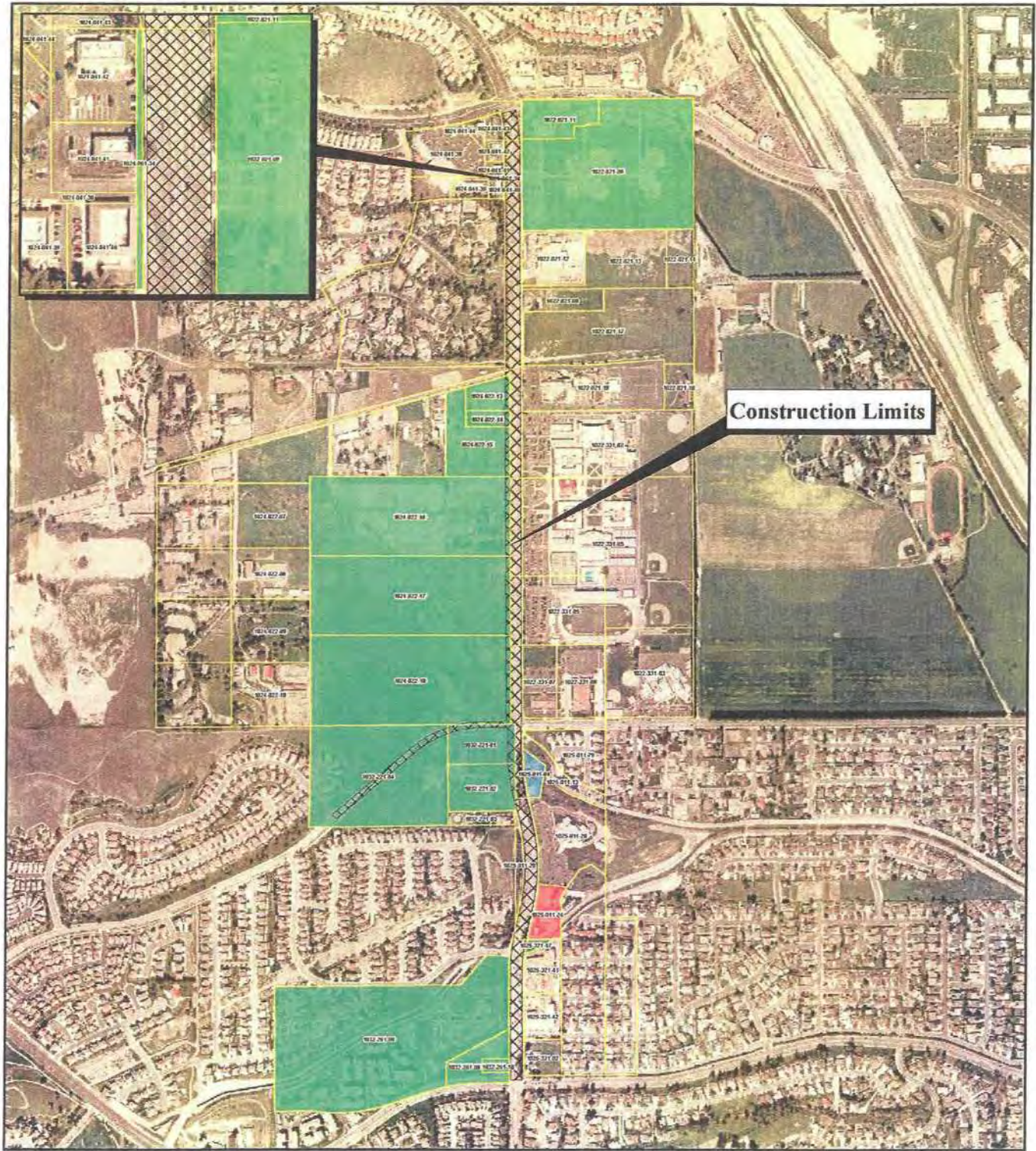
The value of residential and nonresidential properties not directly impacted by full or partial acquisitions within the study area may increase slightly as a result of the proposed improvements, but a major change in property value is not anticipated.

*Public Facilities*

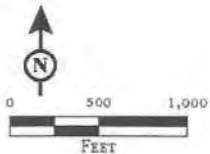
The project will result in a partial property acquisition of the McCoy Equestrian Center and the Loving Savior of the Hills Lutheran Church. The proposed project includes the widening of Peyton Drive. The widening will encroach onto the setbacks, including landscaped areas and driveways, of McCoy Equestrian and Recreation Center. The total area of the affected parcel is approximately 8.11 hectares (20.03 acres).

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- PROPOSED ACQUISITIONS
- Full Acquisitions
  - Partial Acquisitions
  - Partial Acquisition Resulting in Displacement
  - Construction Limits



Peyton Drive Widening Project  
**Proposed Acquisitions**

Figure 2-4

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# parcel	APN Map Index	APN No.	Existing Facility	Designated Land Use Code	General location	Partial/Full Takes	Areas (SF)
1	1022-02	10220211	Sheriff Station	Institutional	at southeast corner of Grand and Peyton	P	3887
2	1022-02	10220210	Chino Hills Community Park	Public Open Space	near southeast corner of Grand and Peyton	P	3460
3	1024-02	10240221	Substation (SCE)	Agriculture / Ranches	southwest corner of Peyton s/o English Road	P	4795
4	1024-02	10240221	Vacant	Agriculture / Ranches	on west side of Peyton s/o English Road	P	4787
5	1024-02	10240221	Vacant	Agriculture / Ranches	on west side of Peyton s/o English Road	P	13937
6	1024-02	10240221	McCoy Equestrian Center	Agriculture / Ranches	on west side of Peyton s/o English Road	P	30170
7	1024-02	10240221	Vacant	Agriculture / Ranches	on west side of Peyton n/o Eucalyptus	P	31033
8	1024-02	10240221	Vacant	Agriculture / Ranches	on west side of Peyton n/o Eucalyptus	P	52459
9	1024-06	10240613	Residential (Payne Ranch frontage)	Low Density Residential	on west side of Peyton n/o English Road	P	13089
10	1032-22	10322210	Vacant	Agriculture / Ranches	on south side of Eucalyptus near future park site	P	3824
11	1032-22	10322210	Residential	Low Density Residential	near southwest corner of Eucalyptus and Peyton	P	26002
12	1032-22	10322210	Residential	Low Density Residential	near southwest corner of Eucalyptus and Peyton	P	2263
13	1025-01	10250112	Residential (Innocenzo)	Low Density Residential	on east side of Peyton n/o Carbon Canyon Creek Channel	P with Bldg relocation	15212
14	1025-01	10250112	Residential (Innocenzo)	Low Density Residential	on east side of Peyton n/o Carbon Canyon Creek Channel	P	6334
15	1025-32	10253214	SBC/FCD-Carbon Canyon Creek Channel	Institutional	on east side of Peyton n/o Chino Hills Pkwy	P	3147
16	1032-26	10322610	Church	Institutional	southwest corner of Peyton and Morningfield Drive	P	1305

#	APN	APN Slip	APN No.	Existing	Original Use	Original Land Use	Orientation	Partial/Full Takes	Vis (SF)
17	1088-28	1088-28	P 888810	nt	Low Density Residential	Low Density Residential	West side of intersection	P	ffSi8
18	1088-28	1088-28	P 888811	nt	Low Density Residential	Low Density Residential	West side of intersection	P	iiii8

**NOTES:**

Shading indicates anticipation of Full takes required for project. Partial takes are assumed to be strips of parcels as needed for ultimate, proposed ROW.

FOR APN #: There is currently an existing, old metal building structure that lies within public ROW and will require demo; city has ROW for roadway facility. (@ NE corner of Ohio Hills Parkway/Peyton intersection)

The amount of property to be acquired by the proposed project is approximately 3.4 percent of the affected parcel, or 0.28 hectare (0.69 acre). The proposed project, as currently designed, will not impair the use of any of the equestrian or community facilities located within the McCoy Equestrian and Recreation Center. However, the McCoy Equestrian and Recreation Center was designed to allow for the future widening of Peyton Drive. These acquisitions will not result in displacement of any structure, and the project will improve access to and from the public facilities. A Section 4(f) impacts analysis found that the permanent transportation use of the McCoy Equestrian and Recreation Center does not adversely affect any of the activities, features, or attributes that qualify this park for protection under Section 4(f).

### **Employment**

The proposed project would generate employment opportunities during construction. Most of the employment would be associated with existing contractors that are located in the area. This would represent a minor beneficial impact on employment. The anticipated construction labor force required for this project is not expected to create a demand for any expansion of the construction labor supply.

### **No Build Alternative**

The No Build Alternative would have no effect on the construction labor supply. The No Build Alternative would not provide increased access to facilitate the establishment of new commercial facilities within the project vicinity. Further, the No Build Alternative may impede the ability of the surrounding area to maximize property tax revenues.

### **TEMPORARY IMPACTS**

Refer to the above discussion under Community Character and Cohesion.

### **AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES**

COM1. The *Uniform Relocation Assistance and Real Property Acquisitions Policies Act* (Uniform Act) of 1970 (Public Law 91-646, 84 Stat. 1894) mandates that certain relocation services and payments be made available to eligible residents, businesses, and nonprofit organizations displaced by its projects. The Act provides for uniform and equitable treatment by Federal or Federally assisted programs of persons displaced from their homes, businesses, or farms, and establishes uniform and equitable land acquisition policies. The City of Chino Hills will provide affected property owners with a copy of the Uniform Act.



**COM2.** When acquisitions and relocations are unavoidable, the provisions of the Uniform Act and the 1987 Amendments as implemented by the Uniform Relocation Assistance and Real Property Acquisition Regulations for the Federal and Federally assisted programs adopted by the Department of Transportation, dated March 2, 1989, will be followed. An independent appraisal of the affected property will be obtained, and an offer for the full appraisal will be made.

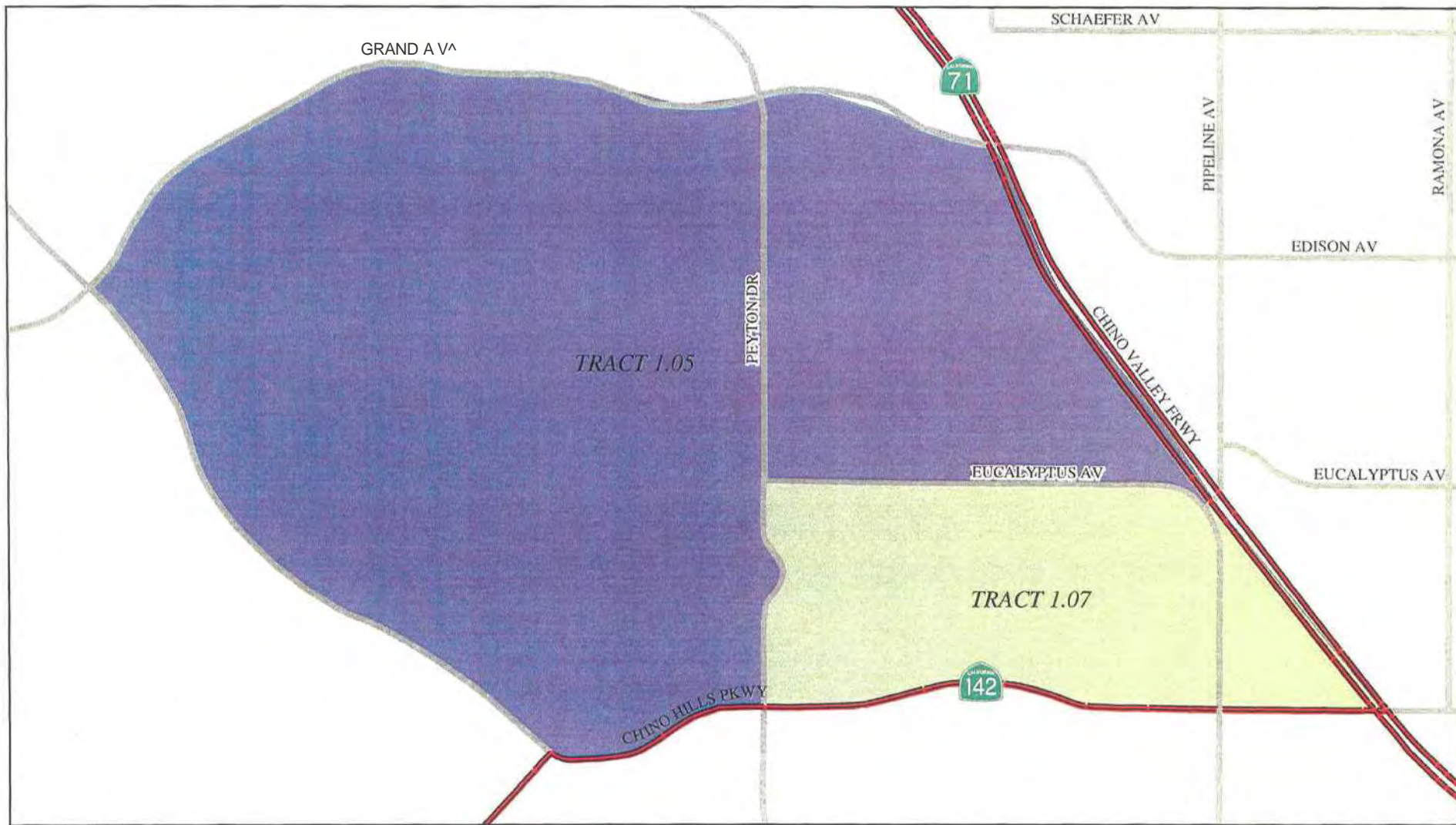
**COM3.** The Uniform Act requires that comparable, decent, safe, and sanitary replacement housing that is within a person's financial means be made available before that person may be displaced. In the event that such replacement housing is not available to "re-house" persons displaced by the project within statutory limits for replacement housing payments, "last resort" housing may be provided in a number of prescribed ways.

### **ENVIRONMENTAL JUSTICE**

All projects involving a Federal action (funding, permit, or land) must comply with Executive Order (E.O.) 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, signed by President Clinton on February 11, 1994. This E.O. directs Federal agencies to take the appropriate and necessary steps to identify and address disproportionately high and adverse effects of Federal projects on the health or environment of minority and low-income populations to the greatest extent practicable and permitted by law. Low income is defined based on the Department of Health and Human Services (HHS) poverty guidelines. *{Note: The 1999 poverty threshold used for the 2000 U.S. data, as defined by the U.S. Census Bureau, was \$8,501 for an individual and \$17,029 for a family of four}* (Refer to Figure 2-5, Vicinity Poverty Levels).

All considerations under Title VI of the Civil Rights Act of 1964 and related statutes have also been included in this project. The Department's commitment to upholding the mandates of Title VI is evidenced by its Title VI Policy Statement, signed by the Director, which can be found in Appendix C of this document.

The term "minority" includes persons who identify themselves as Black, Asian/Pacific Islander, Native American, or of Hispanic origin. The term "low-income" includes persons whose household income is at or below the U.S. HHS poverty guidelines. A different threshold (e.g., U.S. Census Bureau poverty threshold) may be utilized as long as it is not selectively implemented and is inclusive of all persons at or below the HHS poverty guidelines.



Source: Community Impact Assessment, LSA Associates, Inc. January 2005.



PEYTON DRIVE WIDENING PROJECT  
**Vicinity Poverty Levels**

Figure 2-5

Environmental justice considerations require an assessment of whether the effects of the project on those groups could be considered disproportionately high and adverse. This determination depends on whether the effects of the project are predominantly born by a minority or low-income population, or appreciably more severe or greater in magnitude on minority or low-income populations compared to the effects on non-minority or non-low income populations. Environmental Justice strives to ensure full and fair participation in the decision making process by all affected communities, and not deny, reduce, or significantly delay benefits.

The discussion of environmental justice that follows has been prepared in accordance with the applicable guidance for addressing impacts, including: U.S. Department of Transportation (DOT) Order 5610.2 (April 15, 1997), FHWA Order 6640.23 (December 2, 1998), and FHWA Western Resource Center Interim Guidance (December 2001). Consistent with this guidance, the environmental justice analysis for the proposed project describes (1) the existing population and the presence of minority and low-income population groups; (2) potential adverse effects on the project area population, including minority and low-income population groups; (3) disproportionately high and adverse effects on minority and low-income population groups; and (4) community outreach and public involvement activities.

## **AFFECTED ENVIRONMENT**

Of the total population in the study area (Census Tracts 1.05 and 1.07), the largest group of people is categorized as White (42 percent in Tract 1.05 and 75 percent in Tract 1.07). Non-White populations within Tract 1.05 were estimated at 58 percent and in Tract 1.07 at 25 percent. The Hispanic population within Tract 1.05 was approximately 21 percent in Tract 1.07, and 26 percent in Tract 1.07. The proportion of persons of White origin was 63 percent for the County of San Bernardino, and 56 percent for the City of Chino Hills.

As previously mentioned, the proportion of persons living in poverty in the City was much lower than the County average. Unemployment in the City measured 1.8 percent in December 2003, well below the County average of 5.0 percent. Persons living below the poverty level in Tract 1.05 were approximately 8 percent, and 2 percent were below the poverty level in Tract 1.07.

### ***Build Alternatives***

As identified above, there is an elevated level of minority populations within the study area. However, it is not anticipated that the proposed project would result in

disproportionately high or adverse impacts on these populations. The median household incomes in both tracts are comparable or well above the City average. The project will result in minimal displacements and will not divide a minority population or impact the economic vitality of these populations.

#### *Community Outreach and Public Involvement*

Efforts have been and will continue to be made to ensure meaningful opportunities for public participation during the project development and review process.

The proposed project has been developed in accordance with Title VI of the Civil Rights Act of 1964, which provides that no person in the United States shall, on the grounds of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance. In addition, the project has been developed in conformity with related statutes and regulations mandating that no person in the State of California shall, on grounds of race, color, sex, age, national origin, or disabling condition, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity administered by or on behalf of the City.

Based on the above discussion and analysis, the proposed Build Alternative would not cause disproportionately high and adverse effects on any minority and/or low-income populations per E.O. 12898 regarding Environmental Justice.

#### ***No Build Alternative***

Under the No Build Alternative, no improvements to Peyton Drive or Eucalyptus Avenue would be constructed. As such, the existing minority and low-income populations within the project area would not receive the aesthetic, air quality, land use, and noise benefits associated with project implementation. Therefore, relative to Environmental Justice, the No Build Alternative is not considered superior to the proposed Build Alternative.

#### **TEMPORARY IMPACTS**

Refer to the above discussion under Community Character and Cohesion.

#### **AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES**

No mitigation measures are required.

**2.1.3 Utilities/Emergency Services**

Construction of the underground storm drain and culvert improvements along Peyton Drive will require utility relocation within the existing ROW. The existing poles, overhead wires and associated structures for electrical service and communications will be removed and placed underground along Peyton Drive from English Road to Chino Hills Parkway/SR-142.

**AFFECTED ENVIRONMENT**

**Utilities**

Water service and sewer service to the project area are provided by the City of Chino Hills Public Works. Natural gas service is provided by Southern California Gas Company. Telephone service is provided by General Telephone. Electricity and power to the project area is provided by Southern California Edison (SCE). Cable television service is provided by Chino Valley Cablevision. The San Bernardino County Flood Control District provides flood control and protection.

**Fire and Police Protection Services**

Police and fire protection for the City of Chino Hills is provided by the San Bernardino County Sheriffs Department and the Chino Valley Independent Fire District (CVIFD). Currently, the demand for police response is increasing in the City, and additional officers are needed to service current development projects, placing even more demand on the existing police services. The CVIFD operates three fire stations in Chino Hills and can respond to most emergencies in about five minutes.

**Community Facilities and Services**

Community facilities that serve the proposed project area include four schools, four parks, one equestrian center, one post office, and four places of worship. Refer to Table 2-7 below for facilities in the vicinity of the proposed project.

**TABLE 2-7. Community Facilities**

Facility	Name	Location	Distance from Project
Community Park	English Springs Park	Chino Hills Parkway/Grand Avenue	2.41 km
Recreation	McCoy Equestrian Center	14280 Peyton Drive	<500m
Community Park	Chino Hills Community Park	Peyton Drive/Grand Avenue	<500 m
School	Ruben S. Ayala High School	Peyton Drive	<500 m
School	Gerald F. Litel Elementary School	Eucalyptus Avenue	<500m
School	Boys Republic High School	Grand Avenue	500 m

Facility	Name	Location	Distance from Project
School	Country Springs Elementary	14145 Village Center Drive	2.41 km
Police	San Bernardino County Sheriffs Dept.	Peyton Dr/Grand Avenue	<500m
Post Office	United States Post Office	Peyton Drive	<500m
Place of worship	Loving Savior of the Hills Lutheran Church	Peyton Drive	<500m
Place of worship	Chino Valley Community Church	Peyton Drive	<500m
Place of worship	St. Paul the Apostle Catholic Church	Peyton Drive	<500m
Place of worship	Church of Jesus Christ of Latter Day Saints	Eucalyptus Avenue/Peyton Dr	<500m

Source: *Community Impact Assessment, October 2005.*

**PERMANENT IMPACTS**

***Build Alternatives***

No permanent impacts on utility or emergency services would occur with development of the proposed Build Alternatives. Existing poles, overhead wires and associated structures for electrical service and communications along Peyton Drive from English Road to Chino Hills Parkway/SR-142 will be removed and placed underground. For impacts and mitigation relative to community facilities, refer to the detailed discussion presented in Section 2.1.2 above. The Build Alternatives would enhance the operation of Peyton Drive and provide a connection for Eucalyptus Avenue west of Peyton Drive. As a result, the delivery of public services (bus service, waste disposal, police and fire protection, public transit and emergency medical response) is expected to improve, thus producing a positive effect. In addition, the proposed project is not expected to induce population growth and land development, or result in the need to provide additional police and fire protection.

***No Build Alternative***

Under the No Build Alternative, existing utilities would remain in place until such time as the local service purveyors replace or upgrade the facilities. The benefit of enhanced police and fire response times would not be achieved under the No Build Alternative.

**TEMPORARY IMPACTS**

With the construction of the underground storm drain and culvert improvements along Peyton Drive, certain utilities will be relocated. A sewer line and water line will be lowered beneath the proposed culvert at Peyton Drive. All utility relocations will be integrated within the existing roadbed and no additional ROW will be acquired. The appropriate service purveyors would be notified of all facilities to be relocated prior to construction. Measures are provided to ensure that disruption of

services and impacts on the facilities are minimized or avoided during the construction phase. Potential impacts are not expected to be substantial, and no temporary curtailment of utility services is expected to occur.

A temporary impact relative to emergency services would be an increase in the response times of emergency, public, and fire vehicles along Peyton Drive. Parallel routes are available for use by public service vehicles during short periods of lane closures. Short-term congestion would cease upon project completion and would be mitigated with implementation of a Traffic Management Plan (TMP), which would minimize disruption of emergency services (refer to Section 2.1.4, below).

## **AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES**

**UTL1.** Prior to commencement of construction, the Project Engineer shall coordinate with all affected utility purveyors to establish exact procedures and specifications for all facilities to be relocated during construction. Additionally, the Project Engineer shall notify other service purveyors in the vicinity of the improvements to verify that the proposed activities will not disrupt services to the community.

### **2.1.4 Traffic Transportation/Pedestrian and Bicycle Facilities**

FHWA directs that full consideration should be given to the safe accommodation of pedestrians and bicyclists during the development of Federal-aid highway projects (see 23 CFR 652). It further directs that the special needs of the elderly and the disabled must be considered in all Federal-aid projects that include pedestrian facilities. When current or anticipated pedestrian and/or bicycle traffic presents a potential conflict with motor vehicle traffic, every effort must be made to minimize the detrimental effects on all highway users who share the facility.

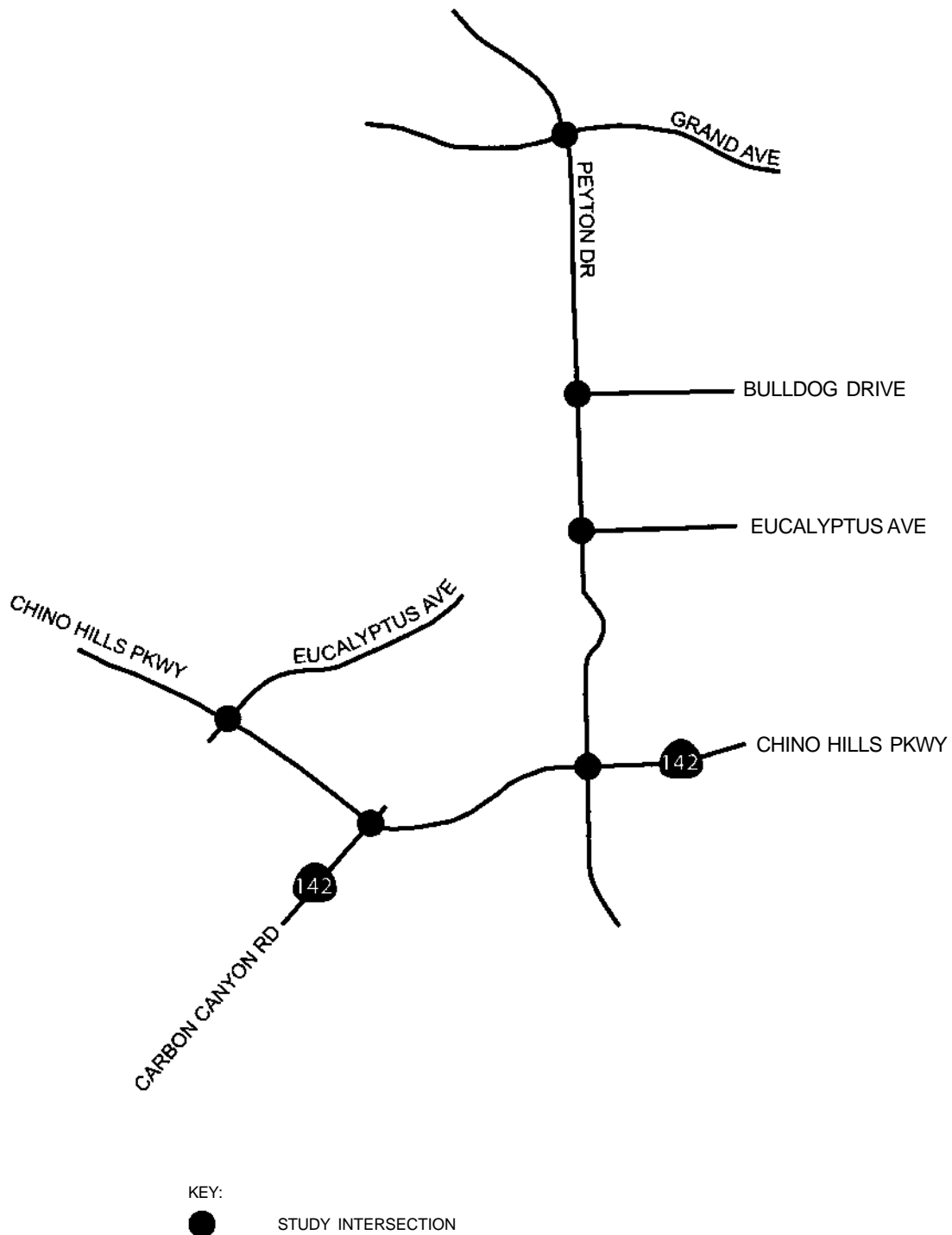
The City and FHWA are committed to carrying out the 1990 Americans with Disabilities Act (ADA) by building transportation facilities that provide equal access for all persons. The same degree of convenience, accessibility, and safety available to the general public will be provided to persons with disabilities.

## **AFFECTED ENVIRONMENT**

Peyton Drive is currently a north-south, four-lane divided Secondary Highway with a painted median, with three northbound lanes and one southbound lane between Grand Avenue and Eucalyptus Avenue, and with one lane in each direction between Eucalyptus Avenue and Chino Hills Parkway/SR-142. On-street parking is prohibited on Peyton Drive. Refer to Figure 2-6, Study Intersection Locations.

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PEYTON DRIVE WIDENING PROJECT  
**Study Intersection Locations**

Figure 2-6



Table 2-8, below, summarizes the existing a.m. and p.m. peak-hour average stopped delay per vehicle and corresponding LOS of the study intersections, based on existing peak-hour intersection volumes.

**TABLE 2-8. Existing Peak-Hour Level of Service**

Study Intersection	AM Peak Hour Delay-LOS	PM Peak Hour Delay-LOS
Peyton Drive at Grand Avenue	29.1 - C	32.8 - C
Peyton Drive at Bulldog Drive	14.0 - B	8.8 - A
Peyton Drive at Eucalyptus Avenue	19.3 - B	18.3 - B
Peyton Drive at Chino Hills Parkway/SR-142	32.6 - C	33.4 - C
Carbon Canyon Road at Chino Hills Parkway/SR-142	48.5 - D	44.6 - D
Eucalyptus Avenue at Chino Hills Parkway/SR-142	28.5 - C	18.5 - B

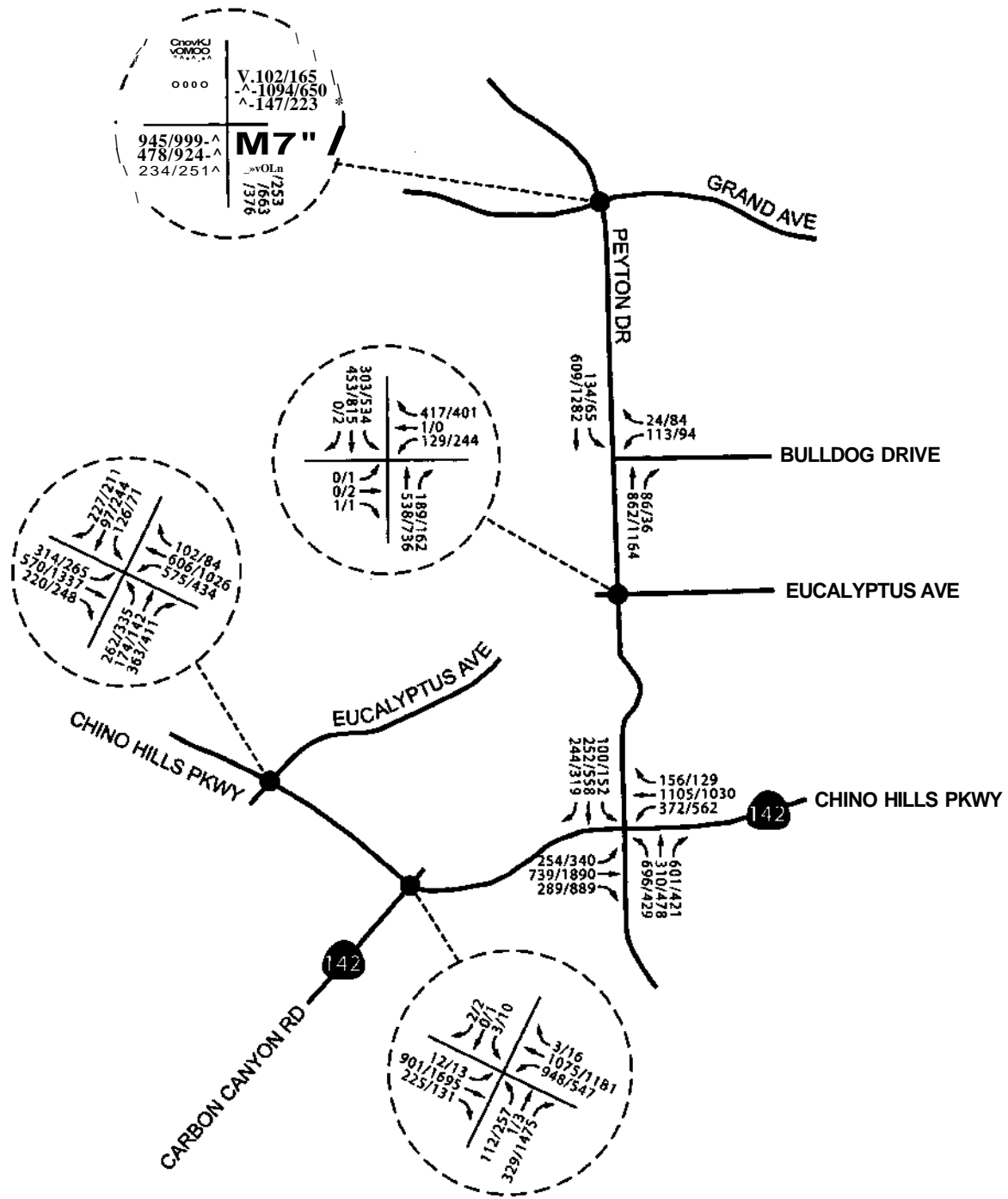
Source: *Traffic Impact Analysis*, January 2006.

The City of Chino Hills acceptable performance criteria is LOS D or better. As can be seen above, all six study intersections are currently operating at an acceptable LOS (LOS D or better) during the a.m. and p.m. peak hour. To determine the impacts of the proposed project, forecast year 2030 without project conditions are examined before analyzing the forecast year 2030 with project conditions. Refer to Figure 2-7, Existing AM/PM Peak Hour Intersection.

Forecast year 2030 (without project conditions) traffic volumes were derived from the San Bernardino Association of Governments (SANBAG) forecast year 2030 regional traffic models. The SANBAG traffic model for forecast year 2030 (without project conditions) assumes buildout of the *City of Chino Hills General Plan*. The SANBAG roadway circulation system assumes the Eucalyptus Avenue roadway segment is missing between its current T-terminus at Peyton Drive to its existing terminus, approximately 160-m (530-ft) east of Galloping Hills Road. The model input was reviewed and approved by SANBAG and City staff for use in the Traffic Impact Analysis prepared for this project.

Table 2-9, below, summarizes forecast year 2030 (without project conditions) a.m. and p.m. peak-hour average stopped delay per vehicle and corresponding LOS of the study intersections based on the forecast year 2030 (without project conditions) peak hour intersection volumes. Also, refer to Figure 2-8, Forecast Year 2030 Without Project Study Intersection Geometry, and Figure 2-9, Forecast Year 2030 Without Project AM/PM Peak Hour Intersection Volumes.

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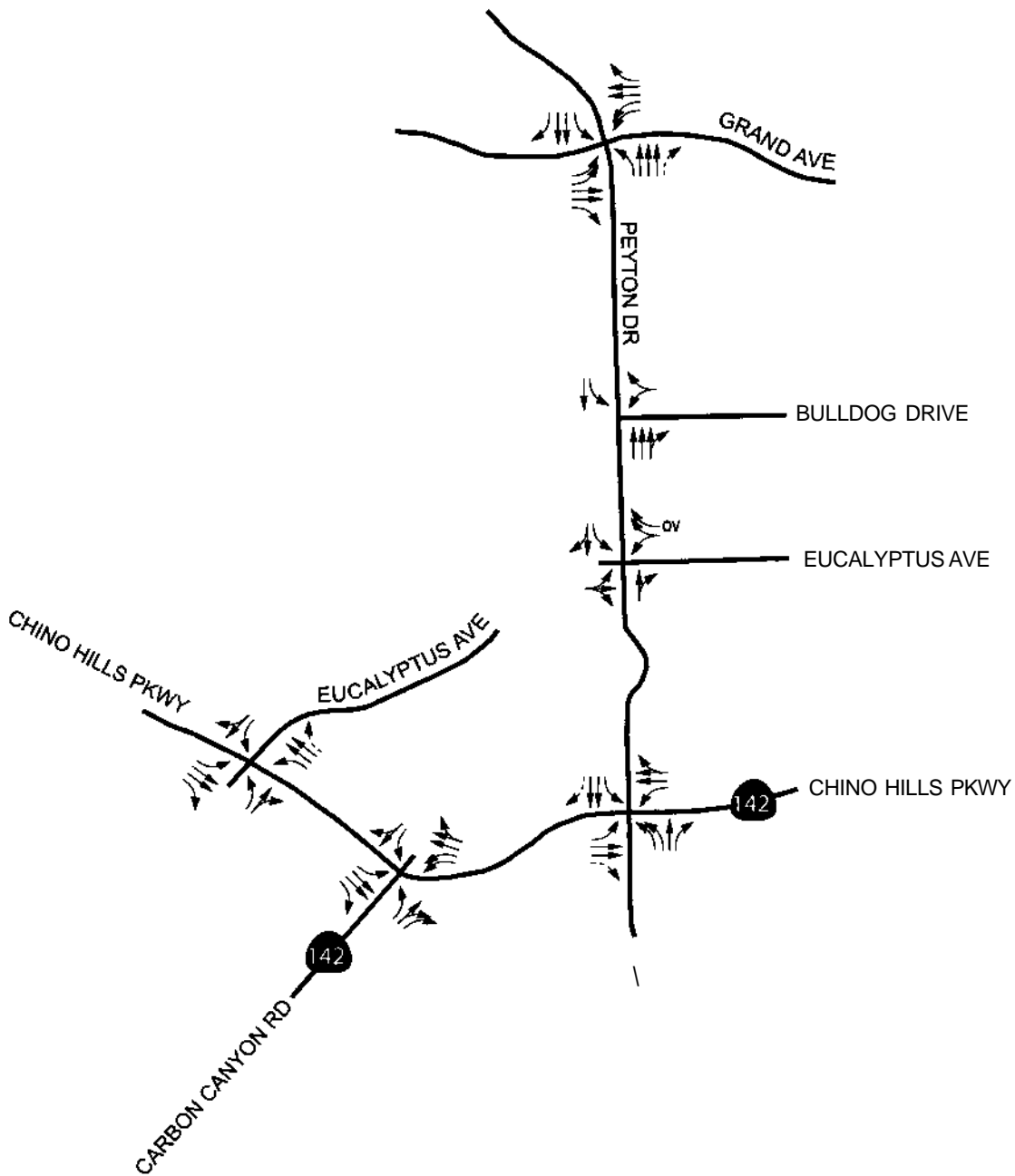
KEY:  
 XX/XX AM/PM Peak Hour Volumes  
 Source: Traffic Impact Analysis, RBF Consulting. January 13, 2006.

PEYTON DRIVE WIDENING PROJECT

## Forecast Year 2030 Without Project AM/PM Peak Hour Intersection Volumes

Figure 2-9





- KEY:
- EXISTING LANE
  - "> DE-FACTO RIGHT TURN LANE
  - OV RIGHT-TURN OVERLAP

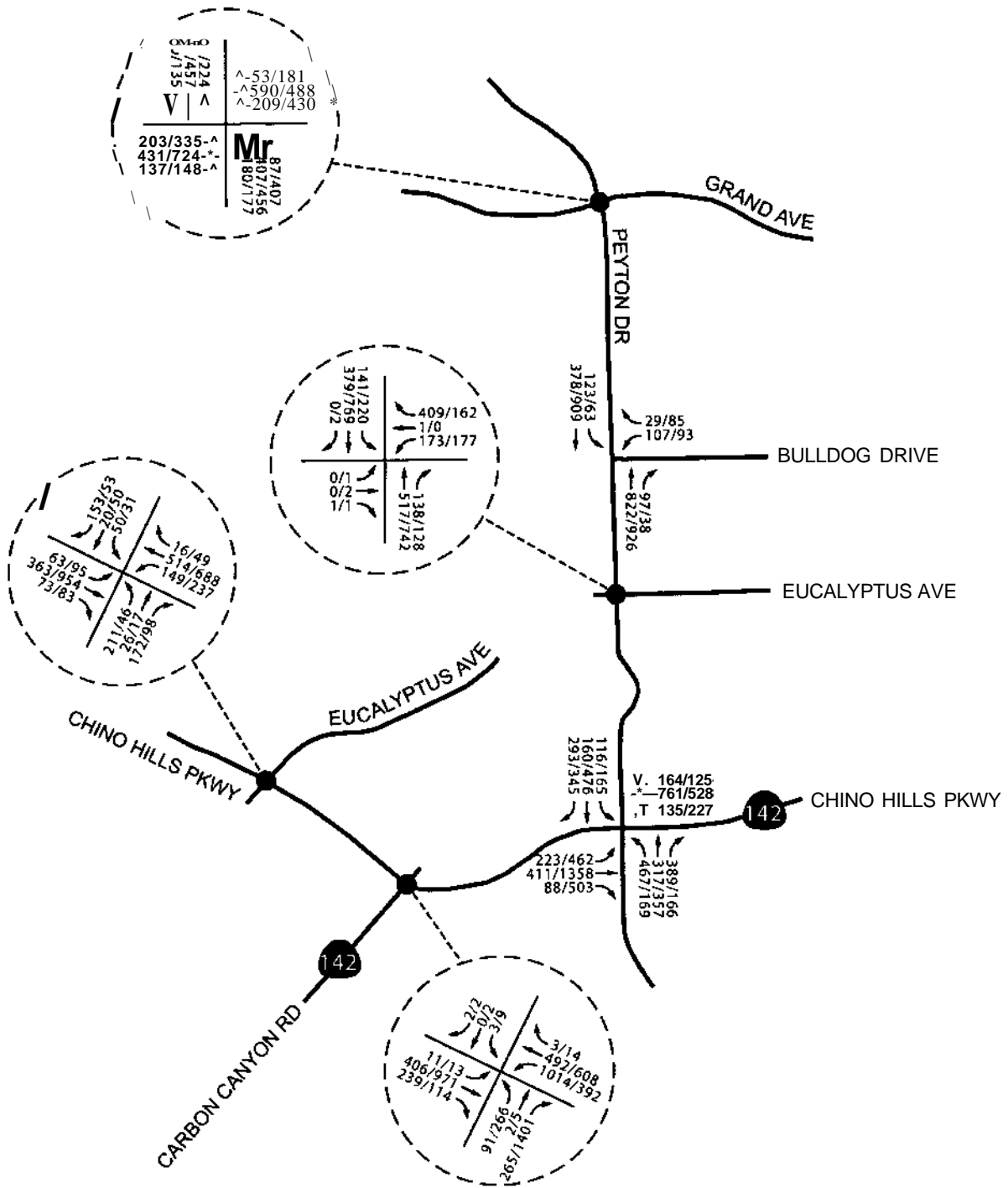
Source: Traffic Impact Analysis, RBF Consulting. January 13, 2006.

PEYTON DRIVE WIDENING PROJECT  
**Forecast Year 2030 Without Project  
Study Intersection Geometry**

Figure 2-8







PEYTON DRIVE WIDENING PROJECT

### Existing AM/PM Peak Hour Intersection

Figure 2-7



**TABLE 2-9. Forecast Year 2030 (Without Project) Peak-Hour  
Level of Service**

Study Intersection	AM Peak Hour Delay-LOS	PM Peak Hour Delay-LOS
Peyton Drive/Grand Avenue	66.3 - E	56.4 - E
Peyton Drive/Bulldog High Drive	11.8 - B	8.6 - A
Peyton Drive/Eucalyptus Avenue	20.7 - C	42.2 - D
Peyton Drive/Chino Hills Parkway/SR-142	37.3 - D	82.8 - F
Carbon Canyon Road/Chino Hills Parkway/SR-142	46.6 - D	110.1 - F
Eucalyptus Avenue/Chino Hills Parkway/SR-142	39.6 - D	55.2 - E
Source: <i>Traffic Impact Analysis</i> , January 2006.		

Four study intersections, including the two off-site intersections, are forecast to operate at a deficient LOS (LOS E or F) under forecast year 2030 (without project conditions) according to City of Chino Hills performance criteria:

- Peyton Drive at Grand Avenue (a.m. and p.m. peak hours);
- Peyton Drive at Chino Hills Parkway/SR-142 (p.m. peak hour only);
- Carbon Canyon Road at Chino Hills Parkway/SR-142 (p.m. peak hour only);
- and
- Eucalyptus Avenue at Chino Hills Parkway/SR-142 (p.m. peak hour only).

## PERMANENT IMPACTS

### ***Build Alternatives***

The proposed improvements will improve circulation and access in the area. Without implementation of the proposed improvements, four intersections are forecast to operate at deficient LOS levels, according to the City of Chino Hills acceptable performance criteria of LOS D or better.

Table 2-10, below, summarizes the results of the forecast year 2030 (with project conditions) a.m. and p.m. peak hour average stopped delay per vehicle and corresponding LOS of the study intersections, based on the forecast year 2030 (with project conditions) peak hour volumes. Also, refer to Figure 2-10, Forecast Improved Year 2030 with Project Study Intersection Geometry, and Figure 2-11, Forecast Year 2030 with Project AMPM Peak Hour.

**TABLE 2-10. Forecast Year 2030 (with Project Conditions) Peak-Hour Level of Service**

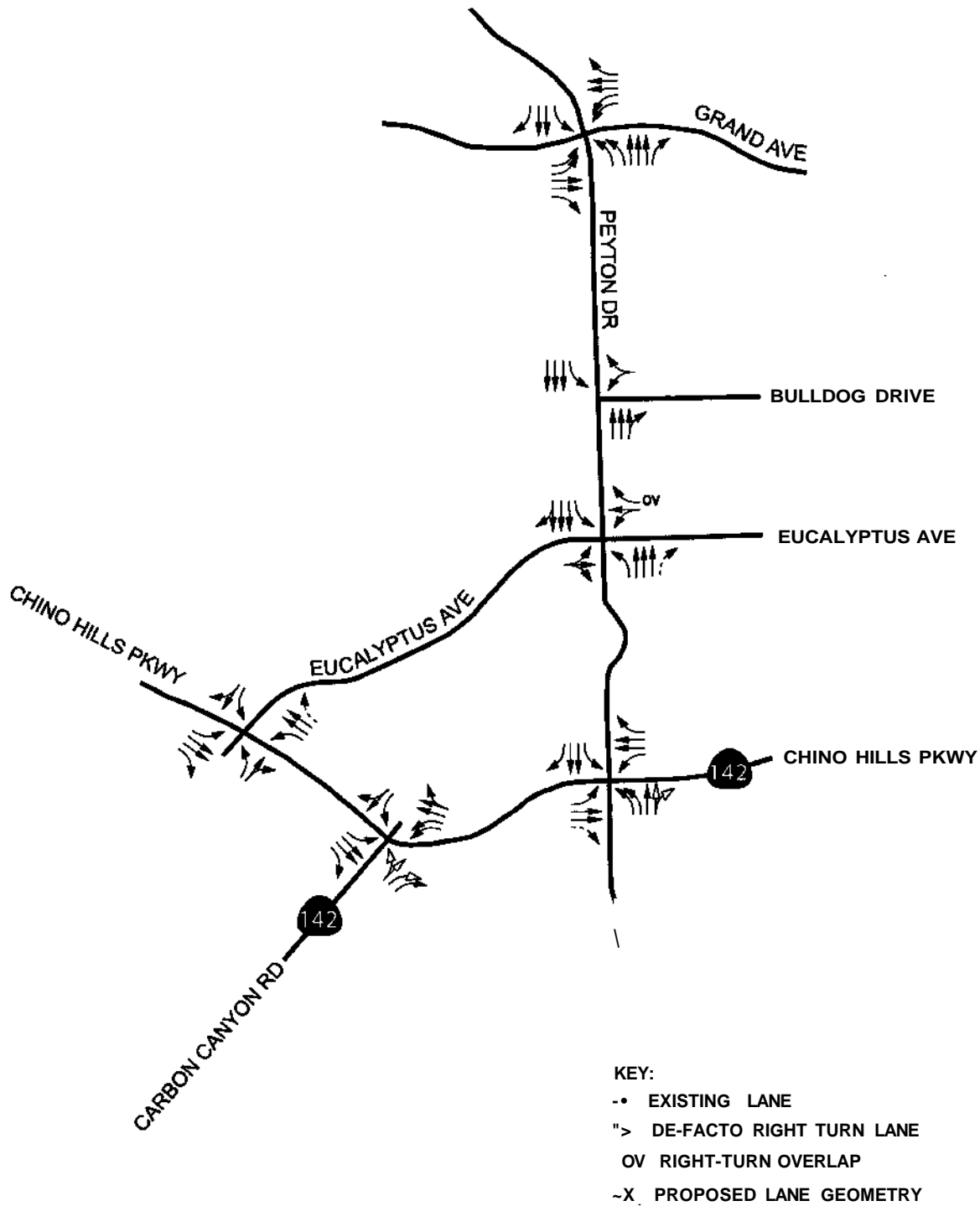
Study Intersection	Forecast Year 2030 Without Project		Forecast Year 2030 With Project		Change in Delay (Sec)	
	Delay-LOS		Delay-LOS		AM	PM
	AM	PM	AM	PM		
Peyton Drive at Grand Avenue	66.3 - E	56.4 - E	40.1 - D	40.5 - D	-26.2	-15.9
Peyton Drive at Bulldog High Drive	11.8-B	8.6-A	10.7 - B	6.9-A	-1.1	-1.7
Peyton Drive at Eucalyptus Avenue	20.7-C	42.2 - D	24.7 - C	27.9 - C	4.0	-14.3
Peyton Drive at Chino Hills Parkway/SR-142	37.3 - D	82.8 - F	22.9 - C	68.4-E	-14.4	-14.4
Carbon Canyon Road at Chino Hills Parkway	46.6 - D	110.1-F	39.4 - D	93.4 - F	-7.2	-16.7
Eucalyptus Avenue at Chino Hills Parkway/SR-142	39.6 - D	55.2 - E	29.3-C	43.1 - D	-10.3	-12.1

Source: *Traffic Impact Analysis*, January 2006.

As seen in the table above, two study intersections will continue to operate at a deficient LOS E or F during the P.M. peak hour. The deficient intersections are:

- Peyton Drive/Chino Hills Parkway/SR-142, LOS E during P.M.
- Carbon Canyon Road/Chino Hills Parkway/SR-142, LOS F during P.M.

The proposed project would modify northbound Peyton Drive approach from two left-turn lanes, one through lane, and one right-turn lane to include two left-turn lanes, one through lane, and one shared through/right-turn lane. The project would modify the Peyton Drive/Chino Hills Parkway intersection to include a southbound Peyton Drive right-turn overlap, which will preclude u-turn movement from eastbound to westbound Chino Hills Parkway. The southbound Peyton Drive approach would be widened from one left-turn lane, two through lanes, and one right-turn lane to consist of two left-turn lanes, two through lanes, and one right-turn lane. The project would also re-stripe the eastbound Chino Hills Parkway approach from one left-turn lane, two through lanes, and one *de facto* (non-dedicated) right-turn lane to consist of one left-turn lane, two through lanes, and one dedicated right-turn lane. The Peyton Drive/Chino Hills Parkway intersection would be modified to include an eastbound right-turn overlap, which will preclude u-turn movement from northbound to southbound Peyton Drive.



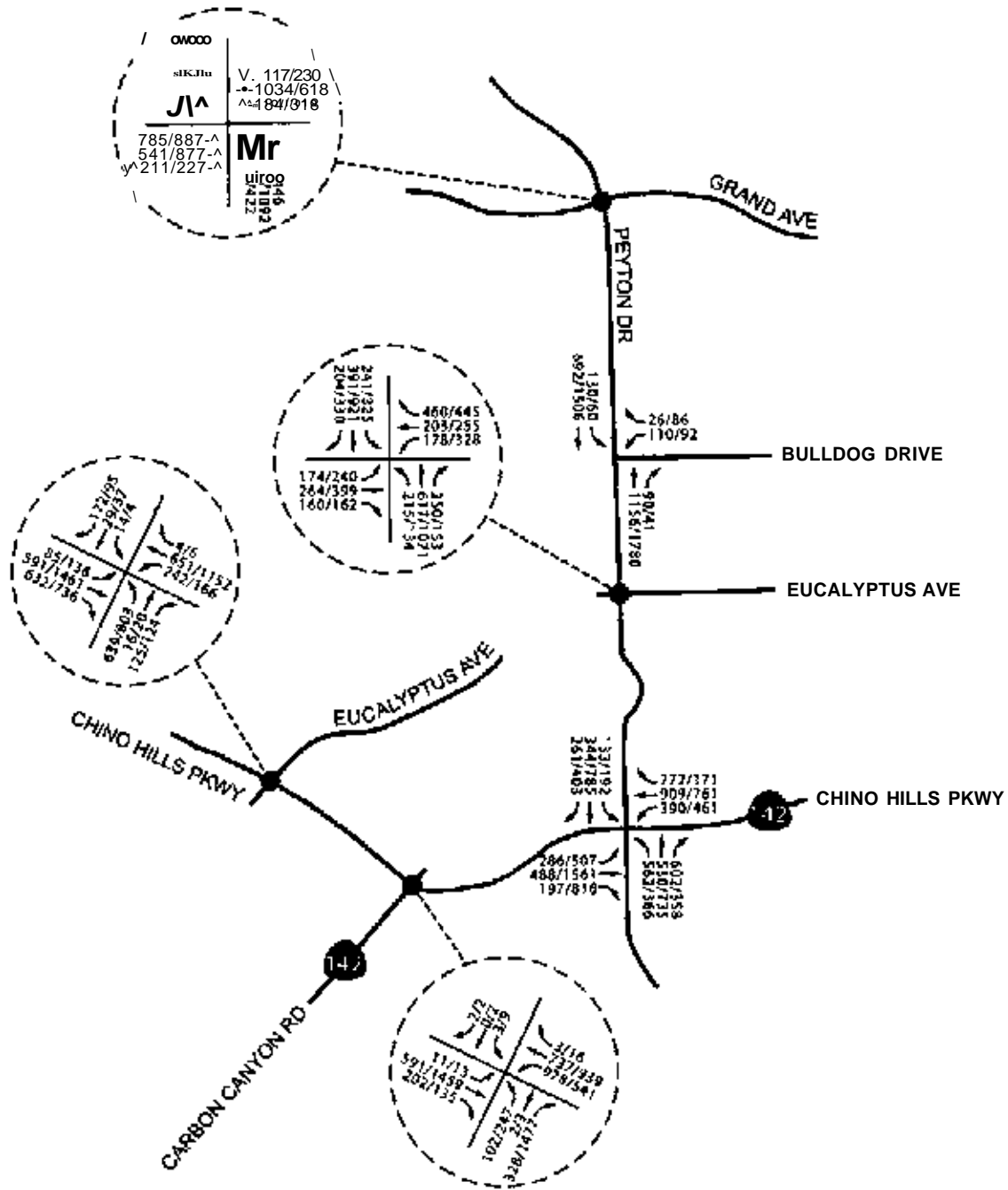
Source: Traffic Impact Analysis, RBF Consulting. December 3, 2004

PEYTON DRIVE WIDENING PROJECT

### Forecast Improved Year 2030 With Project Study Intersection Geometry

Figure 2-10





KEY:  
 XX/XX AM/PM Peak Hour Volumes  
 Source: Traffic Impact Analysis, RBF Consulting. January 13, 2006.

PEYTON DRIVE WIDENING PROJECT  
**Forecast Year 2030 With Project  
 AM/PM Peak Hour Intersection Volumes**

Figure 2-11





As shown in Table 2-11 below, assuming implementation of the modifications above, the two deficient on-site intersections are forecast to operate at an acceptable LOS during the a.m. and p.m. peak hour under forecast improved year 2030 (with project conditions).

**TABLE 2-11. Forecast Improved Year 2030 (With Project) Conditions Peak-Hour LOS**

Study Intersection	AM Peak Hour Delay-LOS	PM Peak Hour Delay-LOS
Peyton Drive at Grand Avenue	20.1 - C	38.0 - D
Peyton Drive at Chino Hills Parkway/SR-142	28.0 - D	26.7 - D
Source: <i>Traffic Impact Analysis</i> , January 2006.		

Although not a part of this project, the Carbon Canyon Road/Chino Hills Parkway intersection will experience improvements after implementation of the proposed project. The LOS would remain at a deficient LOS F during the PM peak hour at this intersection, however, with implementation of the proposed project, delay times would be reduced by 16.7 seconds. This reduction in delay times at the Carbon Canyon Road/Chino Hills Parkway is seen as a beneficial impact of the proposed project upon surrounding traffic flows.

A queuing analysis was performed for forecast year 2030 with project conditions to determine if sufficient storage distance is planned to accommodate the forecast back-to-back left-turn stacking along Peyton Drive for vehicles headed northbound making a left turn on Peyton Drive onto Grand Avenue and vehicles making a left turn headed southbound on Peyton Drive onto the private driveway.

**TABLE 2-12. Forecast Year 2030 (With Project) Conditions Queue Lengths**

Study Intersection	AM Peak Hour		PM Peak Hour	
	Queue Length (ft)	Storage Available (ft)	Queue Length (ft)	Storage Available (ft)
Peyton Drive/Grand Avenue Northbound Left Turn	106	225	220	225
Peyton Drive/Private Driveway Southbound Left Turn	25	85	48	85
Source: <i>Traffic Impact Analysis</i> , January 2006.				

The storage length available on each study intersection is adequate to accommodate the projected queue lengths for left-turn movements.

### ***Americans with Disability Act***

The proposed project would conform with the 1990 ADA, as appropriate. This is seen as a long-term beneficial impact.

### ***No Build Alternative***

Under the No Build Alternative, four study intersections along Peyton Drive and Chino Hills Parkway/SR-142 are forecast to operate at a deficient LOS. According to the City of Chino Hills performance criteria (LOS D or better), circulation would not be enhanced, and the objectives of the proposed project would not be met.

## **TEMPORARY IMPACTS**

Temporary impacts would be associated with the construction phase of the proposed project. The proposed project would require temporary lane closures that may temporarily restrict vehicular accessibility within the construction area. In addition, project construction may temporarily limit access to Ayala High School, churches and commercial facilities during construction activities. However, these access disruptions would be temporary, designed not to completely prohibit access, and would cease upon project completion. Appropriate measures are provided below to ensure safe vehicle and pedestrian movement through the project area during construction.

Traffic circulation may be adversely affected during project construction phases. Impacts will occur as a result of construction equipment and vehicles using the existing roadways and project construction activities. Impacts that are likely to occur will be a disruption of the normal flow of traffic as a result of temporary lane closures. These construction impacts and will cease upon completion of road construction.

## **AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES**

**TRF1.** Short-term mitigation to roadway use shall be mitigated by a TMP to be established by the project contractor and approved by the City of Chino Hills prior to construction of any improvements. This TMP shall consist of prior notices, adequate sign-posting, detours, phased construction and temporary driveways where necessary. The TMP shall specify implementation timing of each plan element (prior notices, sign-posting, detours, etc.) as determined appropriate by the City of Chino Hills. Adequate local and emergency access shall be provided at all times to adjacent uses

including schools. Proper detours and warning signs shall be established to ensure public safety. The TMP shall be devised so that construction shall not interfere with any emergency response or evacuation plans. Construction activities shall proceed in a timely manner to reduce impacts.

### **2.1.5 Visual Aesthetics**

NEPA establishes that the Federal government use all practicable means to ensure all Americans safe, healthful, productive, and *aesthetically* (emphasis added) and culturally pleasing surroundings [42 U.S.C. 4331(b)(2)]. To further emphasize this point, the FHWA in its implementation of NEPA [23 U.S.C. 109(h)] directs that final decisions regarding projects are to be made in the best overall public interest taking into account adverse environmental impacts, including, among others, the destruction or disruption of aesthetic values.

CEQA establishes that it is the policy of the state to take all action necessary to provide the people of the state "with . . . enjoyment of *aesthetic*, natural, scenic and historic environmental qualities." [CA Public Resources Code Section 21001(b)].

## **AFFECTED ENVIRONMENT**

The visual features of the project area are limited. The topography of the project site is characterized by relatively flat terrain that consists of primarily developed residential and commercial areas. The only undeveloped portion of the project site is located immediately south of the McCoy Equestrian Center and south of the U.S. Post Office. Significant visual features, including trees and other significant ornamental landscaping in the local vicinity, are limited. No sensitive scenic resources are located in the project area. Additionally, no unique rock outcroppings or historic buildings are located within the project area.

## **PERMANENT IMPACTS**

### ***Build Alternative***

The proposed project consists of roadway widening and extension of Peyton Drive and Eucalyptus Avenue. The roadway widening or extension will not obstruct any views from its existing condition. Project implementation would not obstruct any views currently experienced.

### ***No Build Alternative***

Similar to the proposed Build Alternatives, the No Build Alternative maintains the existing roadway elevation and would not alter existing views to adjacent areas.

## TEMPORARY IMPACTS

Construction of the project improvements may create temporary aesthetic nuisances associated with construction activities. Exposed surfaces, construction debris, and equipment and truck traffic may temporarily impact views adjacent to the site. Construction-related visual nuisances are short-term, would be minimized by standard City requirements, and would be removed upon project completion and are therefore not considered adverse. Project implementation may result in the loss of mature landscaping, which will be replaced in the immediate project vicinity. Trees removed as a result of construction activities will be replaced consistent with the *City of Chino Hills Landscape Manual* and other related regulations.

## AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES

**AES1.** Prior to approval of final design plans and prior to construction, the City shall coordinate with the affected residents to ensure that all screening and privacy concerns have been addressed and reasonable landscape and architectural treatment measures have been incorporated into the project design to achieve sufficient screening of the project. The landscape design plan shall be developed by a qualified landscape architect. The landscape plan shall also establish areas within the roadway ROW that allow for incorporation of replacement landscaping.

### 2.1.6 Cultural Resources

#### REGULATORY SETTING

"Cultural resources" as used in this document refers to historical and archaeological resources regardless of significance. Laws and regulations dealing with cultural resources include the following.

The National Historic Preservation Act of 1966 (NHPA), as amended, sets forth national policy and procedures regarding historic properties, defined as districts, sites, buildings, structures, and objects included in or eligible for the National Register of Historic Places. Section 106 of NHPA requires federal agencies to take into account the effects of their undertakings on such properties and to allow the Advisory Council on Historic Preservation the opportunity to comment on those undertakings, following regulations issued by the Advisory Council on Historic Preservation (36 CFR 800). On January 1, 2004, a Section 106 Programmatic Agreement (PA) among the Advisory Council, FHWA, State Historic Preservation Officer (SHPO), and the Department went into effect for the Department's projects, both state and local, with

FHWA involvement. The PA takes the place of the Advisory Council's regulations, 36 CFR 800, streamlining the Section 106 process and delegating certain responsibilities to the Department.

Historic properties may also be covered under Section 4(f) of the U.S. Department of Transportation Act, which regulates the "use" of land from historic properties. See Appendix B for specific information regarding Section 4(f).

Historical resources are considered under the California Environmental Quality Act (CEQA), as well as California Public Resources Code (PRC) Section 5024.1, which established the California Register of Historical Resources. PRC Section 5024 requires state agencies to identify and protect state-owned resources that meet National Register of Historic Places listing criteria. It further specifically requires the Department to inventory state-owned structures in its rights-of-way. Sections 5024(f) and 5024.5 require state agencies to provide notice to and consult with the State Historic Preservation Officer (SHPO) before altering, transferring, relocating, or demolishing state-owned historical resources that are listed on or are eligible for inclusion in the National Register or are registered or eligible for registration as California Historical Landmarks.

## **AFFECTED ENVIRONMENT**

A Historic Property Survey Report (HPSR) was prepared for the project's Area of Potential Effect (APE). The HPSR concluded that the proposed project will not impact any cultural resources eligible for the National Register of Historical Places (NRHP) or any historical resources eligible for the California Register of Historical Resources within the project's APE. The State Historic Preservation Officer (SHPO) concurred with the HPSR findings of No Historic Properties Affected on August 29, 2005. Refer to Chapter 3, *Comments and Coordination* section for SHPO Concurrence Letter.

The HPSR included consultation with the following sources:

- National Register of Historic Places
- California Register of Historical Resources
- California Inventory of Historic Resources
- California Historical Landmarks
- California Points of Historical Interest

- Archaeological Site Records from the San Bernardino Archaeological Information Center
- Native American Tribes
- Native American Heritage Commission
- Chino Valley Historical Society
- The Old Schoolhouse Museum

The HPSR records search did not identify any archaeological resources within or adjacent to the project. The nearest archaeological resource identified is located approximately 900 feet west of the project site. The HPSR concludes no National Register-eligible archaeological resources and no historical resources within CEQA guidelines would be impacted by the proposed project. The information search was conducted in December 2004 at the San Bernardino Archaeological Information Center at the San Bernardino County Museum, Redlands. Furthermore, the National Register of Historic Places, California Register of Historical Resources, Office of Historic Preservation Historic Properties Directory, and California Historical Landmarks and Points of Historic Interest were consulted.

No known prehistoric or historical archaeological resources were identified within or adjacent to the project's APE.

Informational letters were sent to Native American groups as well as the Native American Heritage Commission. The HPSR indicates phone calls were made on November 22, 2004 and letter requests sent out on December 17, 2004. No responses have been received from all except the San Manuel Band of Mission Indians and the Gabrieleno/Tongva Tribal Council. The following list includes the records of correspondence efforts with the Native American representatives in the project area, followed by the person contacted and a Reply/No Reply indication.

- La Jolla Band of Mission Indians (Wendy Schlater, No Reply)
- Pala Band of Mission Indians (Robert Smith, No Reply)
- Pauma and Yuma (Christobal Devers, No Reply)
- Pechanga Band of Mission Indians (Mark Macarro, No Reply)
- Rincon Band of Mission Indians (Culture Committee, No Reply)
- San Manuel Band of Mission Indians (Deron Marquez, Responded)
- Soboba Band of Mission Indians (Robert Salgado Sr., No Reply)
- Samuel Dunlap (Samuel Dunlap, No Reply)

- Ti'At Society (Cindi Alvitre, No Reply)
- Gab/Tongva Indians of California Tribal Council (Robert Dorame, No Reply)
- San Fernando Band of Mission Indians (John Valenzuela, No Reply)
- Gabrieleno/Tongva Tribal Council (Anthony Morales, Responded)
- San Luis Rey Band of Mission Indians (Henry Contreras, No Reply)
- Gab/Tongva Council/Gab Tongva Nation (Russell Romo, No Reply)
- Gabrielino Band of Mission Indians of CA (Sam Dunlap, No Reply)
- Babrielino Band of Mission Indians of CA (Susan Frank, No Reply)

If cultural materials are discovered during construction, all earth-moving activity within and around the immediate discovery area will be diverted until a qualified archaeologist can assess the nature and significance of the find.

If human remains are discovered, State Health and Safety Code Section 7050.5 states that further disturbances and activities shall cease in any area or nearby area suspected to overlie remains, and the County Coroner contacted. Pursuant to Public Resources Code Section 5097.98, if the remains are thought to be Native American, the coroner will notify the Native American Heritage Commission (NAHC) who will then notify the Most Likely Descendent (MLD). At this time, the person who discovered the remains will contact the City of Chino Hills so that they may work with the MLD on the respectful treatment and disposition of the remains. Further provisions of PRC 5097.98 are to be followed as applicable.

The Historical Resources Evaluation Report (HRER) was prepared to identify, to evaluate, and to record historical archaeological and architectural resources within the APE. Two architectural resources were identified and evaluated within the APE. The two properties were determined not eligible for listing in the NRHP and are not eligible as historical resources for listing in the CRHR.

## **PERMANENT IMPACTS**

### ***Build Alternative***

The HPSR concluded the finding of no historically significant resources within the proposed Project site. During the ASR field survey, one prehistoric, isolate artifact (exempt from evaluation) was discovered on the western edge of the project area. No historical resources will be impacted under CEQA, by this proposed project.

The Build Alternative will result in construction related to the widening of Peyton Drive to six lanes from Grand Avenue south to Eucalyptus Avenue, the widening of Peyton Drive from two to four lanes from Eucalyptus Avenue south to Chino Hills Parkway/SR-142, and the extension of Eucalyptus Avenue from Peyton Drive westward approximately 160-m (530-ft). The Project will also require a new cut for the channel from the proposed culvert entrance, and construction related to culvert replacement and channel improvements.

**No Build Alternative**

Under the No Build Alternative, no potential impacts on cultural resources would occur because no ground disturbance would be necessary.

**TEMPORARY IMPACTS**

Temporary impacts may occur during construction. If buried cultural materials are unearthed during construction, it is the policy of the Department to stop work in that area until a qualified archaeologist can evaluate the nature and significance of the find.

**AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES**

No resources in the project area are listed on, or eligible for listing in the NRHP or CRHR were identified within the APE for the proposed project, therefore, no impacts to cultural resources are anticipated.

**2.2 Physical Environment**

**2.2.1 Hydrology and Floodplain**

E.O. 11988 (Floodplain Management) directs all Federal agencies to refrain from conducting, supporting, or allowing actions in floodplains unless it is the only practicable alternative. The FHWA requirements for compliance are outlined in 23 CFR 650 Subpart A. In order to comply, the following must be analyzed:

- The practicability of alternatives to any longitudinal encroachments;
- Risks of the action;
- Impacts on natural and beneficial floodplain values;
- Support of incompatible floodplain development; and
- Measures to minimize floodplain impacts and to preserve/restore any beneficial floodplain values impacted by the project.



The 100-year floodplain is defined as "the area subject to flooding by the flood or tide having a one percent chance of being exceeded in any given year." An encroachment is defined as "an action within the limits of the 100-year floodplain."

The City of Chino Hills, San Bernardino County, and the Federal Emergency Management Agency (FEMA) are the local agencies with responsibility for regional flood control facilities, including English Canyon Channel, which impacts most of the project area. All flood control channels must be designed to provide 100-year flood protection with at least 0.3-m (1-ft) of freeboard. Channels with levees, dikes or berms must have a minimum of 0.9-m (3-ft) of freeboard. These freeboard requirements are based on FEMA regulations.

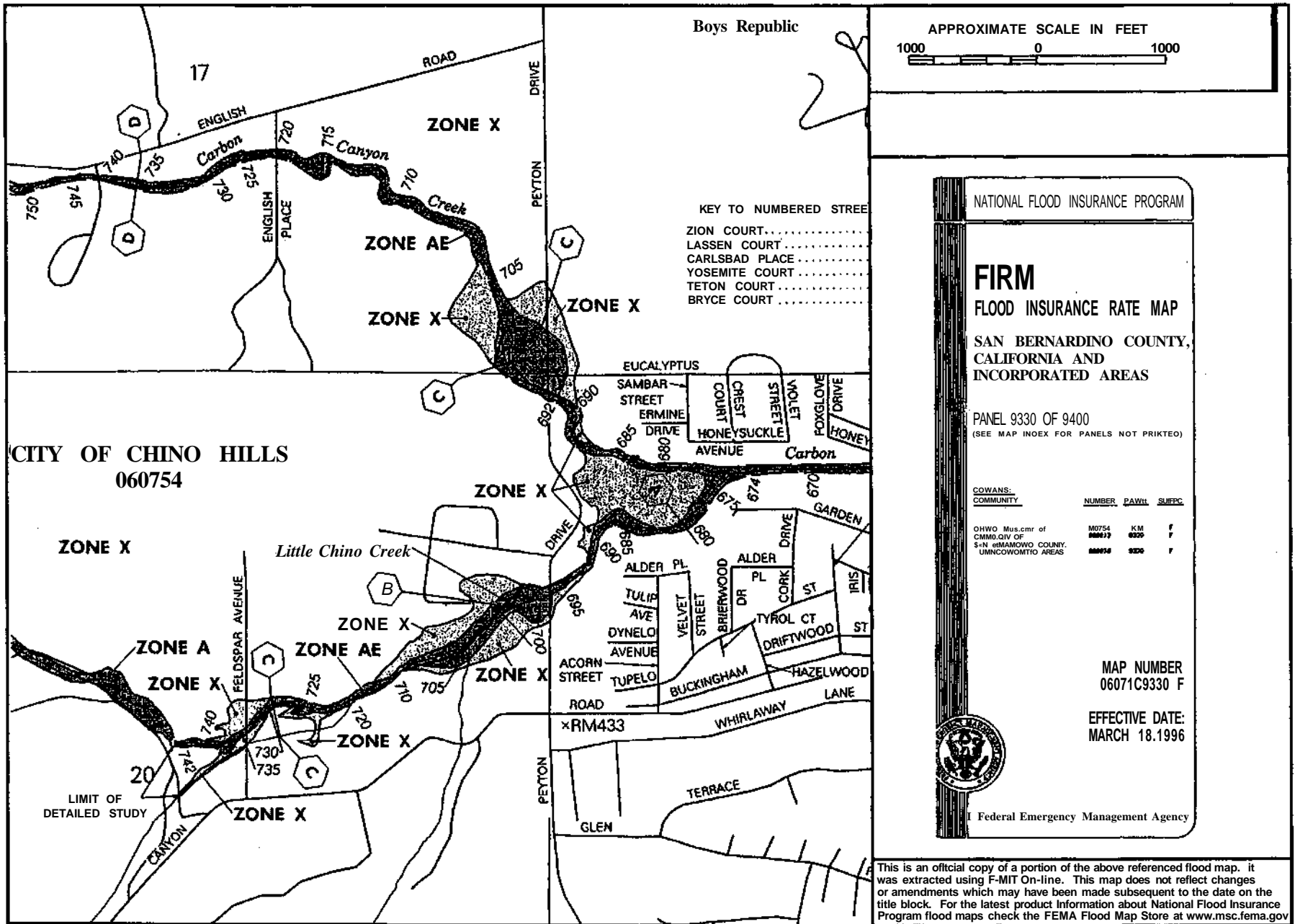
Per FEMA and the National Flood Insurance Program (NFIP) criteria, velocities in unlined channels must be no greater than five feet per second. In areas where velocities are higher; riprap, concrete, articulated concrete blocks, or mat liners must be used to protect the channel from erosion and scouring. Per requirements of San Bernardino County, access roads are required along both sides of the channel improvements, and access to the channel invert at the culvert crossing is also required. The minimum width of an access road is 3.6-m (12-ft). The access ramps to the channel must have a maximum slope of 10% and be at least 4.5-m (15-ft) wide with a 9.1-m (30-ft) landing at the invert. The required top width of the levee is 6.1-m (20-ft) to accommodate maintenance access. A 9.1-m-by-9.1-m (30-ft-by-30-ft) turnaround pad is required to be placed at the end of the levee.

On July 27, 2005, the *Location Hydraulic Study* was prepared for English Canyon Channel at its interface with Peyton Drive and Eucalyptus Avenue. The study examines the regional hydrology, channel hydraulics and the engineering design criteria and assumptions inherent in the overall flood control.

## **AFFECTED ENVIRONMENT**

The proposed project lies within the Chino Creek hydrological unit (Santa Ana River Basin) which drains to the Prado Flood Control Basin. The English Canyon Channel is within the 100-year floodplain (Figure 2-12, FEMA FIRM Map). English Canyon Channel drains to the southeast into Chino Creek, which continues flowing southerly to the Prado Flood Control Basin. The study reach extends along English Canyon Channel from the confluence of Carbon Canyon Creek to approximately 1,097-m (3,600-ft) upstream. The project alignment passes over English Canyon Channel at Eucalyptus Avenue.

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English Canyon Channel is unimproved from approximately 121-m (400-ft) downstream of Peyton Drive to the upstream limit of English Canyon Channel. The channel has an engineered riprap-lined slope on the north bank and an engineered earthen slope on the south bank of the channel from 121-m (400-ft) downstream of Peyton Drive to approximately 60.9-m (200-ft) upstream of the confluence with Carbon Canyon Channel. From this point to the confluence, both of the side slopes are grouted riprap.

The existing culvert crossing at the intersection of Eucalyptus Avenue and Peyton Drive is comprised of approximately 106.6-m (350-ft) of 36-inch RCP, that empties into a pit adjacent to Peyton Drive. The pit then connects to a 21.3-m (70-ft) long, 152-cm (60-inch) RCP that connects back into the English Canyon Channel east of Peyton Drive.

Portions of Peyton Drive south of Grand Avenue are subject to periodic flooding during periods of severe rains. Peyton Drive floods an average of three times per year. During these times, the westerly lane along Peyton Drive is closed and the traffic is detoured to the remaining lanes. Although the remaining lanes are also flooded with water, it is not at a depth requiring the entire road to be shut down. Furthermore, the culvert crossing at the intersection of Eucalyptus Avenue and Peyton Drive is currently undersized and results in flooding during the 100-year storm event. In addition, there is flooding associated with the undersized channel, upstream of Eucalyptus Avenue. The flooding at this location inundates Peyton Drive and downstream along Eucalyptus Avenue to the east.

## **PERMANENT IMPACTS**

### ***Build Alternative***

Portions of Peyton Drive south of Grand Avenue are subject to periodic flooding during periods of severe rains. The proposed Build Alternative includes needed stormwater conveyance improvements to the existing English Canyon Channel crossing immediately south of the existing Peyton Drive/Eucalyptus Avenue intersection.

Two channel improvement alternatives were considered to address deficiencies and flood hazards at the Peyton Drive/English Canyon Channel interface. The alternatives evaluate both culvert replacement and channel improvements to increase the hydraulic capacity of both the channel and the culvert. Traditional concrete lining was

not considered as an alternative because of environmental concerns. Each alternative incorporates a 1.2-m (4-ft) high levee on the east side of English Canyon Channel, upstream of the culvert, to prevent flows from flooding Peyton Drive. Maintenance vehicle access roads are incorporated along both banks, extending the limits of the channel improvements. An access ramp upstream of the culvert is also included. Implementation of the potential improvements would eliminate or reduce the flood hazard zone in the City associated with the overflow of English Canyon Channel.

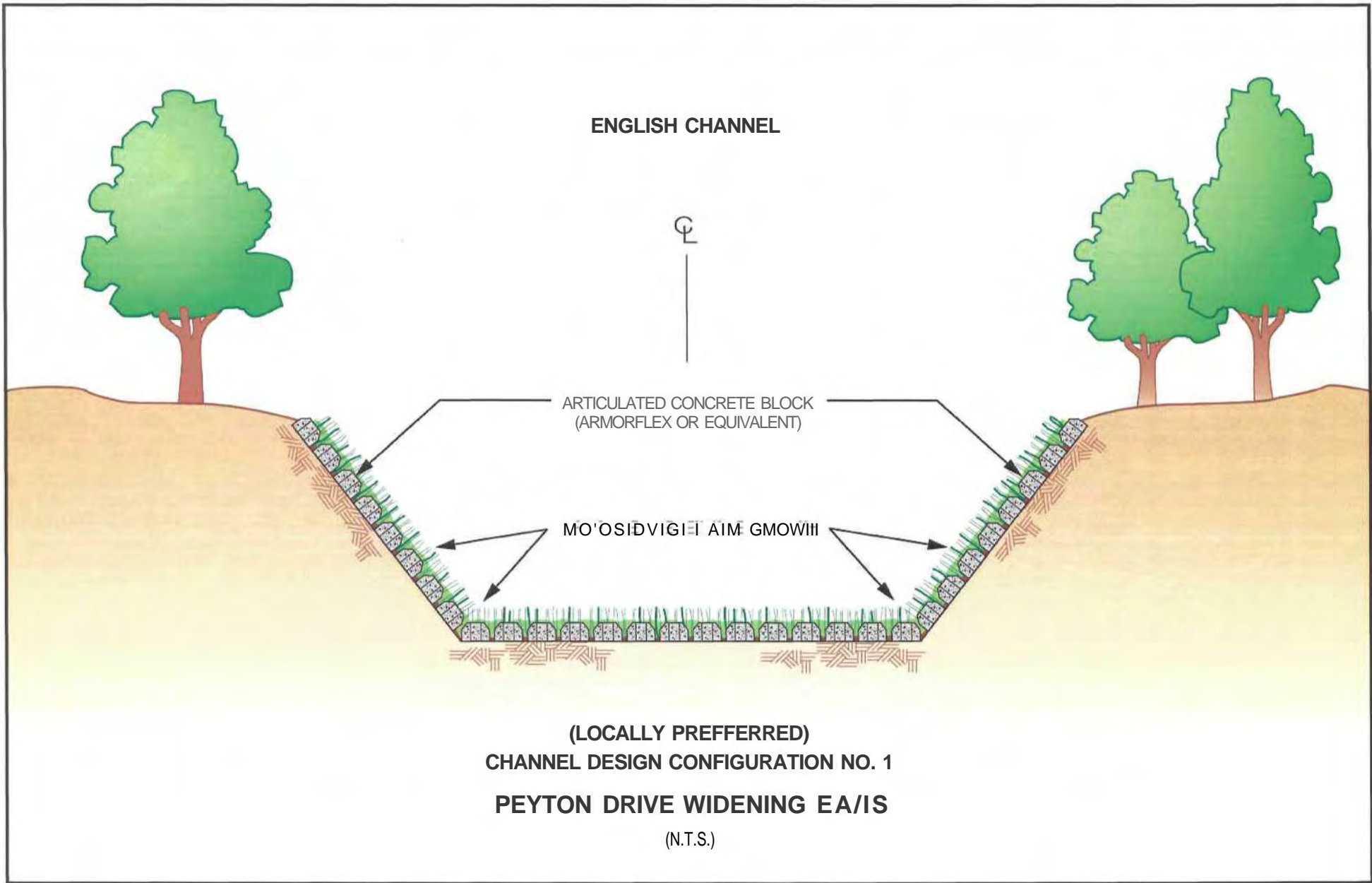
***Channel Design Configuration No. 1 (Locally Preferred)***

Channel Design Configuration No. 1 includes constructing a triple-barrel 2.7-m by 4.2-m (9-ft by 14-ft) box culvert under Eucalyptus Avenue and Peyton Drive southwest of their intersection, replacing the existing 91-cm (36-in) and 152-cm (60-in) RCPs. A new channel will be cut from the proposed culvert entrance to the existing channel approximately 107-m (350-ft) upstream of Eucalyptus Avenue. Approximately 121-m (400-ft) downstream of Peyton Drive, the channel will be widened and tie into the previously improved portion of English Canyon Channel. The slopes and invert of the proposed channel grading upstream of Peyton Drive will be lined with articulated concrete block (Armorflex) or equivalent turf-reinforcing mat. The slope on the south side of the proposed channel downstream of Peyton Drive will be lined with articulated concrete block (Armorflex) or equivalent turf-reinforcing mat. A portion of the existing slope on the north side of the channel downstream of Peyton Drive will be lined with loose riprap to prevent erosion. Please refer to Figure 2-13, Channel Configuration No. 1.

Implementation of this design configuration eliminates the existing riparian habitat upstream of the Eucalyptus Avenue. By placing Armorflex or a turf-reinforcing mat on the channel slopes and invert where new grading is being done, erosion in the proposed channel can be avoided. Armorflex and turf-reinforcing mats also allow effective vegetation growth in the channel and still protect the channel against erosion.

***Channel Design Configuration No. 2***

Channel Design Configuration No. 2 is a similar concept to the initial alternative but uses riprap lining instead of Armorflex reinforcement. This configuration was considered viable because riprap is commonly used for projects with similar characteristics. This channel design configuration includes constructing a triple barrel 2.7-m by 4.2-m (9-ft by 14-ft) box culvert under Eucalyptus Avenue and Peyton Drive southwest of their intersection, replacing the existing 91-cm (36-in) and



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PEYTON DRIVE WIDENING PROJECT  
**Channel Design Configuration**

Figure 2-13

152-cm (60-in) RCPs. A new channel will be cut from the proposed culvert entrance to the existing channel approximately 107-m (350-ft) upstream of Eucalyptus Avenue. Approximately 121-m (400-ft) downstream of Peyton Drive, the channel will also be widened and tie into the previously improved portion of English Canyon Channel. The sides of the proposed channels upstream and downstream of the proposed box culvert will be lined with riprap. The invert of the proposed channel upstream of Peyton Drive will also be lined with riprap. The invert of the channel downstream of Peyton Drive will remain earthen. Placing riprap lining helps avoid erosion, but does not allow for effective vegetation growth in the channel. Refer to Figure 2-14, Channel Configuration No. 2.

### **No Build Alternative**

The No Build Alternative undertakes no improvements along Peyton Drive or Eucalyptus Avenue, resulting in flooding during the 100-year storm event. The existing undersized culvert crossing would be subjected to safety hazards and road closures as currently experienced. This alternative would not satisfy the purpose and need for the regional hydrology, channel hydraulics, and the engineering design criteria inherent for overall flood control.

### **TEMPORARY IMPACTS**

Temporary impacts would include construction along portions of the English Canyon Channel. However, these impacts would cease upon project completion.

### **AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES**

Refer to mitigation measures listed in Section 2.2.2 below.

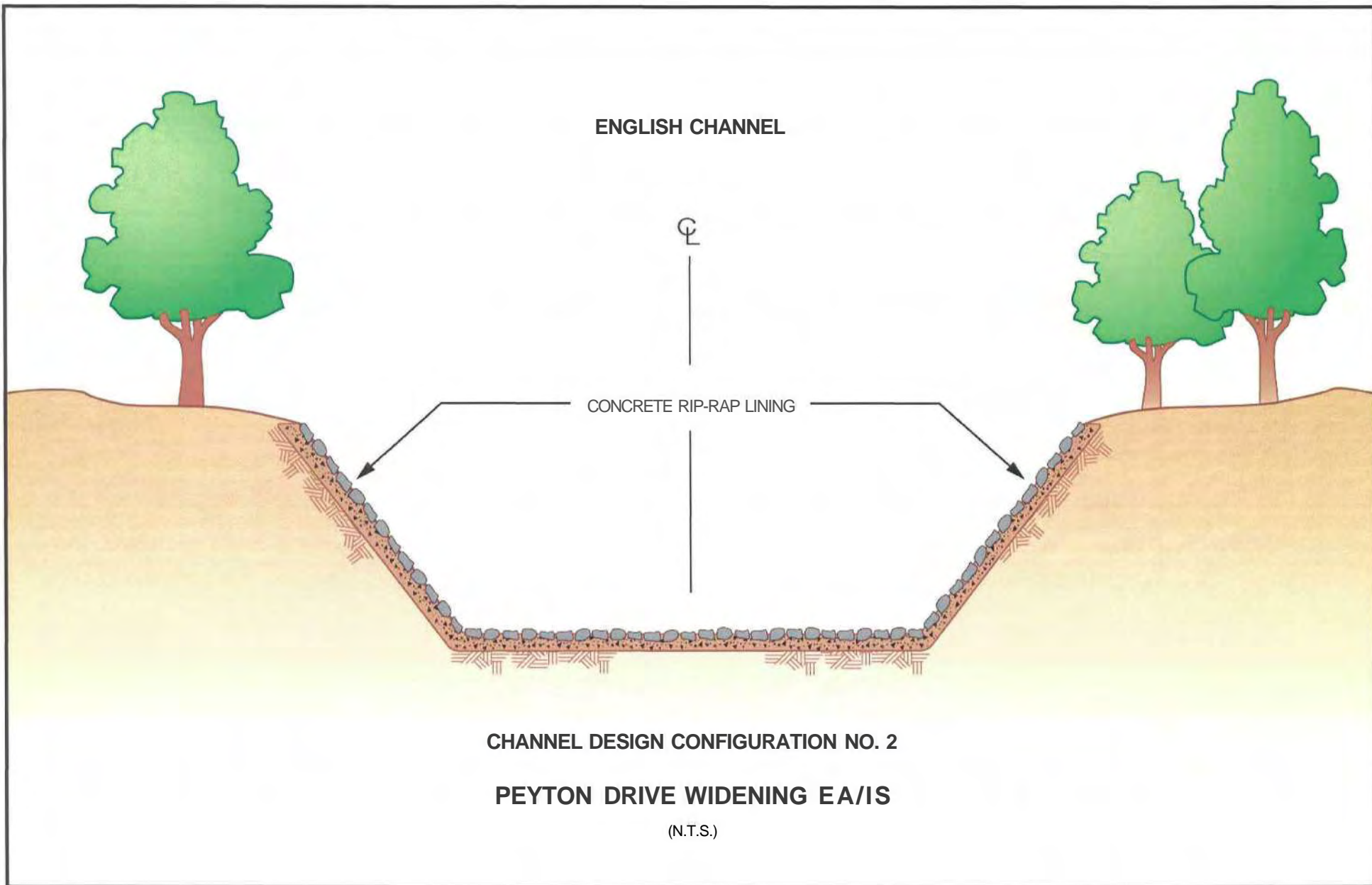
#### **2.2.2 Water Quality and Stormwater Runoff**

The primary Federal law regulating water quality is the Clean Water Act (CWA). Section 401 of the Act requires a water quality certification from the State Board or Regional Board when a project (1) requires a Federal license or permit (a Section 404 permit is the most common Federal permit for Department projects), and (2) will result in a discharge to waters of the United States.

Section 402 of the Act establishes the National Pollutant Discharge Elimination System (NPDES) permit system for the discharge of any pollutant (except dredge or fill material) into waters of the United States. To ensure compliance with CWA Section 402, the State Water Resources Control Board (SWRCB) has issued a NPDES Permit to the City of Chino Hills to regulate storm water discharges from City facilities. The permit regulates storm water discharges both during and after construction, as well as from existing



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PEYTON DRIVE WIDENING PROJECT  
**Channel Design Configuration**

Figure 2-14

facilities and operations. The City of Chino Hills NPDES permit number is CAS618036, Order Number R8-20020012. In addition, the SWRCB has issued a construction general permit for most construction activities covering an area greater than 0.4 ha (1-ac), that are part of a Common Plan of Development exceeding 2.0 ha (5-ac) or that have the potential to significantly impair water quality. Some construction activities may require an individual construction permit. All City projects that are subject to the construction general permit require a Storm Water Pollution Prevention Plan (SWPPP), while all other projects require a Water Pollution Control Program (WPCP). Subject to the City's review and approval, the contractor prepares both the SWPPP and the WPCP. The WPCP and SWPPP identify construction activities that may cause pollutants in storm water and measures to control these pollutants. Since neither the WPCP nor the SWPPP are prepared at this time, the following discussion focuses on anticipated pollution controls.

Additional laws regulating water quality are the Porter-Cologne Water Quality Act, Safe Drinking Water Act and Pollution Prevention Act. State water quality laws are codified in the California Water Code.

## **AFFECTED ENVIRONMENT**

The proposed project lies within the Chino Creek hydrological unit (Santa Ana River Basin), which drains to the Prado Flood Control Basin. The English Canyon Channel drains to the southeast into Chino Creek, which continues flowing southerly to the Prado Flood Control Basin. The project alignment passes over the English Canyon Channel at Eucalyptus Avenue. Drainage of the site is accomplished by downward surface percolation and overland sheet flow, which generally flows in a southerly direction across the project site and eventually enters the English Canyon Channel.

## **PERMANENT IMPACTS**

### ***Build Alternatives***

The Build Alternative does not involve significant subsurface excavation or construction, and, therefore, does not have the potential to adversely impact the quantity, direction or rate of flow of groundwater. The proposed project includes the construction of a new crossing structure over the English Canyon Channel. The new components will cover some areas of existing pervious soils with impervious surfaces. Alteration of absorption rates is not considered to be adverse, because the replacement of undisturbed land with impermeable road surfaces would be relatively minor (3.6-ha [8.8-ac]), the project's incremental increase in stormwater runoff would be small.

### ***Runoff Water Quality***

In general, introduction of new roadway surfaces may cause adverse impacts on surface and groundwater by (1) increasing the load of constituents generated by vehicular use and human activities in a watershed, and (2) reducing the amount of water that percolates into the soil. An increase in impervious surface decreases the amount of water that infiltrates into the ground and consequently increases the amount of runoff to surrounding waters. Roadway projects are also a potential source for a variety of pollutants to surrounding surface and subsurface waters. Storm water runoff pollutants generated by use of roadways generally include: nutrients, metals, oil, gasoline, grease, lead, particulates, dust, and gross pollutants (trash).

Construction of the Build Alternative may result in minor changes in the amount of runoff by increasing the amount of impermeable surface area. Surface runoff velocities, volumes, and peak flow rates would have a minor increase due to increases in impervious surfaces and would be similar for the Build Alternative. Any minor changes in drainage patterns would be mitigated through project design by providing appropriate surface drainage consistent with the City's design criteria.

### ***No Build Alternative***

No increase in runoff flow velocities, volumes, or peak flow rates would occur under the No Build Alternative, and these would remain consistent with current conditions. However, with future developments in the surrounding areas, the No Build Alternative would result in increased traffic congestion and increased automobile residues, including motor oil and antifreeze on the roadway, causing a potential increase in urban pollutants into the English Canyon Channel.

## **TEMPORARY IMPACTS**

The potential effects of the proposed project on the quality of the water in the area will come from one of two sources: construction and unpaved areas (erosion/siltation) and the newly constructed improvements to Peyton Drive and Eucalyptus Avenue. Construction of the project will result in a very low level of erosion or siltation effects. This is due to the relatively small area of grading involved and the generally flat nature of the site. The proposed project would temporarily impact portions of the English Canyon Channel during construction. However, these impacts are not considered adverse because they are temporary.

Any runoff draining from the proposed project must fully conform to the current discharge requirements of the City to avoid impacting water quality. Contractor shall fully conform to the requirements of the City's NPDES Storm Water Permit No. CAS618036. This permit serves to regulate stormwater and non-stormwater discharges associated with year-round construction activities.

Project activities are required to pay special attention to storm water pollution control during the "rainy season" (October 1st - May 1st) and to follow the Water Pollution Control BMPs to minimize impact on receiving waters. Measures must also be incorporated to contain all vehicle loads and avoid any tracking of materials. For all projects resulting in 0.4 ha (1-ac) or more of soil disturbance or otherwise subject to the NPDES program, the Contractor will develop, implement, and maintain a Storm Water Pollution Prevention Plan (SWPPP) conforming to the City of Chino Hills. In addition, the SWPPP must conform to the requirements of the SWRCB Resolution No. 2001-046, the Sampling and Analytical Procedures (SAP) Plan.

## **AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES**

**WQ1.** The project is required to meet stormwater management regulations. The City of Chino Hills NPDES permit number is CAS618036, Order Number R8-20020012. A copy of the Notice of Intent (NOI), SWPPP, and Monitoring Plan shall be submitted to the City Engineer a minimum of thirty days prior to commencing grading operations. The SWPPP shall emphasize structural and non-structural BMPs in compliance with NPDES requirements.

### **2.2.3 Geology, Soils, Seismicity, Topography**

For geologic and topographic features, the key Federal law is the Historic Sites Act of 1935, which establishes a national registry of natural landmarks and protects "outstanding examples of major geological features." Topographic and geologic features are also protected under CEQA.

This section also discusses geology, soils, and seismic concerns as they relate to public safety and project design. Earthquakes are prime considerations in the design and retrofit of structures. The Department's Office of Earthquake Engineering is responsible for assessing the seismic hazard for Department projects. The current policy is to use the anticipated maximum credible earthquake (MCE) from young faults in and near California. The MCE is defined as the largest earthquake that can be expected to occur on a fault over a particular period of time.

## **AFFECTED ENVIRONMENT**

The project area is situated on soil classified as Sorrento clay loam and Chualar clay loam. The Sorrento clay loam consists of nearly level soil on alluvial fans with 0 to 2 percent slopes. The soil characteristics include well-drained, dark grayish-brown clay loam with the top surface about 96.5-cm (38-in) thick and brown clay loam underlying the surface layer to a depth of approximately 152-cm (60-in) or more. Runoff is considered medium to slow, and the hazard of erosion is slight. The soil is mainly used for pasture plants, small grains, and other irrigated crops.

The Chualar clay loam is a gently sloping to moderately sloping soil of 2 to 9 percent found on alluvial fans and terraces. Runoff is slow to medium, and the hazard of erosion is slight to moderate where the soil is tilled and left exposed. Similar to the Sorrento clay loam, the Chualar clay loam is used for irrigated small grains, pasture plants, and dryfarmed pasture.

Southern California is a very seismically active area and five of its fault zones are present within 9.6-km (6-mi) of the City of Chino Hills. The Elsinore Fault Zone divides into two segments at its northern end, the Chino fault and the Whittier fault. This fault zone is capable of producing probable magnitudes between 6.5 to 7.5. The Chino fault traverses the City of Chino Hills from the north to the south and is designated as potentially active. The Whittier fault is located west of the City, runs north to south, and is designated as active. This fault has the potential to rupture during an earthquake, causing more ruptures on faults associated with it.

## **PERMANENT IMPACTS**

### ***Build Alternative***

Since the proposed project is located within an area where earthquake-induced ground shaking occurs, the Build Alternatives under consideration will be equally affected. Geologic and seismic hazards associated with a potential earthquake occurrence include strong ground shaking and seismic fault settlement. Conformance with the Uniform Building Code (UBC), as well as adherence to standard engineering practices would reduce the effects of seismic ground shaking.

Another potential hazard of earthquakes is liquefaction which is the loss of strength of cohesionless soils when the pore water pressure in the soil becomes equal to the confining pressure. Liquefaction generally occurs as a "quicksand" type of ground failure caused by strong ground shaking. The primary factors influencing liquefaction potential are the presence or absence of groundwater, soil type, relative density of the

sandy soils confining pressure, and the intensity and duration of groundshaking. According to Figure S-2, Seismic Hazards, Fault Rupture, and Liquefaction Susceptibility, of the *City of Chino Hills General Plan Safety Element* (1994), areas in the current City boundaries that are considered susceptible to liquefaction generally include all of the areas within 1.6-km (1-mi) of SR-71. The proposed project is located within this area, and has a high and moderate potential for liquefaction, therefore, liquefaction is expected to be a significant hazard within the proposed project area. Nonetheless, adherence to the UBC and standard engineering design criteria would reduce the effects of liquefaction, should it be experienced within the project area.

### **No Build Alternative**

The No Build Alternative would have no impacts related to geology, seismicity or soils. No new construction would take place. However, as with the Build Alternative, the existing roadway would continue to be vulnerable to seismic activities in the area under the No Build Alternative.

## **TEMPORARY IMPACTS**

Potential temporary construction impacts related to the geological environment as a result of grading operations are soil erosion and siltation.

### **Build Alternative**

Grading and trenching during the construction phase would displace soils and temporarily increase the potential for soils to be subject to wind and water erosion. The impact of the construction activities would be short-term and is not considered adverse. The City will be required to comply with standard engineering practices for erosion control and a qualified soils engineer will monitor soil compaction during construction. Implementation of the required SWPPP would minimize potential soil erosion impacts. In addition, implementation of erosion control measures and adherence to all requirements set forth in the NPDES permit required for construction activities will reduce construction-related erosion and siltation impacts (refer to Section 2.2.2, above).

### **No Build Alternative**

Under the No Build Alternative, the existing topography would not be affected and no construction impacts related to geology, soil, and seismicity would occur.

## **AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES**

**GEO1.** Prior to final plan approval, a site-specific geotechnical study shall be prepared by a registered civil engineer or certified engineering geologist who has competence of

seismic hazard evaluation and mitigation. The geotechnical report shall contain site-specific evaluations of the seismic hazards affecting the project site; identify portions of the project site containing seismic hazards; and identify any known off-site seismic hazards that could adversely affect the site in the event of an earthquake.

## **2.2.4 Paleontology**

### **REGULATORY SETTING**

Paleontology is the study of life in past geologic time based on fossil plants and animals. Although there is no federal law that specifically protects natural or paleontological resources, there are a number of laws that have been interpreted to do so—the primary law being the Antiquities Act of 1906, which protects historic or prehistoric ruins or monuments and objects of antiquity. This Act has been amended to specifically allow funding for paleontological mitigation. Under California law, paleontological resources are protected by the California Environmental Quality Act, the California Administrative Code, Title 14, Section 4306 et seq., and Public Resources Code Section 5097.5.

### **AFFECTED ENVIRONMENT**

Fossil remains or traces of past life forms, including those of both vertebrate and invertebrate species and plants, are known as paleontological resources. These resources are found in geologic units conducive to preservation, usually sedimentary formations. The San Bernardino County General Plan considers all vertebrate fossils to be significant, and the importance of other paleontologic resources to be evaluated on their potential scientific value. Any mitigation of paleontological resources should be consistent with the provisions of CEQA, the County of San Bernardino, and the proposed guidelines of the Society of Vertebrate Paleontology.

On January 20, 2005, a *Paleontological Resources Assessment* was prepared for the project area. The assessment involved a literature review and records search of detailed geologic mapping of the area and the Regional Paleontologic Locality Inventory (RPLI) at the San Bernardino County Museum (SBCM).

The assessment included detailed literature review and records search of geologic maps and the RPLI at the SBCM. The assessment revealed Soquel, Yorba, and Sycamore Canyon Members of the Puente Formation, as well as Holocene or Recent alluvium to be present in the project area. The Puente Formation has a high potential to contain nonrenewable paleontologic resources, and therefore has been assigned a high paleontological sensitivity



by the SBCM. However, the Holocene or Recent sediments have been identified as being too recent to contain significant fossil resources, and therefore have low paleontologic sensitivity. The Soquel and Yorba Members have recorded forty-two fossil localities in and near the Chino Hills area. Eleven fossil localities have been recorded within a 0.8-km (0.5-mile) of the project area.

The project involves the improvement to the existing roadway system in an urban, developed area of the City of Chino Hills. However, the assessment concluded that grading and excavations from the proposed project in these geologic units may have a high potential to adversely affect fossil resources. A monitoring and recovery program developed and implemented by a qualified paleontologist would mitigate such potential impacts to paleontological resources.

## **PERMANENT IMPACTS**

### ***Build Alternative***

The *Paleontological Resources Assessment* concludes the findings of the Puente Formation and Holocene or Recent alluvium geologic units. The Puente Formation has a high sensitivity to contain fossil resources, while the Holocene or Recent alluvium have a low paleontologic sensitivity.

The Build Alternative will result in construction related to the widening of Peyton Drive to six lanes from Grand Avenue south to Eucalyptus Avenue, the widening of Peyton Drive from two to four lanes from Eucalyptus Avenue south to Chino Hills Parkway/SR-142, and the extension of Eucalyptus Avenue from Peyton Drive westward approximately 160-m (530-ft). The project will also require a new cut for the channel from the proposed culvert entrance, and construction related to culvert replacement and channel improvements.

### ***No Build Alternative***

Under the No Build Alternative, no potential impacts on paleontological resources would occur because no ground disturbance would be necessary.

## **TEMPORARY IMPACTS**

Temporary impacts may occur during construction. Any excavation in the area will require a qualified vertebrate paleontologist to develop a program to mitigate impacts to nonrenewable paleontologic resources.

## AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES

**HIS1.** Paleontologic monitors should be equipped to salvage fossils as they are unearthed, to avoid construction delays and to remove samples of sediments that are likely to contain the remains of small fossil invertebrates and vertebrates. Monitors must be empowered to temporarily halt or divert equipment to allow removal of abundant or large specimens.

**HIS2.** The development of a preparation process of recovered specimens for identification and permanent preservation that includes washing of sediments to recover small invertebrates and vertebrates.

**HIS3.** Identification and curation of specimens into an established, accredited museum repository with permanent retrievable paleontologic storage (e.g., the SBCM). The paleontologist must have a written repository agreement in hand prior to the initiation of mitigation activities. Mitigation of adverse impacts to significant paleontologic resources is not considered complete until such curation into an established museum repository has been fully completed and documented.

**HIS4.** The preparation of a report of findings with an appended itemized inventory of specimens. The report and inventory, when submitted to the appropriate Lead Agency along with confirmation of the curation of recovered specimens into an established, accredited museum repository, would signify completion of the program to mitigate impacts to paleontologic resources.

**HIS5.** In areas of potential but unknown sensitivity, field surveys prior to grading shall be required to establish the need for monitoring.

**HIS6.** Projects requiring grading plans that are located in areas of known fossil occurrences on the overlay, or demonstrated in a field survey to have fossils present, shall have all rough grading (cuts greater than 0.91-m [3-ft]) monitored by trained paleontologic crews working under the direction of a qualified professional so that fossils exposed during grading can be recovered and preserved. Fossils include large and small vertebrate fossils, the latter recovered by screen washing of bulk samples.

### 2.2.5 Hazardous Waste/Materials

Hazardous materials and hazardous wastes are regulated by many State and Federal laws. These include not only specific statutes governing hazardous waste, but also a variety of laws regulating air and water quality, human health, and land use.

The primary Federal laws regulating hazardous wastes and materials are the *Resource Conservation and Recovery Act of 1976* (RCRA) and the *Comprehensive Environmental Response, Compensation and Liability Act of 1980* (CERCLA). The purpose of CERCLA, often referred to as Superfund, is to clean up contaminated sites so that public health and welfare are not compromised. RCRA provides for "cradle to grave" regulation of hazardous wastes. Other pertinent Federal laws are:

- Community Environmental Response Facilitation Act (CERFA) of 1992
- Clean Water Act
- Clean Air Act
- Safe Drinking Water Act
- Occupational Safety and Health Act (OSHA)
- Atomic Energy Act
- Toxic Substances Control Act (TSCA)
- Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA)

In addition to the acts listed above, E.O. 12088, *Federal Compliance with Pollution Control*, mandates that necessary actions be taken to prevent and control environmental pollution when Federal activities or Federal facilities are involved.

Hazardous waste in California is regulated primarily under the authority of the Federal *Resource Conservation and Recovery Act of 1976*, and the *California Health and Safety Code*. Other California laws that affect hazardous waste are specific to handling, storage, transportation, disposal, treatment, reduction, cleanup and emergency planning. Worker health and safety and public safety are key issues when dealing with hazardous materials that may affect human health and the environment. Proper disposal of hazardous material is vital if any is disturbed during project construction.

A *Phase I Initial Site Assessment* (ISA) was conducted for the project alignment. The purpose of conducting an ISA is to identify the presence or likely presence of any hazardous substances or petroleum products on a site under existing conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substance or petroleum product into structures or into the ground, groundwater, or surface

water of the site. An Aerially Deposited Lead (ADL) sampling letter report was prepared in December 2003 and analyzed soil samples for traces of lead.

A hazardous material is defined as any substance that possesses qualities or characteristics that could physically damage the environment and/or cause deleterious effects upon human health (Title 22, CFR). A material may be classified as hazardous if it is flammable, combustible, explosive, corrosive, toxic, or radioactive.

## **AFFECTED ENVIRONMENT**

The ISA site inspection was conducted along the project alignment and immediately adjoining parcels in concert with a governmental regulatory database review. The database review was performed to identify listed hazardous wastes sites within the project boundaries and within an approximate 1.6-km (1-mi) radius of the project site boundaries. Fourteen listed regulatory sites were located within a 0.4-km (0.25-mi) radius of the project site. No visible evidence to suggest the presence of a recognized environmental condition along or immediately adjoining the project site was observed during the site inspection conducted as part of the ISA.

### ***Tanks***

No regulatory sites are located immediately adjacent to the project site. However, two sites have been listed within the Underground Storage Tanks and Leaking Underground Storage Tank databases. No recognized environmental conditions were noted for these two sites.

### ***Asbestos Containing Material***

Asbestos is a strong, incombustible, and corrosion resistant material that was used in many commercial products prior to the 1940s and into the early 1970s. If inhaled, asbestos fibers can result in serious health problems. Asbestos-containing materials (ACMs) are building materials containing more than one percent (1%) asbestos (some state and regional regulators impose a threshold of one-tenth of one percent [0.1%]). Several nonresidential structures may be required to be removed as a result of the proposed project; therefore, the potential for ACMs to be found on-site is considered likely.

### ***Lead-Based Paints***

In 1978, the U.S. Consumer Product Safety Commission phased out the sale and distribution of residential paint containing lead; however, many homes were treated with paint containing some amount of lead. It is estimated that over 80 percent of all housing built prior to 1978 contains some lead-based paint (LBP). The mere presence of lead in paint may not constitute the material to be considered hazardous. In fact, if in good

condition (no flaking or peeling), most intact LBP is not considered to be a hazardous material. In poor condition LBPs can create a potential health hazard for building occupants, especially children. Three residential structures have the potential to be removed as a result of the proposed project; therefore, the potential for LBPs to be found on-site is considered likely.

### ***Lead In Soil***

Until the mid-1980s, gasoline and other fuels contained lead, a toxic metal. As each car or truck traveled roadways, such as Peyton Drive, tiny particles of lead were released in the engine exhaust and settled on the soils next to the road. Lead movement in the environment usually tends to be not very fast or far. The Department has sampled sediment adjacent to traffic lanes in major metropolitan areas and determined that lead from leaded gasoline emissions is present. Elevated lead levels have been found to be highest at the surface (0 to 6 in) and decreases with depth. Levels are highest immediately adjacent to the traveled way and decrease with distance from the road. Total lead levels on average are not greater than the Total Threshold Limit Concentration (TTLC) but will often exceed the Soluble Threshold Limit Concentration (STLC) found in Title 22, California Code of Regulations (CCR). The construction process of excavation, stockpiling, transporting, and disposing of material (i.e., soils) that exceeds the STLC for lead makes the material a hazardous waste. If the material exceeds the Threshold Concentration Leaching Potential test limits for lead, it is considered a Federal hazardous waste.

An Aerially Deposited Lead (ADL) sampling analysis was conducted in December 2003; the results are reported in the Limited Aerially Deposited Lead Sampling Letter report dated December 12, 2003. For the analysis, three soil samples were taken within the project area. Lead was detected in the samples at concentrations of 7.5 milligrams per kilogram (mg/kg) to 20 mg/kg. Since the soil samples did not exceed lead concentrations of 50 mg/kg, special handling of the soils was not recommended.

## **PERMANENT IMPACTS**

### ***Build Alternatives***

According to the ISA, no reported spills have occurred in the vicinity of the project site. The Department of Transportation has established regulatory criteria for safe handling and transportation of hazardous materials. It should be noted that the project would reduce traffic congestion, and in turn will likely reduce the number of accidents occurring along Peyton Drive and Eucalyptus Avenue, thus improving the safe transport of hazardous materials.

### **No Build Alternative**

The No Build Alternative would not result in the reduction in potential impacts associated with hazardous materials, as it would not relieve traffic congestion. The No Build Alternative would not facilitate the safe movement of hazardous materials (e.g., delivery of petroleum products to the existing service stations) in the project area.

### **TEMPORARY IMPACTS**

The proposed project involves the widening of Peyton Drive and the completion of Eucalyptus Avenue, including storm drain improvements at the English Canyon Channel. These actions do not have the capacity to create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. Temporary impacts relative to hazardous wastes and materials associated with the Build Alternatives are confined to construction activities, which are described in detail below.

During the short-term period of project construction, there is a possibility of accidental release of hazardous substances. The level of risk associated with an accidental release of hazardous substances is not considered significant because the volume of hazardous materials utilized during construction is small and their concentrations are low. The contractor would be required to use standard construction controls and safety procedures, which would avoid and minimize the potential for accidental release of such substances into the environment. Standard construction practices would be observed such that any materials released are appropriately contained and remediated as required by local, State, and Federal law.

### **Build Alternative**

Implementation of the proposed Build Alternative may require the removal of yellow paint or thermoplastic traffic stripes, which are known to contain elevated levels of lead and chromium. If removed during construction activities, the generated wastes must be disposed of and transported to an appropriate permitted disposal facility.

### **Asbestos Containing Materials**

The National Emission Standards for Hazardous Air Pollutants mandates that building owners conduct an asbestos survey to determine the presence of ACMs prior to the commencement of any remedial work, including demolition. Prior to demolition work, any structures to be physically impacted by project construction shall be sampled as part of an asbestos survey.

### *Lead-Based Paints*

If, during demolition of the structure, paint is separated from the building material (e.g., chemically or physically), the paint waste should be evaluated independently from the building material to determine its proper management. According to the California Department of Toxic Substances Control (DTSC), if paint is not removed from the building material during demolition (and is not chipping or peeling), the material can be disposed of as construction debris (a nonhazardous waste).

### *Lead In Soil*

The ADL report states, if excavation is to occur, additional samples may be necessary to determine the amount of lead in excavated material. Therefore, implementation of measures identified below, relative to ADL are required prior to commencement of construction activities.

### **No Build Alternative**

Under the No Build Alternative, no construction phase impacts would occur, thus removing the potential of hazardous material release during construction.

## **AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES**

- HZ1.** Areas of exposed soils 4.5-m (15-ft) from the edge of existing pavement, which will be disturbed during excavation activities, should be sampled and tested for lead prior to construction. These samples should be collected prior to the issuance of PS&E for the project so that any handling, treatment, or disposal provisions associated with aerially-deposited lead may be included.
- HZ2.** Should construction activities result in the removal of yellow paint or thermoplastic traffic stripes, the generated wastes must be disposed of in an appropriate permitted disposal facility.
- HZ3-** Any demolition of existing buildings must comply with State law, which requires a contractor, where there is asbestos-related work involving 30.3-square m (100-square ft) or more of ACMs, to be certified and that certain procedures regarding the removal of asbestos be followed.
- HZ4.** It is recommended that the landfill operator be contacted in advance to determine any specific requirements of the landfill regarding the disposal of lead-based paint materials.

HZ5- If unknown wastes or materials are discovered during construction or demolition by the project contractor which he/she believes may involve hazardous waste or materials, the contractor shall:

- Immediately stop work in the vicinity of the suspected contaminant, and remove workers and the public from the area;
- Notify the Project Engineer of the implementing agency;
- Secure the area as directed by the Project Engineer; and
- Notify the implementing agency's Hazardous Waste and Materials Coordination entity.

### **2.2.6 Air Quality**

The Clean Air Act as amended in 1990 is the federal law that governs air quality. Its counterpart in California is the California Clean Air Act of 1988. These laws set standards for the quantity of pollutants that can be in the air. At the federal level, these standards are called National Ambient Air Quality Standards (NAAQS). Standards have been established for six criteria pollutants that have been linked to potential health concerns; the criteria pollutants are: carbon monoxide (CO), nitrogen dioxide (NO<sub>2</sub>), ozone (O<sub>3</sub>), particulate matter (PM), lead (Pb), and sulfur dioxide (SO<sub>2</sub>).

Under the 1990 Clean Air Act Amendments, the U.S. Department of Transportation cannot fund, authorize, or approve Federal actions to support programs or projects that are not first found to conform to State Implementation Plan for achieving the goals of the Clean Air Act requirements. Conformity with the Clean Air Act takes place on two levels—first, at the regional level and second, at the project level. The proposed project must conform at both levels to be approved.

Regional level conformity in California is concerned with how well the region is meeting the standards set for carbon monoxide (CO), nitrogen dioxide (NO<sub>2</sub>), ozone (O<sub>3</sub>), and particulate matter (PM). California is in attainment for the other criteria pollutants. At the regional level, Regional Transportation Plans (RTP) are developed that include all of the transportation projects planned for a region over a period of years, usually at least 20. Based on the projects included in the RTP, an air quality model is run to determine whether or not the implementation of those projects would conform to emission budgets or other tests showing that attainment requirements of the Clean Air Act are met. If the conformity analysis is successful, the regional planning organization, SCAG (Southern California Association of Governments) for San Bernardino County and the appropriate federal agencies, such as the Federal Highway Administration, make the determination that the



RTP is in conformity with the State Implementation Plan for achieving the goals of the Clean Air Act. Otherwise, the projects in the RTP must be modified until conformity is attained. If the design and scope of the proposed transportation project are the same as described in the RTP, then the proposed project is deemed to meet regional conformity requirements for purposes of project-level analysis.

Conformity at the project-level also requires "hot spot" analysis if an area is "nonattainment" or "maintenance" for carbon monoxide (CO) and/or particulate matter. A region is a "nonattainment" area if one or more monitoring stations in the region fail to attain the relevant standard. Areas that were previously designated as nonattainment areas but have recently met the standard are called "maintenance" areas. "Hot spot" analysis is essentially the same, for technical purposes, as CO or particulate matter analysis performed for NEPA and CEQA purposes. Conformity does include some specific standards for projects that require a hot spot analysis. In general, projects must not cause the CO standard to be violated, and in "nonattainment" areas the project must not cause any increase in the number and severity of violations. If a known CO or particulate matter violation is located in the project vicinity, the project must include measures to reduce or eliminate the existing violation(s) as well.

### **2003 Air Quality Management Plan**

The Project site is located within the jurisdiction of the South Coast Air Quality Management District (SCAQMD), which is responsible for establishing thresholds for pollutant emissions generated both during and following construction activities for development projects. The SCAQMD has prepared multiple Air Quality Management Plans (AQMPs) to accomplish the five percent annual reduction goal. The most recent AQMP was adopted in 2003. To accomplish its task, the AQMP relies on a multi-level partnership of governmental agencies at the federal, state, regional and local level. The 2003 AQMP relies on a multi-level partnership of governmental agencies at the federal, state, regional and local level. These agencies (U.S. Environmental Protection Agency [EPA], California Air Resources Board [CARB], local governments, Southern California Association of Governments [SCAG] and the SCAQMD are the primary agencies that implement the AQMP programs.

The 2003 AQMP also addresses several state and federal planning requirements and incorporates significant new scientific data, primarily in the form of updated emissions inventories, ambient measurements, new meteorological episodes and new air quality modeling tools. The 2003 AQMP is consistent with and builds upon the approaches taken in the 1997 AQMP and the 1999 Amendments to the Ozone State Implementation Plan

(SIP) for the Basin for the attainment of the federal ozone air quality standard. However, the 2003 AQMP points to the urgent need for additional emission reductions (beyond those incorporated in the 1997/99 Plan) to offset increased emission estimates from mobile sources and meet all federal criteria pollutant standards within the time frames allowed under the Federal Clean Air Act (FCAA).

SCAG is responsible under the FCAA for determining conformity of projects, plans and programs with the SCAQMD AQMP. As indicated in the *SCAQMD CEQA Handbook*, there are two main indicators of consistency:

- Whether 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, or delay timely attainment of air quality standards or the interim emission reductions specified in the AQMP; and
- Whether the project would exceed the AQMP's assumptions for 2020 or increments based on the year of project build-out and phase.

Air quality impacts are usually divided into short-term and long-term. Short-term impacts are usually the result of construction and grading impacts, while long-term impacts are associated with build out conditions.

### ***Mobile Source Air Toxics (MSATs)***

In addition to the criteria air pollutants for which there are federal Ambient Air Quality Standards (AAQS), the EPA also regulates air toxics. Most air toxics originate from human-made sources, including on-road mobile sources, non-road mobile sources (e.g., airplanes), area sources (e.g., dry cleaners), and stationary sources (e.g., factories or refineries).

MSATs are a subset of the 188 air toxics defined by the CAA. MSATs are compounds emitted from highway vehicles and non-road equipment. Some toxic compounds are present in fuel and are emitted into the air when fuel evaporates or passes unburned through an engine. Other toxics are emitted from the incomplete combustion of fuels or as secondary combustion products. Metal air toxics also result from engine wear or from impurities in oil or gasoline.

The EPA is the lead federal agency for administering the CAA and has certain responsibilities regarding the health effects of MSATs. The EPA issued a Final Rule on Controlling Emissions of Hazardous Air Pollutants from Mobile Sources (66 Federal Register 17229 [March 29, 2001]). This Rule was issued under the authority provided in Section 202 of the CAA. In its rule, the EPA examined the impacts of existing and newly promulgated mobile source control programs, including its reformulated gasoline (RFG) program, national low-emission vehicle (NLEV) standards, Tier 2 motor vehicle emissions standards and gasoline sulfur control requirements, and proposed heavy-duty engine and vehicle standards and highway diesel fuel sulfur control requirements.

In February 2006, the FHWA issued guidance to advise FHWA Division offices on when and how to analyze MSATs in the NEPA process for highways. The guidance is described as interim, because MSAT science is still evolving. As the science progresses, FHWA will update the guidance. This analysis follows current FHWA guidance.

Between 2000 and 2020, FHWA projects that, even with a 64 percent increase in vehicle miles traveled (VMT), these programs will reduce highway emissions of benzene, formaldehyde, 1,3-butadiene, and acetaldehyde by 57 to 65 percent and will reduce highway diesel PM emissions by 87 percent. As a result, the EPA concluded that no further motor vehicle emissions or fuel standards were necessary for additional control of MSATs. The EPA is preparing another rule under authority of CAA Section 202(1) that will address these issues and could make adjustments to the full 21 and the primary 6 MSATs.

Due to these limitations, the following discussion is included in accordance with the Council on Environmental Quality (CEQ) regulations (40 Code of Federal Regulations [CFR] 1502.22[b]) regarding unavailable or incomplete information.

The following is a basic analysis of the likely MSAT emission impacts of the proposed project. However, available technical tools do not provide for predicting project-specific health impacts of the emission changes associated with the alternatives considered in this report. Due to these limitations, the following discussion is included in accordance with the Council on Environmental Quality (CEQ) regulations (40 Code of Federal Regulations [CFR] 1502.22[b]) regarding unavailable or incomplete information.

***Information that is Unavailable or Incomplete.***

Evaluating the environmental and health impacts from MSATs on a proposed highway project would involve several key elements: emissions modeling; dispersion modeling to

estimate ambient concentrations resulting from the estimated emissions; exposure modeling to estimate human exposure to the estimated concentrations; and then a final determination of health impacts based on the estimated exposure. Each of these steps is encumbered by technical shortcomings or uncertain science, both of which prevent a more complete determination of the MS AT health impacts of the proposed project, as described below:

- Emissions: The EPA tools to estimate MSAT emissions from motor vehicles are not sensitive to key variables determining emissions of MSATs in the context of highway projects. While MOBILE 6.2 and EMFAC2002 are used to predict emissions at a regional level, they have limited applicability at the project level. MOBILE 6.2 is a trip-based model with emission factors based on a typical trip of 7.5 miles and an average speed for this typical trip. This means that MOBILE 6.2 does not have the ability to predict emission factors for a specific vehicle operating condition at a specific location at a specific time. Because of this limitation, MOBILE 6.2 can only approximate the operating speeds and levels of congestion likely to be present on the largest-scale projects and cannot adequately capture emissions effects of smaller projects.

For particulate matter, the model results are not sensitive to average trip speed, although the other MSAT emission rates do change with changes in trip speed. Also, the emissions rates used in MOBILE 6.2 for both particulate matter and MSATs are based on a limited number of tests of mostly older-technology vehicles. Last, in its discussions of PM under the conformity rule, the EPA has identified problems with MOBILE 6.2 as an obstacle to quantitative analysis. Similar limitations apply to EMFAC2002. These deficiencies compromise the capability of MOBILE 6.2 to estimate MSAT emissions. MOBILE6.2 is an adequate tool for projecting emissions trends and performing relative analyses between alternatives for very large projects, but it is not sufficiently sensitive to capture the effects of travel changes due to smaller projects or to predict emissions near specific roadside locations.

- Dispersion: The tools to predict dispersion of MSATs are also limited. The EPA's current regulatory models, CALINE4 (a Caltrans model used inside California only) and CAL3QHC, were developed and validated more than a decade ago for the purpose of predicting episodic concentrations of CO to determine compliance with the federal AAQS. The performance of dispersion models is more accurate for predicting maximum concentrations that can occur at some time at some location within a geographic area. This limitation makes it difficult to predict accurate exposure patterns at specific times at specific highway project locations across an urban area to assess potential health risk. The National Highway Cooperative Research Program (NHCRP) is conducting research

on best practices in applying models and other technical methods in the analysis of MSATs. This work also will focus on identifying appropriate methods of documenting and communicating MSAT impacts in the NEPA process and to the general public. Along with these general limitations of dispersion models, FHWA is also faced with a lack of monitoring data in most areas for use in establishing project-specific MSAT background concentrations.

- Exposure Levels and Health Effects: Finally, even if emission levels and concentrations of MSATs could be accurately predicted, shortcomings in current techniques for exposure assessment and risk analysis limit the ability to reach meaningful conclusions about project-specific health impacts. Exposure assessments are difficult, because it is difficult to accurately calculate annual concentrations of MSATs near roads and to determine the part of a year that people are actually exposed to those concentrations at a specific location. These difficulties are magnified for 70-year cancer assessments, particularly because insupportable assumptions would have to be made regarding changes in travel patterns and vehicle technology (which affects emission rates) over a 70-year period. There are also considerable uncertainties associated with the existing estimates of toxicity of the various MSATs because of factors such as low-dose extrapolation and translation of occupational exposure data to the general population. Because of these shortcomings, any calculated difference in health impacts between alternatives is likely to be much smaller than the uncertainties associated with calculating the impacts.

Consequently, the results of such assessments would not be useful to decision makers, who would need to weigh this information against other project impacts that are better suited for quantitative analysis.

#### *Summary of Existing Credible Scientific Evidence Relevant to Evaluating the Impacts of MSATS*

Research into the health impacts of MSATs is ongoing. For different emission types, a variety of studies show that some either are statistically associated with adverse health outcomes through epidemiological studies (frequently based on emission levels found in occupational settings) or show that animals demonstrate adverse health outcomes when exposed to large doses.

Exposure to toxics has been a focus of a number of the EPA efforts. Most notably, the EPA conducted the National Air Toxics Assessment (NATA, 1996) to evaluate modeled estimates of human exposure applicable at the county level. While not intended for use as a

measure of or benchmark for local exposure, the modeled estimates in the NATA database best illustrate the levels of various toxics when aggregated to a national or State level.

The EPA is in the process of assessing the risks of various kinds of exposure to these pollutants. The EPA Integrated Risk Information System (IRIS) is a database of human health effects that may result from exposure to various substances found in the environment (<http://www.epa.gov/iris>). The following toxicity information for the six prioritized MSATs was taken from the IRIS database Weight of Evidence Characterization summaries. The following information, from the EPA's IRIS database, represents the EPA's most current evaluations of the potential hazards and toxicology of these chemicals or mixtures:

- Benzene is characterized as a known human carcinogen.
- The potential carcinogenicity of acrolein cannot be determined because the existing data are inadequate for an assessment of human carcinogenic potential for either the oral or inhalation route of exposure.
- Formaldehyde is a probable human carcinogen, based on limited evidence in humans and sufficient evidence in animals.
- 1,3-butadiene is characterized as carcinogenic to humans by inhalation.
- Acetaldehyde is a probable human carcinogen based on increased incidence of nasal tumors in male and female rats and laryngeal tumors in male and female hamsters after inhalation exposure.
- Diesel exhaust (DE) is likely to be carcinogenic to humans by inhalation from environmental exposures. DE is the combination of diesel particulate matter and diesel exhaust organic gases.
- DE also represents chronic respiratory effects, possibly the primary noncancer hazard from MSATs. Prolonged exposures to DE may impair pulmonary function and could produce symptoms such as cough, phlegm, and chronic bronchitis. Exposure relationships have not been developed from these studies.

Other studies have addressed MSAT health impacts in proximity to roadways. The Health Effects institute, a nonprofit organization funded by the EPA, FHWA, and industry, has undertaken a major series of studies to research near-road MSAT hot spots, the health implications of the entire mix of mobile source pollutants, and other topics. The final summary of the series is not expected for several years.

Some recent studies have reported that proximity to roads is related to adverse health outcomes, particularly respiratory problems. <sup>1</sup> Much of this research is not specific to MSATs, instead surveying the full spectrum of both criteria and other pollutants. The FHWA cannot evaluate the validity of these studies, but more importantly, these studies do not provide information that would be useful to alleviate the uncertainties listed above and allow for a more comprehensive evaluation of the health impacts specific to the proposed project.

## AFFECTED ENVIRONMENT

The South Coast Air Basin (SCAB) is characterized as having a Mediterranean climate (a semi-arid environment with mild winters, warm summers and moderate rainfall). Moderate temperatures, comfortable humidity, and limited precipitation, including a few storms during the winter season (November through April), characterize the climate of the project area. The mild climate is infrequently interrupted by periods of extremely hot weather, winter storms, or Santa Ana winds. The clouds and fog that form along the Southern California coastline rarely extend as far inland as the project area; however, if they do, they usually burn off quickly after sunrise.

The San Gabriel valley and San Bernardino mountain ranges form a physical and climatological barrier within the SCAB that traps pollutants carried by the wind from the coastal areas. Therefore, inversion conditions (during which a layer of air prevents a cooler layer of air from rising) are less favorable in the project area than in the coastal areas of southern California.

Inversion conditions are associated with degraded air quality because they prevent the surface air from rising and dissipating air pollutants that accumulate throughout the day. A second inversion type, radiation inversion, forms on clear, winter nights when cold air from the mountains sinks to the San Gabriel Valley floor while the air above the valley remains warm. These inversions, in conjunction with calm winds, trap pollutants, such as automobile and heavy equipment exhaust emissions, near their source. These nocturnal radiation inversions are very intense throughout the area and create very limited mixing potential at night, especially during the cooler months of the year. The San Gabriel and San

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<sup>1</sup> South Coast Air Quality Management District, *Multiple Air Toxic Exposure Study-II (2000)*; Highway Health Hazards, The Sierra Club (2004) summarizing 24 studies on the relationship between health and air quality); NEPA's Uncertainty in the Federal Legal Scheme Controlling Air Pollution from Motor Vehicles, Environmental Law Institute, 35 ELR 10273 (2005) with health studies cited therein.

Bernardino mountain ranges help trap the emissions, thus eliminating the dispersion capability of the San Gabriel Valley.

Temperatures in the Chino Hills area vary greatly between the San Gabriel valley area and the San Bernardino mountain area. The monthly average temperature in the valley area ranges from a low of 48° (degrees) Fahrenheit (F) to a high of 79° F, with a mean temperature of 63° F. Within the Mountain area the temperatures range from near 0° F in the winter to the mid-nineties in the summer, with a mean temperature of about 46° F.

Slightly lower than the SCAB average rainfall, the majority of annual rainfall in the proposed project area occurs between November and April at an average of 9 to 14 inches per year. The San Gabriel Valley's location in the "rainshadow" of the San Bernardino Mountains further enhances its dryness. Rainfall averages around 7.1 cm (2.8 in) per year in the project area.

Winds blow primarily from the west and west-southwest in response to the regional pattern of airflow from the cool ocean to the heated interior. The average wind speed is 5 kilometers per hour (km/h) [3.1 mph]. The dominant daily wind pattern is a daytime sea breeze and a nighttime land breeze. These low wind speeds encourage air stagnation and tend to slow pollutant dispersion.

### ***Air Quality Management***

An Air Quality Analysis dated August 2005 was prepared for the proposed project. The analysis provides data on existing air quality, evaluates potential air quality impacts associated with the proposed project, and identifies mitigation measures. Ambient air quality is described in terms of compliance with Federal and State standards. Ambient air quality standards are the levels of air pollutant concentration considered safe to protect the public's health and welfare. They are designed to protect people most sensitive to respiratory distress, such as asthmatics, the elderly, young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise. NAAQS were established by the EPA in 1971 for six criteria air pollutants: CO, O<sub>3</sub>, NO<sub>2</sub>, SO<sub>2</sub>, PM<sub>10</sub> and lead (Pb). States have the option of adding other pollutants, to require more stringent compliance, or to include different exposure periods (refer to Table 2-1, below).



TABLE 2-13. Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards <sup>1</sup>		Federal Standards*		
		Concentration <sup>3</sup>	Method <sup>4</sup>	Primary <sup>*0</sup>	Secondary <sup>**</sup>	Method <sup>1</sup>
Ozone (O3)	1-Hour	0.09 ppm (180 $\mu\text{g}/\text{m}^3$ )	Ultraviolet Photometry	-	Same as Primary Standard	Ultraviolet Photometry
	8-Hour	0.07 ppm (137 $\mu\text{g}/\text{m}^3$ )		0.08 ppm (157 $\mu\text{g}/\text{m}^3$ ) <sup>8</sup>		
Respirable Particulate Matter (PM10)	24-Hour	50 $\mu\text{g}/\text{m}^3$	Gravimetric or Beta Attenuation	150 $\mu\text{g}/\text{m}^3$	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 $\mu\text{g}/\text{m}^3$		50 $\mu\text{g}/\text{m}^3$		
Fine Particulate Matter (PM2.5)	24-Hour	No Separate State Standard		65 $\mu\text{g}/\text{rTV}^3$	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 $\mu\text{g}/\text{m}^3$	Gravimetric or Beta Attenuation	15 $\mu\text{g}/\text{m}^3$		
Carbon Monoxide (CO)	8-Hour	9.0 ppm (10 $\mu\text{g}/\text{m}^3$ )	Gas Phase Chemiluminescence	9.0 ppm (10 $\mu\text{g}/\text{m}^3$ )	None	Non-dispersive Infrared Photometry (NDIR)
	1-Hour	20 ppm (23 $\mu\text{g}/\text{m}^3$ )		35 ppm (40 $\mu\text{g}/\text{m}^3$ )		
	8-Hour (Lake Tahoe)	6 ppm (7 $\mu\text{g}/\text{m}^3$ )		-		
Nitrogen Dioxide (NO2)	Annual Arithmetic Mean	-	Atomic Absorption	0.053 ppm (100 $\mu\text{g}/\text{m}^3$ )	Same as Primary Standard	Gas Phase Chemiluminescence
	1-Hour	0.25 ppm (470 $\mu\text{g}/\text{m}^3$ )		-		
Lead	30-day Average	1.5 $\mu\text{g}/\text{m}^3$	Ultraviolet Fluorescence	-	-	High-Volume Sampler and Atomic Absorption
	Calendar Quarter	-		1.5 $\mu\text{g}/\text{m}^3$	Same as Primary Standard	
Sulfur Dioxide (SO2)	Annual Arithmetic Mean	-	Ultraviolet Fluorescence	0.030 Ppm (80 $\mu\text{g}/\text{m}^3$ )	-	Spectrophotometry (Pararosaniline Method)
	24-Hour	0.04 ppm (105 $\mu\text{g}/\text{m}^3$ )		0.14 ppm (365 $\mu\text{g}/\text{m}^3$ )	-	
	3-Hour	-		-	0.5 ppm (1300 $\mu\text{g}/\text{m}^3$ )	
	1-Hour	0.25 ppm (655 $\mu\text{g}/\text{m}^3$ )		-	-	
Visibility-Reducing Particles	8-Hour	Extinction coefficient of 0.23 kilometer - visibility of ten miles or more (0.07 - 30 miles or more for Lake Tahoe) due to particles when relative humidity is less than 70 percent. Method Beta Attenuation and Transmittance through Filter Tape.		No Federal Standards		
Sulfates	24-Hour	25 $\mu\text{g}/\text{nrV}^5$	Ion Chromatography			
Hydrogen Sulfide	1-Hour	0.03 ppm (42 $\mu\text{g}/\text{m}^3$ )	Ultraviolet Fluorescence			

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Vinyl Chloride	24-Hour	0.01 ppm (26 $\mu\text{g}/\text{m}^3$ )	Gas Chromatography
<b>Footnotes:</b>			
1 California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1- and 24-hour), nitrogen dioxide, suspended particulate matter - PM10, PM2.5 and visibility reducing particles, are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.			
2 National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest eight hour concentration in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 $\mu\text{g}/\text{m}^3$ is equal to or less than one. For PM2.5, the 24 hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the EPA for further clarification and current federal policies.			
3 Concentration are expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25EC and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25EC and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.			
4 Any equivalent procedure that can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.			
5 National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.			
6 National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.			
7 Reference method as described by the EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the EPA. 8 New federal 8-hour ozone and fine particulate matter standards were promulgated by EPA on July 18, 1997. Contact the EPA for further clarification and current federal policies.			
9 The ARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.			

The SCAQMD operates several air quality monitoring stations throughout the SCAB. The Pomona air quality monitoring station monitors four of the six criteria pollutants, including ozone, NO<sub>2</sub>, SO<sub>2</sub>, and CO. The Ontario air quality monitoring station monitors the other criteria pollutants PM<sub>10</sub>, plus fine particulate matter up to 2.5 microns in diameter (PM<sub>2.5</sub>). Air quality data collected from the air quality monitoring stations between 2002 and 2005 are listed in Table 2-14, below.

**TABLE 2-14. Local Air Quality Levels<sup>2</sup>**  
(Pomona and Ontario Monitoring Stations)

Pollutant	Standard	2003	2004	2005
<b>Carbon Monoxide</b>				
Max 1-hr concentration (ppm)		5.8	4.3	4.2
No. days exceeded:	State	>20ppm/1-hr	0	0
	Federal	>35ppm/1-hr	0	0
Max 8-hr concentration (ppm)		4.4	3.1	2.5
No. days exceeded:	State	≥9.1 ppm/8-hr	0	0
	Federal	≥9.5 ppm/8-hr	0	0
<b>Ozone</b>				
Max 1-hr concentration (ppm)		0.161	0.131	0.140
No. days exceeded:	State	>0.09ppm/1-hr	39	31
	Federal	>0.08 ppm/8-hr	24	13
Max 8-hr concentration (ppm)		0.121	0.100	0.112
No. days exceeded:	State	>0.07 ppm/8-hr	NA	NA
	Federal	>0.08 ppm/8-hr	24	13
Particulates (PM <sub>10</sub> ) (Ontario - 1408 Francis St air quality monitoring station data)				

<sup>2</sup> Pomona Air Quality Monitoring Station, 924 N. Garey Ave., Pomona, CA.

Pollutant	Standard	2003	2004	2005
Max 24-hr concentration (jug/nT <sup>3</sup> )		149	93	77
No. days exceeded: State	>50 jug/m <sup>3</sup> -hr	15	14	18
Federal	>150jug/rrr724-hr	0	0	0
Annual Arithmetic Mean concentration (jug/nO		41.3	42.9	39.5
exceeded: State	>20 jug/m <sup>3</sup> Vyear	Y	Y	Y
Federal	>50 jug/m <sup>3</sup> Vyear	N	N	N
Particulates (PM2.5) (Ontario - 1408 Francis St air quality monitoring station data)				
Max 24-hr concentration (jug/m <sup>3</sup> )		88.9	86.1	87.7
No. days exceeded: Federal	>65 jug/m <sup>3</sup> ?24-hr	3	2	1
Annual Arithmetic Mean concentration (jug/m <sup>3</sup> )		23.8	20.9	18.8
exceeded: State	>12 jL/g/hrv7year	Y	Y	Y
Federal	>15jug/rrv7year	Y	Y	Y
<b>Nitrogen Dioxide</b>				
Max 1-hr concentration (ppm)		0.113	0.106	0.083
No. days exceeded: State	>0.25ppm/1-hr	0	0	0
Annual avg. concentration (ppm)		0.035	0.031	0.031
exceeded: Federal	>0.053 ppm/year	N	N	N
Source: EPA and ARB web sites: <a href="http://www.eDa.gov/air/data/monvals.html">www.eDa.gov/air/data/monvals.html</a> and <a href="http://www.arb.ca.gov/adam/welcom.html">www.arb.ca.gov/adam/welcom.html</a>				
ppm = parts per million				
/jg/m <sup>3</sup> = microgram of pollutant per cubic meter of air				

As can be seen in Table 2-14 above, CO levels are below relevant State and Federal standards. One-hour ozone levels exceeded the State and Federal standards in each of the past 3 years. Ozone exceeded the State one-hour standard 26 to 39 days per year during the past 3 years and exceeded the Federal one-hour standard from 4 to 13 times per year (Note: no data available for 2005). Eight-hour ozone levels exceeded the Federal standard in each of the past 3 years. Ozone exceeded the Federal eight-hour standard from 11 to 24 times per year during the past 3 years.

The 24-hour PM10 level in the proposed project area exceeded State standards from 15 to 18 days in the past 3 years and did not exceed the Federal 24-hour PM10 standard. The annual PM10 level in the proposed project area exceeded the State standard in each of the past 3 years and did not exceed the Federal standard in the past 3 years.

In each of the past four years of monitoring, the annual PM2.5 level in the proposed project area exceeded the Federal standard from 0 to 3 times in the past 3 years. The NO2 level in the proposed project did not exceed the State or Federal standard in the past 3 years of monitoring.

## PERMANENT IMPACTS

### **Build Alternative**

The project is located in a nonattainment area for the federal PM10 standard; therefore, a local hot spot analysis of PM10 for conformity purposes is required. A CO hot spot analysis was conducted for localized air quality impact analysis.

### **CO Hot Spot Analysis**

The Department has developed a Transportation Project-Level Carbon Monoxide Protocol (Protocol) for assessing CO impacts of transportation projects. Two conformity-requirement flow charts are provided in Section 3 of the Protocol, and the explanatory discussion steps used to determine the conformity requirements are provided below:

- 3.1.1 Is the project exempt from all emissions analyses? No.
- 3.1.2 Is the project exempt from regional emissions analysis? No.
- 3.1.3 Is the project locally defined as regionally significant? Yes, the project will increase the number of through lanes on Peyton Drive.
- 3.1.4 Is the project in a federal attainment area? No.
- 3.1.5 Is there a currently conforming RTP and TIP? Yes.
- 3.1.6 Is the project included in the regional emissions analysis supporting the currently conforming RTP and TIP? Yes.
- 3.1.7 Has the project design concept and/or scope changed significantly from that in regional analysis? No.
- 3.1.8 Examine local impacts. Proceed to Section 4.

Section 4 of the Protocol assesses localized ambient air quality based on the analysis of CO and PM<sub>10</sub> emissions. Project level CO impacts are carried out according to the Local Analysis flow chart, seen below.

Level 1, Is the project in a CO nonattainment area? Yes, the project site is located in a federal nonattainment area.

Level 2, Is the project in an area with an approved CO attainment plan or maintenance plan? No.

Level 3, Is the project in an area with a submitted CO attainment or maintenance plan? Yes.

Level 3 (cont), Was the analysis in the attainment plan performed in sufficient detail to establish CO concentrations as a result of microscale modeling? Yes.

Level 3 (cont), Were impacts acceptable? Yes.

Level 3 (cont), Can CO concentrations in the area affected by the project under review be expected to be lower than at those locations specifically modeled in the attainment plan? Yes, for all intersections in the project vicinity, the total of all through

volumes for each intersection is less than the through volume total assumed for the intersection in the attainment plan. Furthermore, traffic volumes on an individual segment are all less than that of a segment of an intersection in the attainment plan. Therefore, overall CO concentrations from the intersection traffic will be less for the project than for the intersections in the attainment plan.

#### *PM10 Hot Spot Analysis*

The project is located in a nonattainment area for federal PM<sub>10</sub>. The project will not contribute to a PM<sub>10</sub> hot spot that will cause or contribute to violations of the PM<sub>10</sub> National Ambient Air Quality Standards (NAAQS). The monitored PM<sub>10</sub> concentrations at the Ontario monitoring station indicates that the federal PM<sub>10</sub> standard was not exceeded between 2002 and 2004. The Basin is expected to be in attainment for federal PM<sub>10</sub> standards by 2006. The PM<sub>10</sub> level projected for 2025 is approximately 59 percent of the federal PM<sub>10</sub> standard. Additionally, the three year 99<sup>th</sup> percentile average PM<sub>10</sub> concentration measured at the Ontario Station is approximately 47 percent of the federal standard. Therefore, this project would not contribute to a PM<sub>10</sub> hotspot that will cause or contribute to violations for the PM<sub>10</sub> NAAQS.

The proposed project is expected to improve traffic flow and reduce delays and congestion. It is not expected that new vehicular traffic trips will occur as a result of the proposed project. The project is included in the current approved version of the SCAG 2004 RTP and 2004 RTIP.

#### *PM 2.5 Conformity Determination*

The proposed improvements will improve local circulation and access to predominantly residential areas in the City. Without implementation of the proposed improvements, four intersections are forecast to operate at deficient LOS levels, according to the City of Chino Hills acceptable performance criteria of LOS D or better. Peyton Drive is currently a north-south, four-lane divided Secondary Highway with a painted median, with three northbound lanes and one southbound lane between Grand Avenue and Eucalyptus Avenue, and with one lane in each direction between Eucalyptus Avenue and Chino Hills Parkway/SR-142. It should be noted that Peyton Drive does not currently nor is forecast to experience traffic volumes in excess of 125,000 average daily trips (ADT). Additionally, the total volume of heavy truck and diesel traffic is expected to be well below 8 percent of the total ADT as the City of Chino Hills is zoned for limited industrial/manufacturing uses and the area served by Peyton Drive is a mix of residential and public/institutional zoning designations.

Based upon the information provided above, the project is not expected to introduce significant amounts of diesel truck traffic and is not considered a project of significant concern per the definition contained within 40 CFR 93.123(b)(1). This conclusion was confirmed by the Southern California Association of Governments (SCAG) at the May 23, 2006 Transportation Conformity Working Group (TCWG) Interagency Consultation Meeting.

A qualitative PM<sub>2.5</sub> hot-spot analysis is not required for projects that are not of air quality concern. The Clean Air Act and 40 CFR 93.116 requirements were met without a hot-spot analysis, since the project is not of air quality concern under 40 CFR 93.123(b)(1). Based upon the information provided above, the project is not expected to introduce significant amounts of diesel truck traffic and is, therefore, not considered a project of significant concern per the definition contained within 40 CFR 93.123(b)(1). This conclusion was confirmed by the Southern California Association of Governments (SCAG) at the May 23, 2006 Transportation Conformity Working Group (TCWG) Interagency Consultation Meeting.

#### *Conformity Analysis*

The project is programmed within SCAG's 2004 RTIP and 2004 FTIP:

- ID #SBD31785: Eucalyptus Avenue Peyton Drive to Galloping Hills Road, construct 2-lane road,
- ID #SBD41242: Peyton Drive/Eucalyptus to SR142 widen Peyton Drive from 2 to 4 lanes with marked bike lanes in each direction, and
- ID #SBD88106: Peyton Drive/Grand Avenue to Eucalyptus widen Peyton Drive from 2 to 6 lanes and include marked bicycle lanes in each direction.

The proposed project matches the design concept and scope of the project described in the RTP and RTIP, and the proposed project does not delay the timely implementation of the Transportation Control Measures (TCMs) identified in the SCAG'S portion of the State Implementation Plan (SIP).

#### **No Build Alternative**

Under the No Build Alternative, the existing roadway configuration would remain the same for future (year 2030) conditions. Construction of future developments in the area would

increase traffic volumes on Peyton Drive and Eucalyptus Avenue beyond its capacities, causing vehicle backups, unstable traffic flows and long engine idling times. This would decrease LOS to below acceptable levels. Increased traffic delays would increase in pollutants emitted into the atmosphere and cause a greater impact on air quality than would the Build Alternative. Therefore, the No Build Alternative is not considered environmentally superior to the proposed Build Alternative.

**TEMPORARY IMPACTS**

Project construction would result in temporary emissions from various sources, including grading, utility engines, construction vehicles, and vehicles from construction crews. Exhaust emissions during construction will vary daily as construction activity levels change. The use of construction equipment on site will result in localized exhaust emissions. The estimates used to determine emissions from project construction are shown in Table 2-15, below.

**TABLE 2-15. Daily Construction Equipment Emissions**

Number	Equipment	Hours of Operation	Pollutant				
			CO	ROC	NOx	SOx	PM10
1	Tracked Loader	8	1.6	0.8	6.6	0.6	0.5
1	Tracked Tractor	8	3.5	1.2	13	1.4	1.1
1	Scraper	8	10	2.2	31	3.7	3.3
1	Roller	8	2.4	0.5	7.0	0.5	0.4
2	Motor Graders	8	2.4	0.6	11	1.4	1.0
2	Miscellaneous	8	11	2.4	27	2.3	2.2
24	Construction worker trips	50 mile round trip	12	0.48	3.7	0.03	0.11
	TOTAL		43	8.1	99	9.9	8.6
	SCAQMD Threshold		550	75	100	150	150
	Exceed threshold?		No	No	No	No	No

Source: Air Quality Analysis. August 2005.

As seen in the table above, construction equipment emissions would not exceed the daily threshold for any of the criteria pollutants: carbon monoxide (CO), Reactive Organic Compounds (ROC), Nitrogen Oxides (NOx), Sulfur Oxides (SOx), and particulate matter larger than 10 microns in diameter (PM10).

**Build Alternatives**

Construction activities associated with the proposed project are temporary and would cease upon project completion. Air pollutant emissions associated with the project would occur

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over the short-term from construction activities, fugitive dust generated during grading and site preparation, and equipment engine exhaust.

The City's Standard Specifications for construction will be adhered to for reducing emissions from construction equipment. Furthermore, the SCAQMD has established emissions thresholds for construction activities.

The SCAQMD estimates that, during project construction, each acre of graded surface creates about 26.4 pounds of PM<sub>10</sub> per workday and 21.8 pounds of PM<sub>10</sub> per hour from dirt/debris pushing per bulldozer or scraper. The entire site is not expected to be under construction at one time. It is assumed that up to three acres of land would be under construction or exposed on any one day. It is also assumed that one bulldozer or scraper would be used eight hours per day, together with other equipment. Therefore, a maximum of 254 pounds of PM<sub>10</sub> per day would be generated from soil disturbance, without mitigation, during the construction phase. This level of dust emission would exceed the SCAQMD threshold of 150 pounds per day during construction.

With the implementation of the standard construction measures listed below, such as frequent watering (e.g., at least twice per day), fugitive dust emissions from construction activities are expected to be reduced to 127 pounds or less per day. Combined with the 9.6 pounds per day generated by equipment exhaust, the total mitigated dust emission of 137 pounds per day would be below the SCAQMD threshold of 150 pounds per day.

### ***No Build Alternative***

The No Build Alternative would result in no generation of construction-related pollutant emissions. Therefore, the No Build Alternative would not result in adverse impacts.

## **AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES**

- AQ1.** The construction contractor shall adhere to the requirements of SCAQMD rules and regulations on cutback and emulsified asphalt paving materials.
- AQ2.** The construction contractor shall adhere to the requirements of SCAQMD Rule 403 to reduce fugitive dust emissions. The Best Available Control Measures (BACMs) and Reasonably Available Control Measures (RACMs) specified in SCAQMD's Rule 403 Implementation Handbook shall be incorporated into project construction.
- AQ3.** City's Standard Construction Specifications shall be adhered to in order to reduce emissions.



- AQ4. Construction contractor shall select the construction equipment used on site based on low emission factors and high energy efficiency. The contractor shall ensure that construction grading plans include a statement that all construction equipment shall be tuned and maintained in accordance with the manufacturer's specifications.
- AQ5. The construction contractor shall utilize electric or diesel-powered equipment in lieu of gasoline powered engines where feasible.
- AQ6. The construction contractor shall ensure that construction grading plans include a statement that work crews will shut off equipment when it is not in use.
- AQ7. The construction contractor shall time the construction activities so as not to interfere with peak-hour traffic and to minimize obstruction of through traffic lanes adjacent to the site; if necessary, a flagperson shall be retained to maintain safety adjacent to existing roadways.
- AQ8. The construction contractor shall support and encourage ridesharing and transit incentives for the construction crew.

### 2.2.7 Traffic Noise

The National Environmental Policy Act (NEPA) of 1969 and the California Environmental Quality Act (CEQA) provide the broad basis for analyzing and abating highway traffic noise effects. The intent of these laws is to promote the general welfare and to foster a healthy environment.

For highway transportation projects with FHWA involvement, the Federal-Aid Highway Act of 1970 and the associated implementing regulations (23 CFR 772) govern the analysis and abatement of traffic noise impacts. The regulations require that potential noise impacts in areas of frequent human use be identified during the planning and design of a highway project. The regulations contain noise abatement criteria (NAC) that are used to determine when a noise impact would occur. The NAC differ depending on the type of land use under analysis. For example, the NAC for residences (67 dBA) is lower than the NAC for commercial areas (72 dBA). The following table lists the noise abatement criteria (refer to Table 2-16 and Figure 2-15).

**TABLE 2-16. Noise Abatement Criteria**

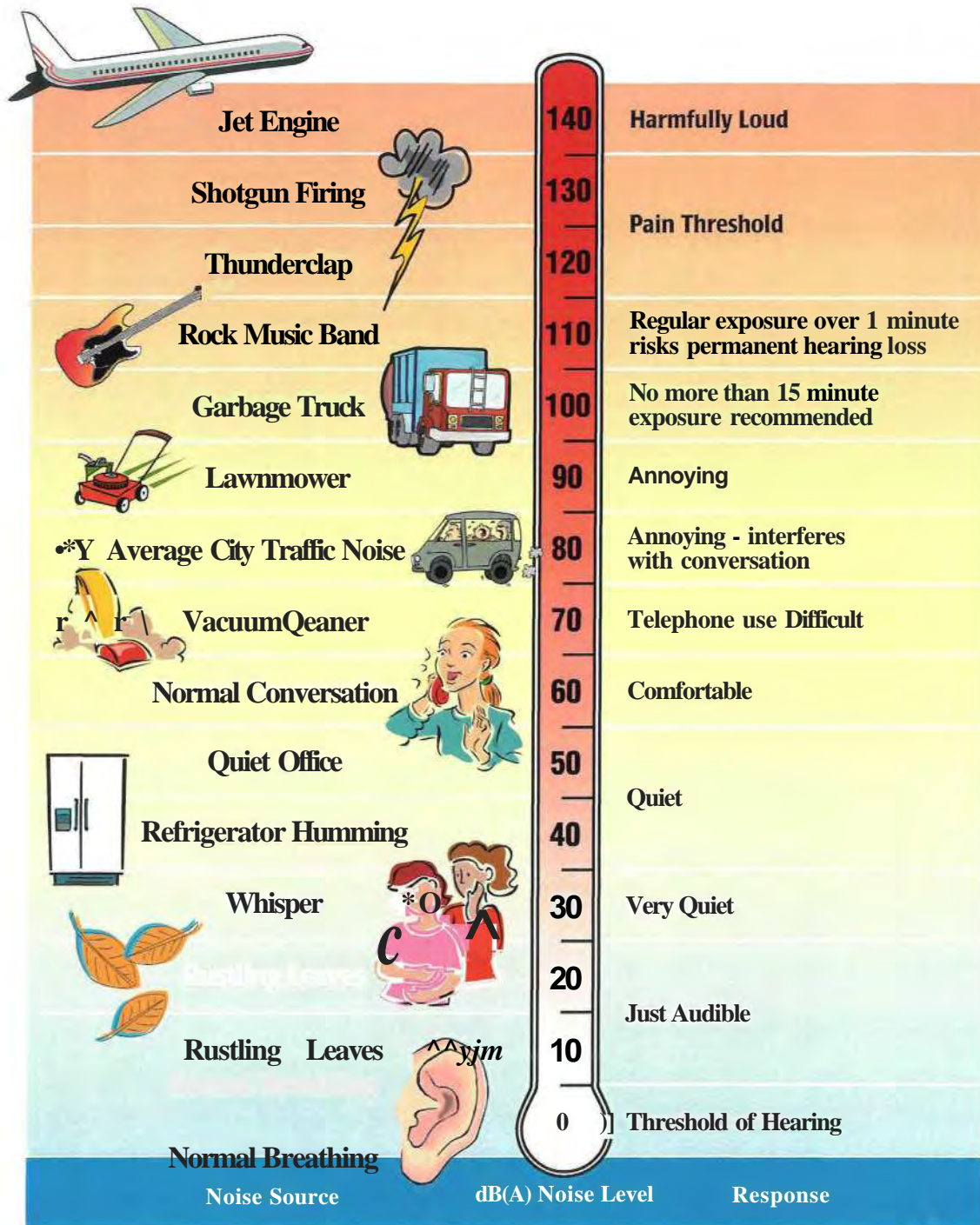
Activity Category	NAC, Hourly A-Weighted Noise Level, dBA $L_{ea}(h)$	Description of Activities
A	57 Exterior	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue to serve its intended purpose.
B	67 Exterior	Picnic areas, recreation areas, playgrounds, active sport areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals.
C	72 Exterior	Developed lands, properties, or activities not included in Categories A or B above.
D	—	Undeveloped lands.
E	52 Interior	Residence, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums.

In accordance with the Department's *Traffic Noise Analysis Protocol for New Highway Construction and Reconstruction Projects, October 1998*, a noise impact occurs when the future noise level with the project results in a substantial increase in noise level (defined as a 12 dBA or more increase) or when the future noise level with the project approaches or exceeds the NAC. Approaching the NAC is defined as coming within 1 dBA of the NAC.

If it is determined that the project will have noise impacts, then potential abatement measures must be considered. Noise abatement measures that are determined to be reasonable and feasible at the time of final design are incorporated into the project plans and specifications. This document discusses noise abatement measures that would likely be incorporated in the project.

The Department's *Traffic Noise Analysis Protocol* sets forth the criteria for determining when an abatement measure is reasonable and feasible. Feasibility of noise abatement is basically an engineering concern. A minimum 5 dBA reduction in the future noise level must be achieved for an abatement measure to be considered feasible. Other considerations include topography, access requirements, other noise sources and safety considerations. The reasonableness determination is basically a cost-benefit analysis. Factors used in determining whether a proposed noise abatement measure is reasonable include: residents acceptance, the absolute noise level, build versus existing noise, environmental impacts of abatement, public and local agencies input, newly constructed development versus development pre-dating 1978 and the cost per benefited residence.

FIGURE 2-15. Common Environmental Noise Levels



**Source:**

Melville C. Branch and R. Dale Beland, *Outdoor Noise in the Metropolitan Environment*, 1970.

Environmental Protection Agency, *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety (EPA/ONAC 550/9-74-004)*, March 1974.

The Noise element of the *City of Chino Hills General Plan* recommends an exterior noise standard of 65 dBA Community Noise Equivalent Level (CNEL) and an interior noise of 45 dBA CNEL for residential land uses. The City Municipal Code limits the hours of construction adjacent to residential or sensitive land uses to the hours between 7:00 a.m. and 7:00 p.m., Monday through Friday and the hours between 8:00 a.m. and 6:00 p.m. on Saturdays. No construction activities are permitted on Sundays or Federal holidays.

## **AFFECTED ENVIRONMENT**

The main source of noise in the project area is generated by traffic on Peyton Drive. Ambient noise measurements were conducted to document existing noise levels at five representative locations. Future with-project traffic noise levels were modeled using the Sound32 program based on the FHWA Highway Traffic Noise Prediction Model. The programs were fitted with the California Vehicle Noise Reference Energy Mean Emission Level (CALVENO) noise emission levels for use on highway projects within California. The existing traffic noise levels at 35 receptor locations were modeled using peak-hour traffic volumes (refer to Figure 2-16, Receptors). Future traffic noise levels were assumed to be the worst-case traffic operations at future year 2030 with-project conditions. Refer to Table 2-17 for existing and projected noise levels.

## **PERMANENT IMPACTS**

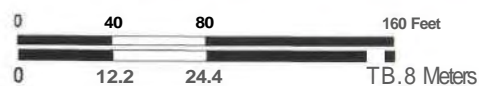
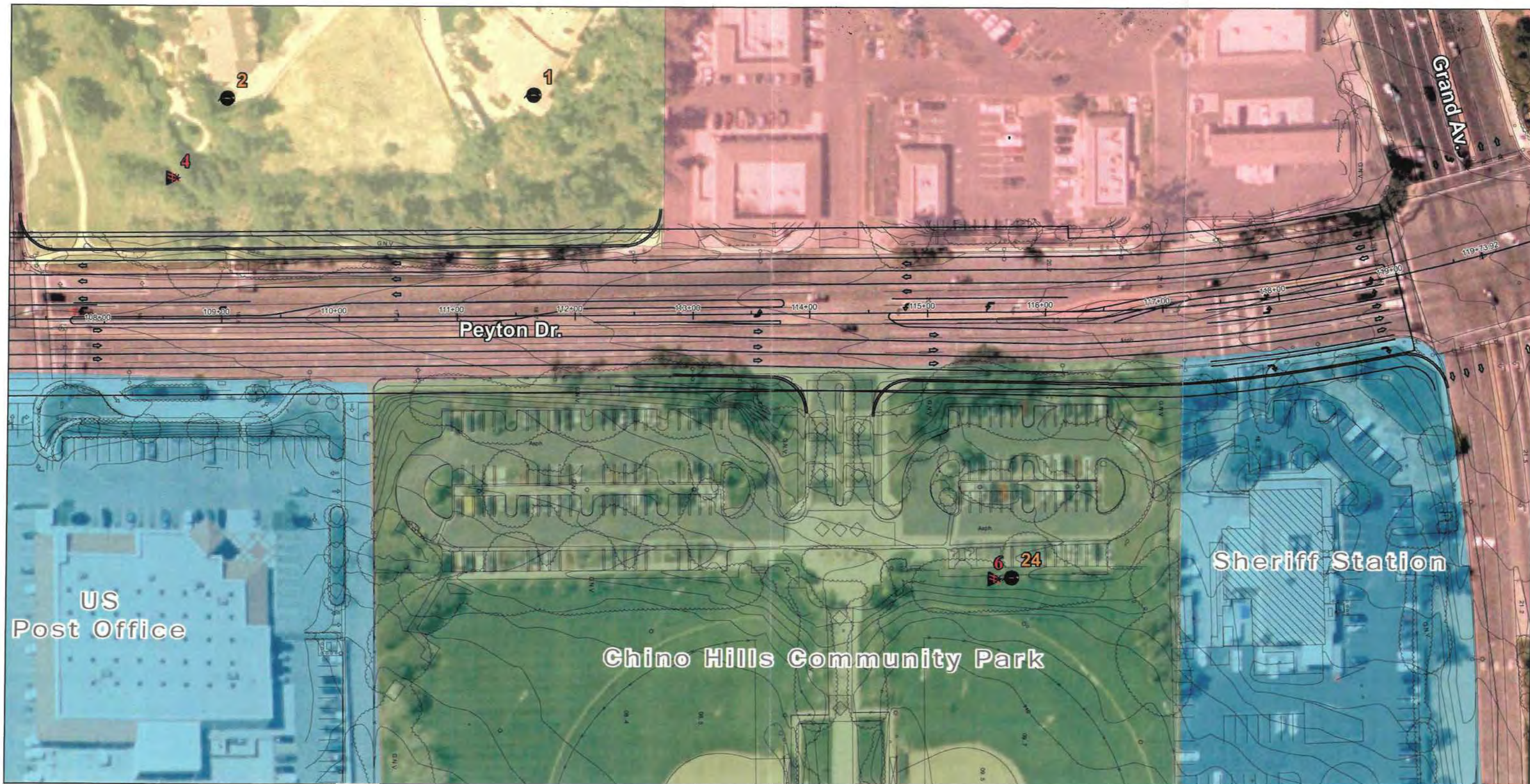
### ***Build Alternative***

Noise levels of the project are analyzed in this section. In addition, future conditions without the project are addressed and compared to the future conditions with the project. As shown in the table below, Receptors 13, 15, 16, and 20 will be exposed to noise levels that either approach (come within 1 dBA) or exceed the noise abatement criteria (67 dBA for residences and 72 dBA for commercial use). They are discussed individually below:

Receptors 13: Receptor 13 represents an existing church on Peyton Drive. As property access is via a driveway and pedestrian walkway onto Peyton Drive, it is not feasible to abate traffic noise with sound walls.

Receptor 15, 16: This location represents the Oakmont Senior Living retirement apartments. The building is approximately 80 feet from the roadway centerline. Property access via driveway onto Peyton Drive are proposed at four locations, therefore it is not feasible to abate traffic noise with noise barriers.

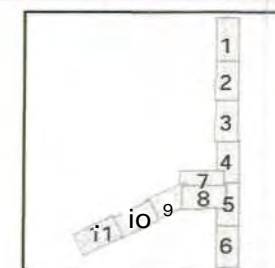
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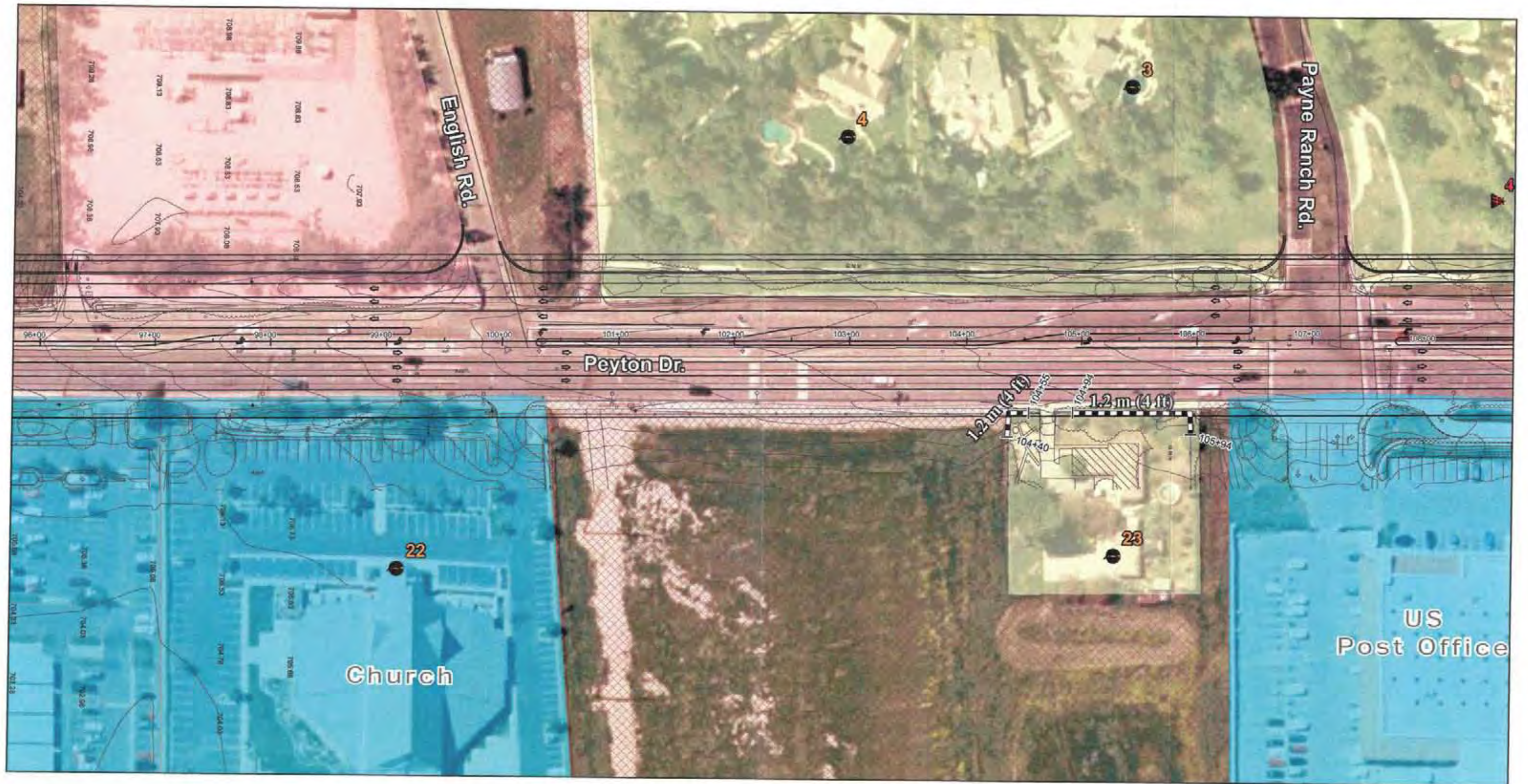
**Legend**

- = « Existing Wall
- Q Receptor Location
- J^ Monitor Location
- Single-Family Residential
- Multi-Family Residential
- Public Facilities / Church
- Open Space / Park
- Commercial
- Vacant

Note: The Eucalyptus Avenue extension from 160 m (530 ft) west of Anthon Drive to Galloping Hills Road will be constructed by the City of Chino Hills prior to the Peyton Drive Widening Project.



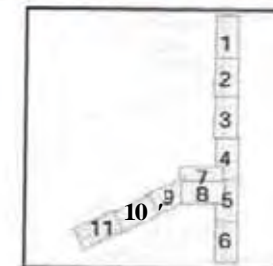
PEYTON DRIVE WIDENING PROJECT  
**Traffic Noise Impact Analysis**  
**Monitoring and Modeled**  
**Receptor Locations**



**Legend**

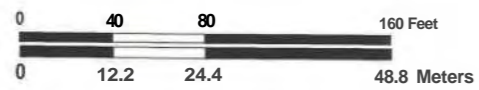
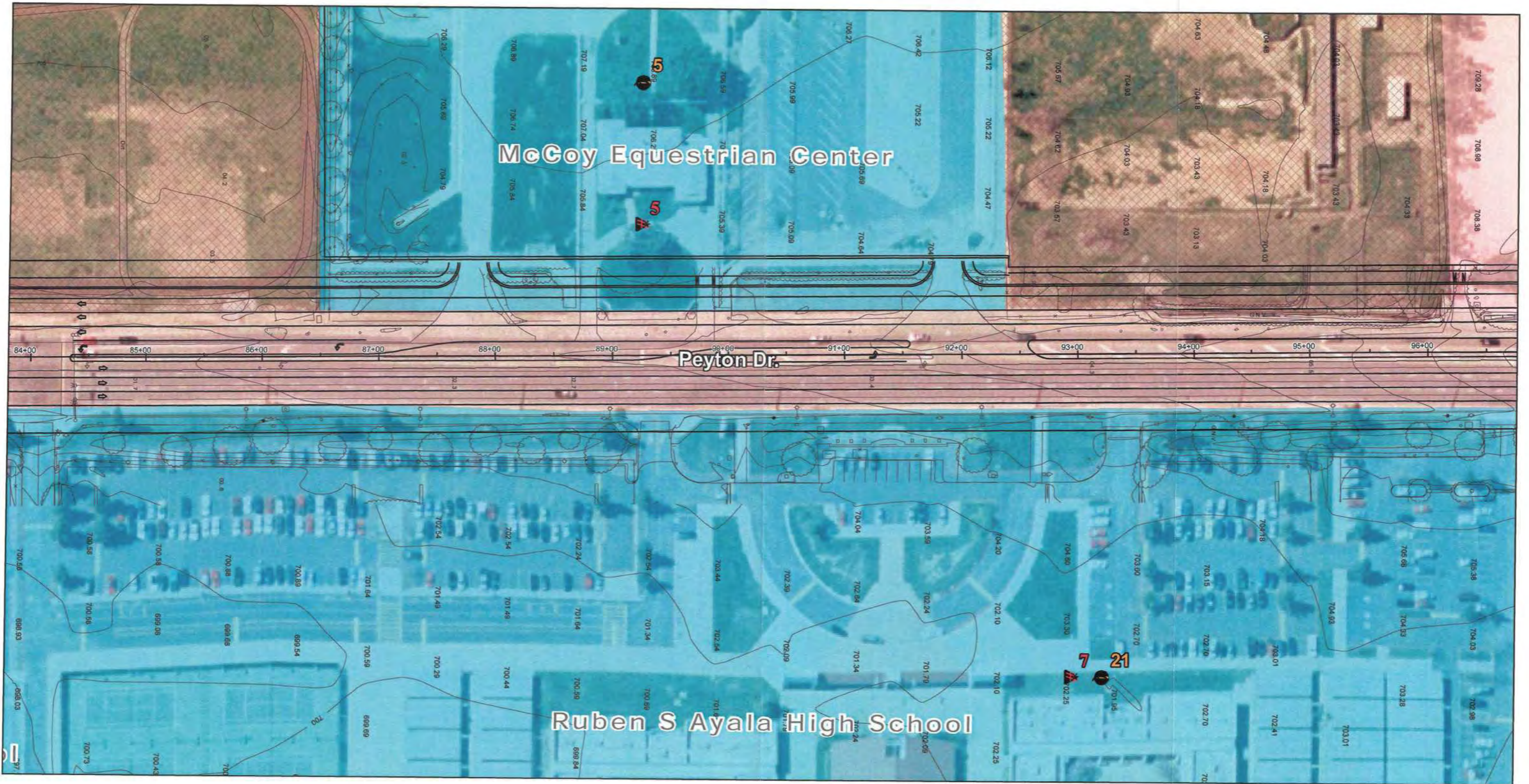
- =•=\* Existing Wall
- Receptor Location
- Jt Monitor Location
- Single-Family Residential
- Multi-Family Residential
- Public Facilities/Church
- Open Space / Park
- Commercial
- Vicart

Note: The Eucalyptus Avenue extension from 160 m (530 ft) west of Peyton Drive to Galloping Hills Road will be constructed by the City of Chino Hills prior to the Peyton Drive Widening Project.



PEYTON DRIVE WIDENING PROJECT  
**Traffic Noise Impact Analysis**  
**Monitoring and Modeled**  
**Receptor Locations**

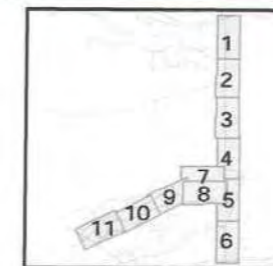
Figure 2-16-2



**Legend**

- ==•==: Existing Wall
- Q Receptor Location
- J^ Monitor Location
- Single-Family Residential
- Multi-Family Residential
- Public Facilities/ Church
- WM Open Space / Park
- CU Commercial
- R^ Vacant

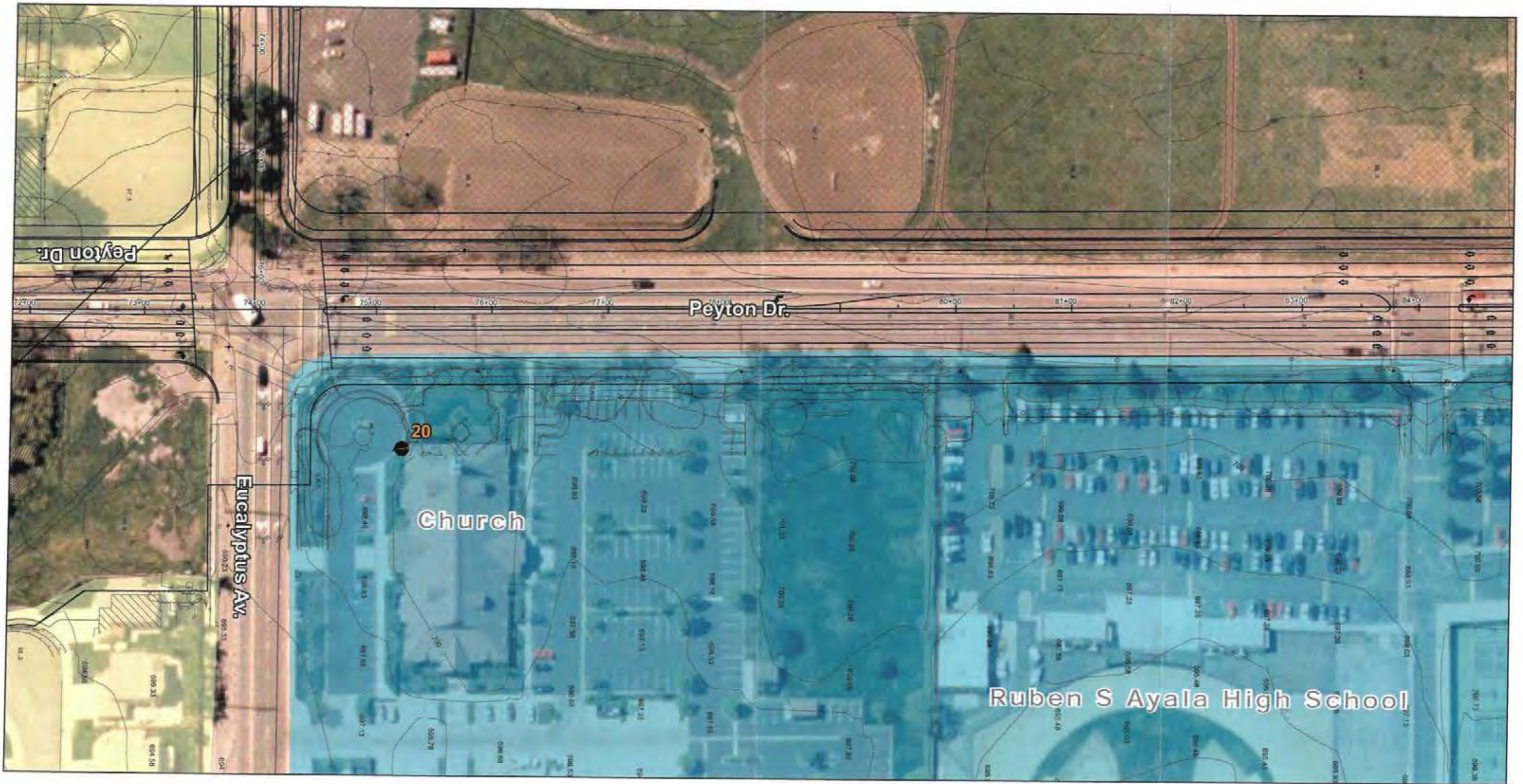
Note: The Eucalyptus Avenue extension from 16.0 m (53.0 ft) west of Peyton Drive to Galloping Hills Road will be constructed by the City of Chino Hills prior to the Peyton Drive Widening Project.



PEYTON DRIVE WIDENING PROJECT  
**Traffic Noise Impact Analysis**  
**Monitoring and Modeled**  
**Receptor Locations**

Figure 2-16-3

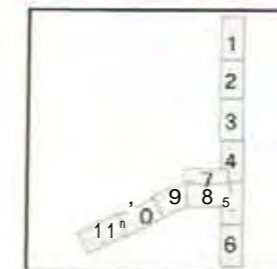




**Legend**

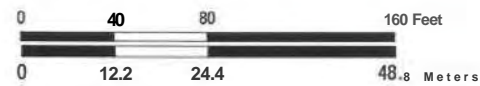
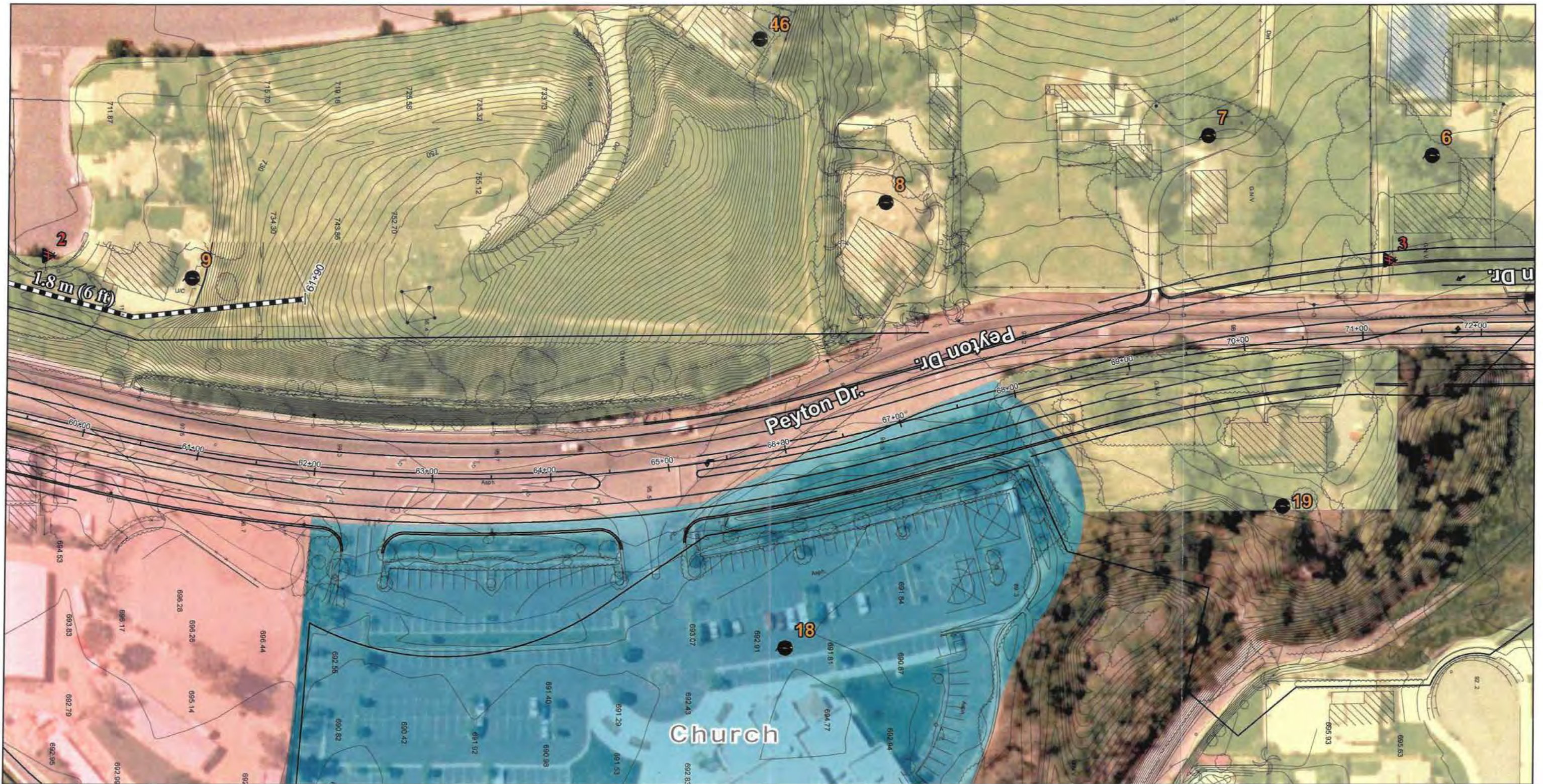
- = "OE Existing Wall
- Q Receptor Location
- A Monitor Location
- Single-Family Residential
- Multi-Family Residential
- WM Public Facilities / Church
- Open Space / Park
- Commercial
- ^ Vacant

Note: The Eucalyptus Avenue extension from 160 m (530 ft) west of Peyton Drive to the Hills Road will be constructed by the City of Chino Hills prior to the Peyton Drive Widening Project.



PEYTON DRIVE WIDENING PROJECT  
**Traffic Noise Impact Analysis  
 Monitoring and Modeled  
 Receptor Locations**

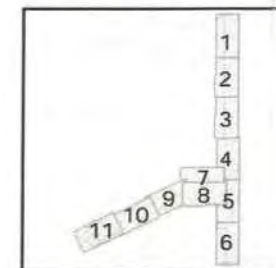
Figure 2-16-4



**Legend**

- ^ c i Existing Wall
- ( ) Receptor Location
- JL Monitor Location
- Single-Family Residential
- Multi-Family Residential
- Public Facilities/Church
- Open Space / Park
- Commercial
- Vacant

Note: The Eucalyptus Avenue extension from 160 m (530 ft) west of Peyton Drive to Galloping Hills Road will be constructed by the City of Chino Hills prior to the Peyton Drive Widening Project.

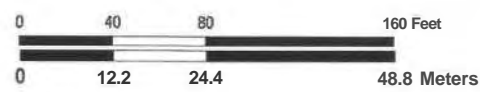


PEYTON DRIVE WIDENING PROJECT  
**Traffic Noise Impact Analysis  
 Monitoring and Modeled  
 Receptor Locations**



10/16/06 JN 65-100044-11126

Figure 2-16-5



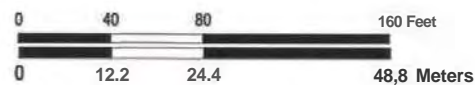
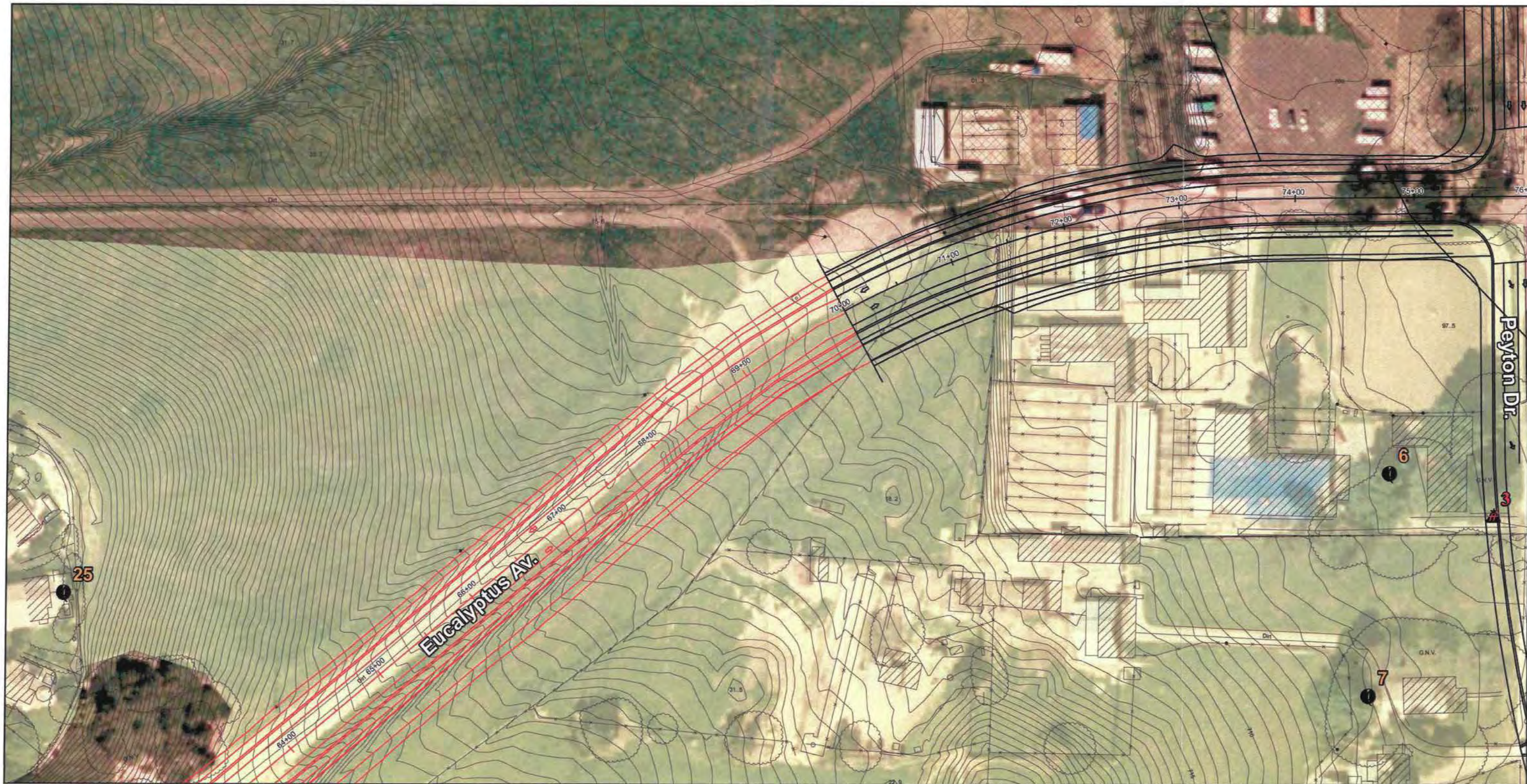
**Legend**

- Existing Wall
- ▲ Receptor Location
- ▲ Monitor Location
- Single-Family Residential
- Multi-Family Residential
- Public Facilities/Church
- Open Space / Park
- Commercial
- Vacant

Note: The Eucalyptus Avenue extension from 16.0 m (530 ft) west of Peyton Drive to Galloping Hills Road will be constructed by the City of Chino Hills prior to the Peyton Drive Widening Project.



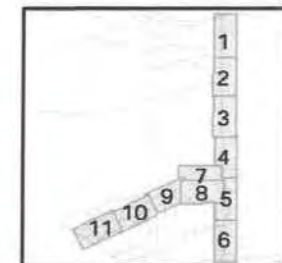
PEYTON DRIVE WIDENING PROJECT  
**Traffic Noise Impact Analysis**  
**Monitoring and Modeled**  
**Receptor Locations**



**Legend**

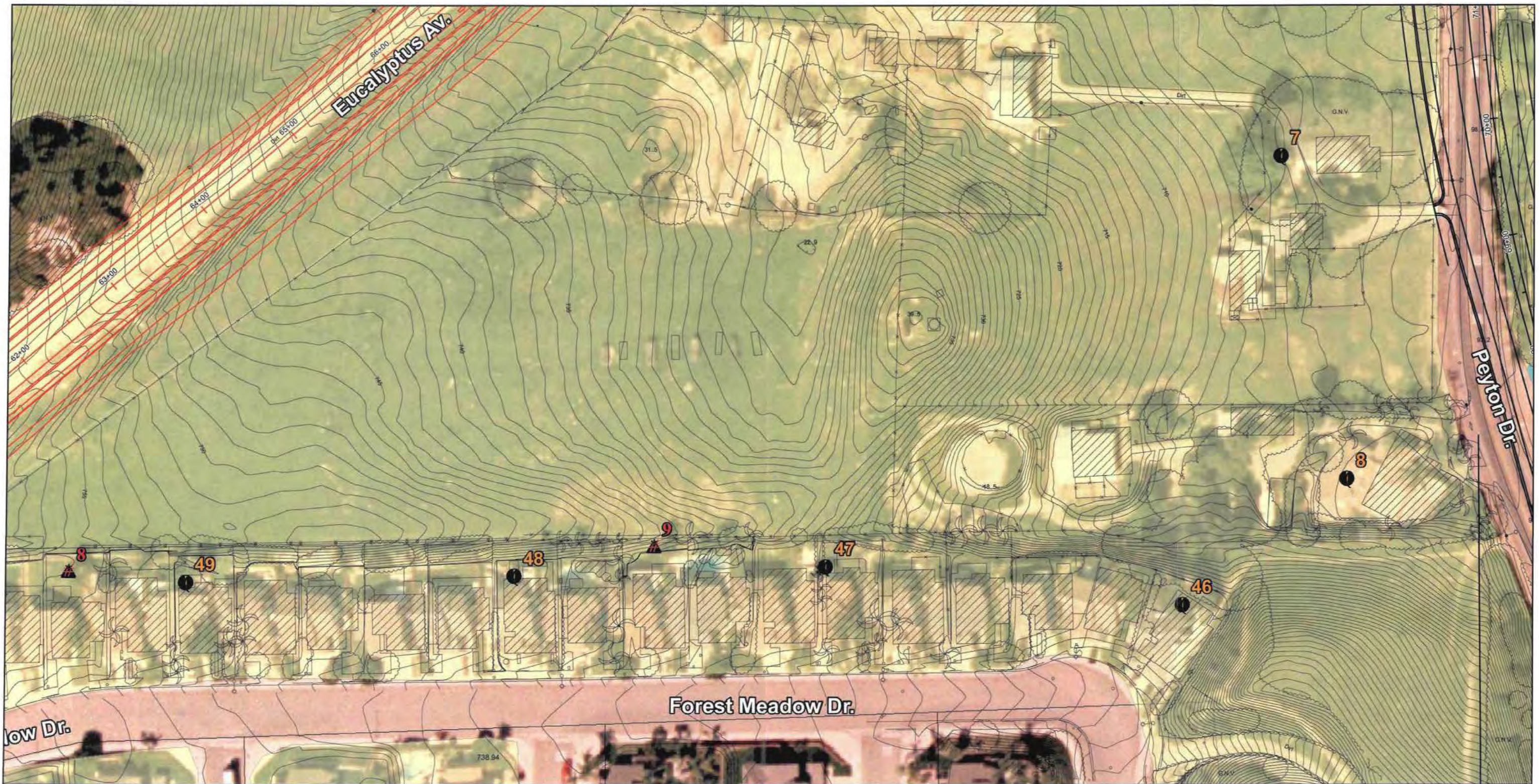
- == Existing Wall
- Q Receptor Location & Monitor Location
- J Single-Family Residential
- J Multi-Family Residential
- Public Facilities / Church
- Open Space / Park
- Commercial
- Vacant

Note: The Eucalyptus Avenue extension from 16.0 m (53.0 ft) west of Fty+00 Drive to Galloping Hills Road will be constructed by the City of Chino Hills prior to the Peyton Drive Widening Project.



PEYTON DRIVE WIDENING PROJECT  
**Traffic Noise Impact Analysis**  
**Monitoring and Modeled**  
**Receptor Locations**

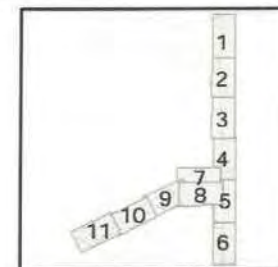
Figure 2-16-7



Legend

- == Existing Wall
- {^ Receptor Location
- JL Monitor Location
- Single-Family Residential
- Multi-Family Residential
- Public Facilities/Church
- Open Space / Park
- Commercial
- Vacant

/// Note: The Eucalyptus Avenue extension from 160 m (530 ft) west of Peyton Dr. will be constructed by the City of Chino Hills prior to the Peyton Drive Widening Project.



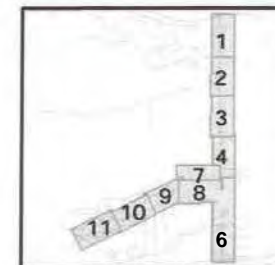
PEYTON DRIVE WIDENING PROJECT  
**Traffic Noise Impact Analysis**  
**Monitoring and Modeled**  
**Receptor Locations**



Legend

- 3 C M Existing Wall
- 0 Receptor Location
- A Monitor Location
- J Single-Family Residential
- EH Multi-Family Residential
- Public Facilities / Church
- Open Space / Park
- Commercial
- Vacant

Note: The Eucalyptus Avenue extension from 160 m (530 ft) west of Peyton Drive to Galloping Hills Road will be constructed by the City of Chino Hills prior to the Peyton Drive Widening Project.



PEYTON DRIVE WIDENING PROJECT  
**Traffic Noise Impact Analysis**  
**Monitoring and Modeled**  
**Receptor Locations**

Figure 2-16-9



**Legend**

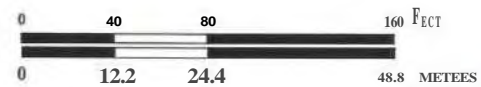
- Existing Wall
- Receptor Location
- Monitor Location
- Single-Family Residential
- Multi-Family Residential
- Public Facilities / Church
- Open Space / Park
- Commercial
- Vacant

Note: The Eucalyptus Avenue extension from 160 m (530 ft) west of Peyton Drive to Galloping Hills Road will be constructed by the City of Chino Hills prior to the Peyton Drive Widening Project.



PEYTON DRIVE WIDENING PROJECT  
**Traffic Noise Impact Analysis**  
**Monitoring and Modeled**  
**Receptor Locations**

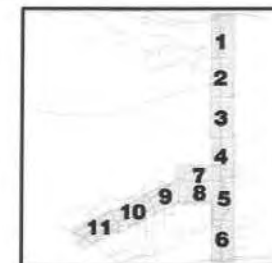
Figure 2-16-10



**Legend**

- Existing Wall
- Receptor Location
- Monitor Location
- Single-Family Residential
- Multi-Family Residential
- Public Facilities / Church
- Open Space / Park
- Commercial
- Vacant

Note: The Eucalyptus Avenue extension from 160 m (160 ft) west of Peyton Drive to Galloping Hills Road will be constructed by the City of Chino Hills prior to the Peyton Drive Widening Project.



PEYTON DRIVE WIDENING PROJECT  
**Traffic Noise Impact Analysis**  
**Monitoring and Modeled**  
**Receptor Locations**

Figure 2-16-11



Receptor 20: This location represents an existing church located on the northeastern corner of Peyton Drive and Eucalyptus Avenue. The church has driveway access onto Peyton Drive and Euclayptus Avenue; therefore, it is not feasible to abate traffic noise using sound walls.

**TABLE 2-17. EXISTING AND PROJECTED NOISE LEVELS**

Receptor	Location	Noise Level (dBA)				Impacts
		Existing	Future without Project	Future 2030	Change from Existing	
1	Peppertree Point	62	63	64	2	None
2	Peppertree Point	61	63	64	3	None
3	Giant Forest Loop	61	62	63	2	None
4	Giant Forest Loop	62	63	64	2	None
5	Peyton Drive	56	57	58	2	None
6	Peyton Drive	56	57	NA	NA	None
7	Peyton Drive	60	61	62	2	None
8	Peyton Drive	62	62	62	0	None
9	Cottontail Drive	54	54	55	1	None
10	Cottontail Drive	61	61	62	1	None
11	Lost Trail Drive	62	62	63	1	None
12	Peyton Drive	60	60	61	1	None
13	Peyton Drive	65	65	67	3	A/E
14	Peyton Drive	62	64	64	2	None
15	Chino Hills Parkway/SR-142	64	64	67	3	A/E
16	Peyton Drive	64	65	69	5	A/E
17	Peyton Drive	63	63	66	3	None
18	Peyton Drive	660	60	62	2	None
19	Peyton Drive	61	62	N/A	NA	None
20	Peyton Drive	63	65	66	3	A/E
21	Peyton Drive	57	58	59	2	None
22	Peyton Drive	59	60	60	1	None
23	Peyton Drive	62	63	63	1	None
24	Peyton Drive	60	61	61	1	None
25	Buckhaven Road	51	60	60	9	None
26	Buckhaven Road	53	62	62	9	None
27	Buckhaven Road	56	62	62	6	None
28	Buckhaven Road	56	61	61	5	None
29	Buckhaven Road	57	62	62	5	None
30	Buckhaven Road	56	62	62	6	None
31	Buckhaven Road	57	62	62	5	None
32	Buckhaven Road	57	63	63	6	None
33	Buckhaven Road	58	63	63	5	None
34	Buckhaven Road	56	62	62	6	None
35	Buckhaven Road	56	61	61	5	None
36	Buckhaven Road	55	60	61	6	None
37	Mountain Hills Lane	55	60	60	5	None
38	Mountain Hills Lane	56	60	60	4	None

US EPA ARCHIVE DOCUMENT

Receptor	Location	Noise Level (dBA)				Impacts
		Existing	Future without Project	Future 2030	Change from Existing	
39	Point Coupee	56	61	61	5	None
40	Point Coupee	57	62	62	5	None
41	Point Coupee	57	62	62	5	None
42	Point Coupee	57	61	61	4	None
43	Point Coupee	58	61	61	3	None
44	Point Coupee	60	62	63	3	None
45	Point Coupee	62	61	61	2	None
46	Forest Meadow Drive	56	57	58	2	None
47	Forest Meadow Drive	52	54	55	3	None
48	Forest Meadow Drive	50	54	55	5	None
49	Forest Meadow Drive	50	57	57	7	None
50	Forest Meadow Drive	53	60	60	7	None
51	Hidden Springs Circle	54	60	60	6	None
52	Morningfield Drive	53	58	57	4	None
53	Foxwood Road	54	59	59	5	None
54	Maplewood Drive	56	61	61	5	None
55	Skycrest Lane	55	60	60	5	None
56	Skycrest Lane	48	52	52	4	None
57	Calle Lumina	48	52	52	4	None
58	Calle Lumina	45	49	49	4	None
59	Del Sol Court	50	54	54	4	None
60	Pusta Del Sol	48	52	52	4	None
61	Calle Primavera	51	55	55	4	None
62	Calle Lado Bueno	50	53	53	3	None
63	Calle Luna	55	60	60	5	None
64	Del Sol Court	56	60	60	4	None
65	Calle Vista	56	60	60	4	None
66	Calle Vista	56	59	59	3	None

Source: *Noise Impact Analysis*, July 2005.  
Note: A/E - Approach or exceed. Noise level approaches or exceeds the noise abatement criteria

Churches located along Peyton Drive would not experience interior noise levels exceeding the interior noise standard of 52 dBA Leq with windows closed. It is assumed that these existing church buildings are equipped with ventilation systems, such as air conditioning, to ensure windows can remain closed for a prolonged period of time. Interior noise level measurements were conducted inside Ruben S. Ayala High School classrooms nearest to Peyton Drive. The noise measurements indicated interior noise levels of 44 dBA Leq. School classrooms would not experience traffic noise levels exceeding the interior noise standard of 52 dBA Leq.

## TEMPORARY IMPACTS

Project construction will require a concentrated effort by the contractor, using a variety of equipment such as bulldozers, backhoes, compaction equipment, pile drivers (for concrete piles), cranes, concrete and asphalt paving equipment, and large trucks.

Two types of short-term construction noise impacts would occur during implementation of the proposed project. Construction crew commuting trips and the transport of construction equipment and materials to the site would incrementally raise noise levels on access roads in the area. Once equipment is moved onto the site it will remain for the duration of each construction phase and will not add to the daily traffic volume in the project vicinity. There will be a high single event noise exposure potential at a maximum level of 87 dBA  $L_{max}$  when trucks pass at 15-m (50-ft). Long-term noise level changes will not be perceptible. Construction-related worker commutes and equipment transport noise impacts would not be substantial.

The second type of construction-related noise impact is related to noise generated during excavation, grading, and roadway construction. Construction of the proposed project will involve the use of earthmovers, bulldozers, water trucks, pickup trucks and various other equipment. The nearest sensitive receptors are located 15-m (50-ft) from the project construction area and may be subject to short-term noise levels reaching 95 dBA  $L_{max}$  generated by activities along the project's alignment. Noise anticipated with the use of construction equipment is estimated to be between 79 and 89 dBA  $L_{max}$  at a distance of 15-m (50-ft) from the construction area for the grading phase. Each doubling of the number of equipment with equal strength increases the noise level by 3 dBA. The maximum composite noise level at the nearest residence during the grading phase of construction is anticipated to be 91 dBA  $L_{max}$  at a distance of 15-m (50-ft) from the construction area, according to the *Noise Impact Analysis*. The following table (Table 2-18) lists typical construction equipment noise levels anticipated to be experienced with implementation of the proposed project.

**TABLE 2-18. Typical Construction Equipment Noise Level**

Equipment	Range of Sound Level (dBA at 15 m)	Anticipated Sound Level (dBA at 15 m)
Pile Driver	81-96	93
Rock Drills	83-99	96
Jackhammers	75-85	82
Pneumatic Tools	78-88	85
Pumps	74-84	80

Equipment	Range of Sound Level (dBAat15m)	Anticipated Sound Level (dBAat15m)
Bulldozers	77-90	85
Scrapers	83-91	87
Haul Trucks	83-94	88
Cranes	79-86	82
Portable Generators	71-87	80
Rollers	75-82	80
Tractors	77-82	80
Front-End Loaders	77-90	86
Hydraulic Backhoe	81-90	86
Hydraulic Excavators	81-90	86
Graders	79-89	86
Air Compressors	76-89	86
Trucks	81 -87	86

Source: *Noise Impact Analysis*, July 2005.

The site preparation phase, which includes grading and paving of the median, tends to generate the highest noise levels because the types of equipment being used (including backfillers, bulldozers, front loaders, scrapers and graders) are the noisiest. Typical operations of these types of equipment involve one or two minutes of full-power operation followed by three to four minutes at lower power settings.

To minimize construction noise impacts on sensitive land adjacent to the project site, construction noise is regulated by the Department's Standard Specifications, Section 5-1, *Sound Control Requirements*, in the Standard Special Provisions. Furthermore, construction activities are short-term and temporary in nature and will cease upon project completion. Construction is not proposed to occur outside of City approved hours and will comply with applicable noise ordinance standards.

**AVOIDANCE, MINIMIZATION AND/OR ABATEMENT MEASURES**

- N1. The City of Chino Hills limits the hours of construction adjacent to residential or sensitive land uses to the hours between 7:00 a.m. and 7:00 p.m. from Monday through Friday and the hours between 8:00 a.m. and 7:00 p.m. on Saturday. Construction activities are prohibited on Sundays and Federally recognized holidays. Furthermore, construction noise is regulated by Department Standard Specifications, Section 5-1 "Sound Control Requirements," in the Standard Special Provisions. The project will comply with applicable provisions.

## 2.3 Biological Environment

### 2.3.1 Natural Communities

The focus of this section is on natural biological communities of concerns and not individual plant or animal species. This section also includes information on wildlife corridors and habitat fragmentation. Wildlife corridors are areas of habitat used by wildlife for seasonal or daily migration. Habitat fragmentation may divide sensitive habitat and thereby lessen its biological value.

Wetlands and other waters are also discussed below in Section 2.3.2. Habitat areas that have been designated as critical habitat under the Federal Endangered Species Act are discussed below under Threatened and Endangered Species (Section 2.3.5).

The proposed project's Biological Study Area (BSA) includes approximately 2.2-km (1.3-mi) of the existing ROW of Peyton Drive, 550-m (1,800-ft) to be constructed along an existing dirt road to connect into the existing Eucalyptus Drive, approximately 244-m (800-ft) along English Canyon Channel, and approximately 305-m (1,000-ft) adjacent to English Canyon Channel for construction of a berm. Along Peyton Drive, the study area includes all areas within the proposed Peyton Drive ROW and includes an approximately 244-m (800-ft) long area consisting of a landscaped manufactured slope adjacent to the high-voltage power line located north of Morning Field Drive that was assessed as part of the proposed alternatives. The portion along English Canyon Channel includes approximately 107-m (350-ft) that will be cut off from the natural flow once the stream is diverted through the proposed flood control structure. The study area also includes approximately 305-m (1,000-ft) along English Canyon Channel upstream from the flood control structure that will be adjacent to the proposed berm that will be constructed east of the channel. Refer to Figure 2-17, Biological Study Area.

## AFFECTED ENVIRONMENT

### *Vegetation Types*

The only native plant community within the proposed project site is the riparian woodland habitat. This habitat consists of wetlands and provides habitat for the listed least Bell's vireo and southwestern willow flycatcher. There are approximately 1.52 ha (3.76 ac) of willow riparian habitat within the study area. This habitat is regulated by the Army Corps of Engineers (ACOE), RWQCB, and California Department of Fish and Game (CDFG). In addition, this habitat is considered to be sensitive because it provides habitat for endangered bird species. No other natural communities of special concern are

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 BIOLOGICAL STUDY AREA    
  3 PASTURE

 RIPARIAN HABITAT

 DEVELOPED/RUDERAL  
 (Existing Peyton Drive roadway and shoulder, and adjacent development, including ruderal and ornamental species associated with existing development.)

 not to scale  
 6/2/04 JN 65-100044-11126

PBT ON DRIVE WDE NNG PROJECT  
**Biological Study Area  
 and Vegetation**



- PROJECT BOUNDARY
- RIPARIAN WOODLAND
- PERMANENT IMPACTS TO RIPARIAN WOODLAND

Peyton Drive Widening Project  
**Impacts to Riparian Woodland**



present within the proposed project site. Refer to Figure 2-18, Impacts to Riparian Woodlands.

### *Developed*

Developed areas consist of structures, paved areas, and associated landscaping adjacent to Peyton Drive and Eucalyptus Avenue. Plants found in this vegetation type consist of non-native ornamental species, which offer very little habitat value for native species. The shoulders and adjacent areas within the Peyton Drive improvement alignment are vegetated by non-native ruderal vegetation or ornamental trees and shrubs, such as eucalyptus trees (*Eucalyptus* sp.), pepper trees (*Schinus molle*), Bermuda grasses (*Cynodon* spp.), short-pod mustard (*Hirschfeldia incana*), Russian thistle (*Salsola iberica*), and brome grasses (*Bromus diandrus* and *B. madritensis*). The Eucalyptus Avenue alignment is also characterized by non-native ruderal vegetation and includes wild oat (*Avena fatua*), Italian ryegrass (*Lolium multiflorum*), short-pod mustard, Russian thistle, and brome grasses. Very minimal amounts of native vegetation are interspersed throughout the proposed project site, including California poppy (*Eschscholzia californica*) and fiddleneck (*Amsinckia menziesii*).

The English Canyon Channel consists of the riparian woodland community and is dominated by arroyo willow (*Salix lasiolepis*) and red willow (*Salix laevigata*). Other species observed includes mule fat (*Baccharis salicifolia*), fan palm (*Washingtonia* sp.), dock (*Rumex* sp.), sycamore (*Platanus racemosa*), cattails (*Typha* sp.), watercress (*Rorippa curvisiliqua*), flatsedge (*Cyperus* sp.), wild radish (*Raphanus sativus*), and milk thistle (*Silybum marianum*).

### **Wildlife Corridors**

Wildlife corridors link together areas of suitable wildlife habitat that are otherwise separated by rugged terrain, changes in vegetation, or human disturbance. The fragmentation of open space areas by urbanization creates isolated "islands" of wildlife habitat. In the absence of habitat linkages that allow movement to adjoining open space areas, various studies have concluded that some wildlife species, especially the larger and more mobile mammals, will not likely persist over time in fragmented or isolated habitat areas because such habitat prohibits the infusion of new individuals and genetic material. Corridors mitigate the effects of this fragmentation by: (1) allowing animals to move between remaining habitats, thereby permitting depleted populations to be replenished and promoting genetic exchange; (2) providing escape routes from fire, predators, and human disturbances, thus reducing the risk that catastrophic events, such as fire or disease, will result in population or local species extinction; and (3) serving as travel

routes for individual animals as they move in their home ranges in search of food, water, mates, and other necessary resources.

English Canyon Channel may be utilized as a migration corridor for bird species migrating to the Prado Basin (located approximately 6.4-km [4-mi] downstream), which provides dense riparian habitat for migratory birds and other species. English Canyon Channel is concrete-lined approximately 457-m (1,500-ft) east of Peyton Drive. This concrete portion and the existing 122-m (400-ft) long portion that is under Peyton Drive restrict the usage of the channel as a migration corridor for ground-moving species.

## **PERMANENT IMPACTS**

### ***Build Alternatives***

The proposed project site is located within a primarily urbanized area and comprises of developed and willow riparian scrub habitat. Most of the site is developed (paved streets) and adjacent ruderal land or gravel along the road shoulder with ornamental landscaped species. The Eucalyptus Avenue alignment is characterized by non-native grasslands and an existing residence and horse stables. The English Canyon Channel is characterized by riparian scrub habitat.

The proposed project will permanently impact 0.34-ha (0.85-ac) of riparian woodland community, including impacts resulting from the dewatering (flow diversion) and fill of approximately 107-m (350-ft) of habitat northwest of Peyton Drive and Eucalyptus Avenue and resulting from the construction of the new culvert and associated riprap. This reach of the stream and associated habitat are utilized by the listed least Bell's vireo and southwestern willow flycatcher. (See discussions regarding these species in Section 2.3.5.)

### ***No Build Alternative***

Under the No Build Alternative, no new construction would occur and there would be no new impacts on natural communities on the project site.

## **TEMPORARY IMPACTS**

The proposed project will consist of 0.08-ha (0.2-ac) of temporary impacts to the riparian woodland community. All indirect and temporary impacts as a result of construction activities, including staging and equipment areas, are assumed to be contained within the project study area. Grading activities would disturb soils and result in the accumulation of dust on the surface of the leaves of trees and shrubs. The respiratory function of the plants in the area would be impaired when dust accumulation is excessive. The indirect

effect of construction of the proposed Build Alternative on the native vegetation in the immediate vicinity of the construction area is not considered to adversely affect native vegetation, because it would not reduce plant populations below self-sustaining levels. Therefore, no mitigation would be required.

## **AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES**

Refer to biological minimization measures TE1 through TEH referenced in Section 2.3.5, Threatened and Endangered Species.

### **2.3.2 Wetlands and Other Waters**

Wetlands and other waters are protected under a number of laws and regulations. At the Federal level, the CWA (33 U.S.C. 1344) is the primary law regulating wetlands and waters. The CWA regulates the discharge of dredged or fill material into waters of the United States, including wetlands. Waters of the United States include navigable waters, interstate waters, territorial seas and other waters that may be used in interstate or foreign commerce. To classify wetlands for the purposes of the CWA, a three-parameter approach is used that includes the presence of hydrophytic (water-loving) vegetation, wetland hydrology, and hydric soils (soils subject to saturation/inundation). All three parameters must be present, under normal circumstances, for an area to be designated as a jurisdictional wetland under the CWA.

Section 404 of the CWA establishes a regulatory program that provides that no discharge of dredged or fill material can be permitted if a practicable alternative exists that is less damaging to the aquatic environment or if the nation's waters would be significantly degraded. The Section 404 permit program is run by the ACOE with oversight by the EPA.

E.O. 11990, Protection of Wetlands, also regulates the activities of Federal agencies with regard to wetlands. Essentially, this executive order states that a Federal agency, such as FHWA, cannot undertake or provide assistance for new construction located in wetlands unless the head of the agency finds that (1) there is no practicable alternative to the construction and (2) the proposed project includes all practicable measures to minimize harm.

At the State level, wetlands and waters are regulated primarily by the CDFG and the RWQCB. In certain circumstances, the California Coastal Commission (or Bay Conservation and Development Commission) may also be involved. Sections 1600-1607 of the Fish and Game Code require any agency that proposes a project that will

substantially divert or obstruct the natural flow of or substantially change the bed or bank of a river, stream, or lake to notify CDFG before beginning construction. If CDFG determines that the project may substantially and adversely affect fish or wildlife resources, a Lake or Streambed Alteration Agreement will be required. CDFG jurisdictional limits are usually defined by the tops of the stream or lake banks, or the outer edge of riparian vegetation, whichever is wider. Wetlands under jurisdiction of the ACOE may or may not be included in the area covered by a Streambed Alteration Agreement (SAA) obtained from the CDFG.

The Regional Water Quality Control Boards were established under the Porter-Cologne Water Quality Control Act to oversee water quality. The RWQCB also issues water quality certifications in compliance with Section 401 of the CWA. Please see the Water Quality section for additional details.

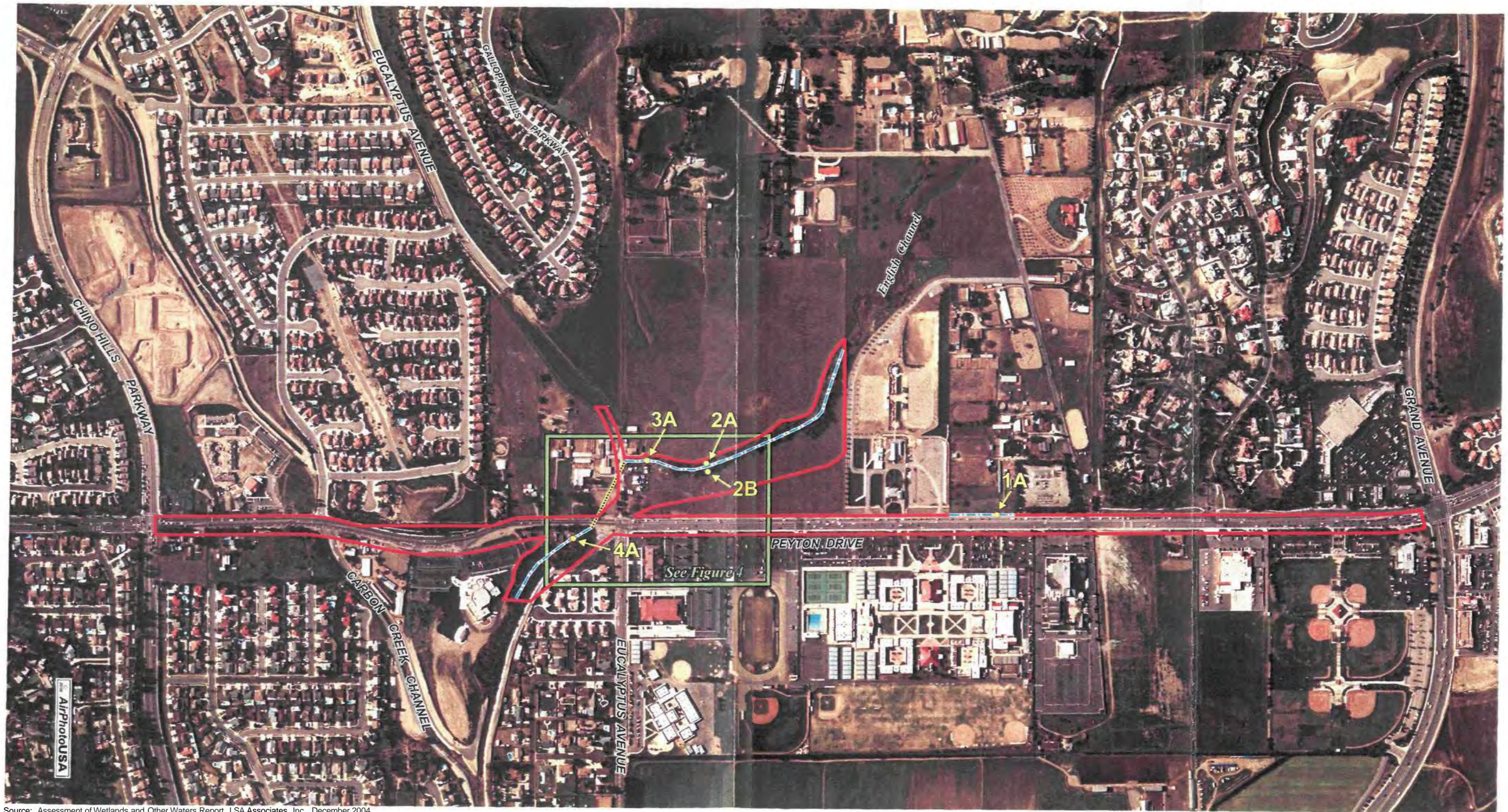
***"Waters of the (U.S.)", Non-wetland Determination***

ACOE non-wetland waters of the U.S. are delineated based on the limits of the ordinary high mark (OHWM) as determined by erosion, the deposition of vegetation or debris, and changes in the vegetation.

***CDFG Determination***

Jurisdictional limits of the CDFG are not as clearly defined by regulation as those of the Corps. While they closely resemble the limits described by ACOE regulations, they include riparian habitat supported by a river, stream, or lake regardless of the presence or absence of hydric soils and saturated soil conditions. Generally, the CDFG takes jurisdiction to the top of the stream bank or to the outer limit of the adjacent riparian vegetation (outer drip line), whichever is greater. Notification is generally required for any project that will take place in or in the vicinity of a river, stream, lake, or their tributaries. This includes rivers or streams that flow at least periodically or permanently through a bed or channel with banks that support fish or other aquatic life and watercourses having a surface or subsurface flow that support or have supported riparian vegetation.

An Assessment of Wetlands and Other Waters Report was completed by LSA Associates dated March 2005. The purpose of the report was to identify areas that may be considered jurisdictional waters and subject to regulation under Section 401 and 404 of the CWA, and Sections 1600-1616 of the California Fish and Game Code.



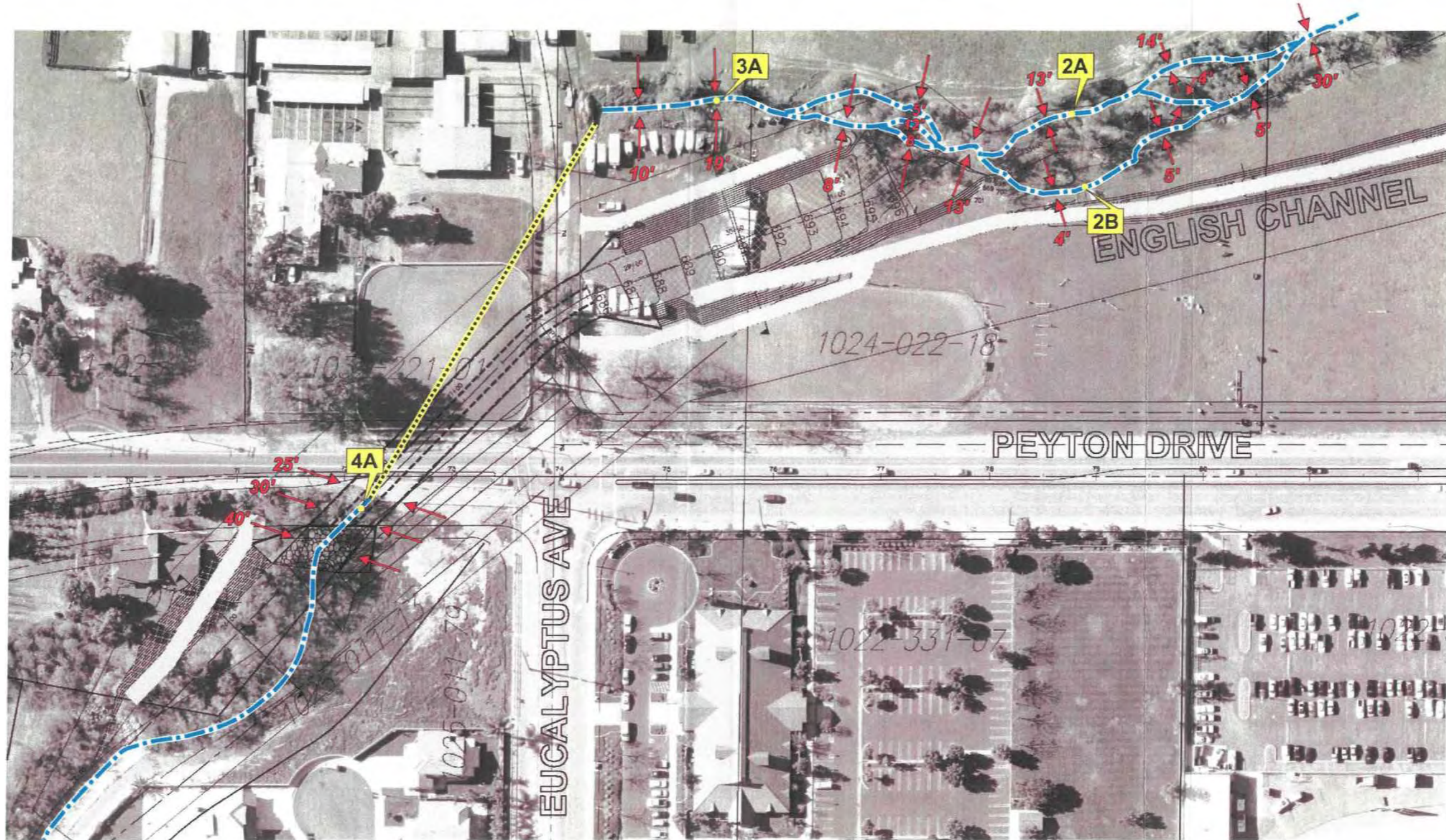
Source: Assessment of Wetlands and Other Waters Report, LSA Associates, Inc. December 2004.

 SAMPLE PLOT  
  WATERS OF THE U.S.. STREAMBED\*  
  STUDY AREA  
  EXISTING 36" CORRUGAIED METAL PIPE



\*NOTE: JURISDCITIONAL DETERMINATION SUBJECT TO VERIFICATION BY U.S. ARMY CORPS OF ENGINEERS, REGIONAL WATER QUALITY CONTROL BOARD, AND CALIFORNIA DEPARTMENT OF FISH AND GAME.

PEYTON DRIVE WIDENING PROJECT  
**Jurisdictional Waters of the U.S.**

Figure 2-19



Source: Assessment of Wetlands and Other Waters Report, LSA Associates, Inc. December 2004.

-  SAMPLE PLOTS
-  ORDINARY HIGH WATER MARKS
-  WATERS OF THE U.S. - STREAM BED\*
-  EXISTING 36" CORRUGATED METAL PIPE

\*NOT! JURISDICTIONAL DETERMINATION SUBJECT TO VERIFICATION BY THE U.S. ARMY CORPS OF ENGINEERS, REGIONAL WATER QUALITY CONTROL BOARD, AND THE CALIFORNIA DEPARTMENT OF FISH AND GAME.

PEYTON DRIVE WIDENING PROJECT

### Jurisdictional Waters Along the English Channel

Figure 2-20

## AFFECTED ENVIRONMENT

The proposed project is within the jurisdiction of the Santa Ana RWQCB, which is responsible for the administration of Section 401 of the Clean Water Act. The CDFG, through provisions of the California Fish and Game Code (Sections 1600-1616), is empowered to issue agreements for any alteration of a river, stream or lake where fish or wildlife resources may be adversely affected. Streams (and rivers) are defined by the presence of a channel bed and banks, and at least an intermittent flow of water. CDFG regulates wetland areas only to the extent that those wetlands are part of a river, stream, or lake as defined by the CDFG. Refer to Figure 2-19, Jurisdictional Waters of the U.S., and Figure 2-20, Jurisdictional Waters Along the English Channel.

### ***Wetland Determination***

ACOE jurisdictional wetlands are delineated using the methods outlined in the ACOE *Wetland Delineation Manual* (1987). The methodology set forth in the manual is based on the following three indicators that are normally present in wetlands: (1) hydrology providing permanent or periodic inundation by groundwater or surface water, (2) hydric soils, and (3) hydrophytic vegetation. To be considered a wetland, an area must exhibit at least minimal hydric characteristics within these three (3) parameters.

The English Canyon Channel is considered to be an ACOE jurisdictional wetland and would require ACOE authorization for impacts on jurisdictional waters, as well as a Section 401 Water Quality Certification from the RWQCB. The drainage is also considered to be a CDFG jurisdictional streambed and would require an SAA.

## PERMANENT IMPACTS

### ***Build Alternatives***

Based on the results of the field investigations, it was determined that the project will result in the impact to 0.11 hectares of permanent and 0.01 hectares (0.02 acres) of temporary impacts of wetlands.

### ***No Build Alternative***

Under the No Build Alternative, no new construction would occur and there would be no jurisdictional impacts.

## **TEMPORARY IMPACTS**

The construction of the proposed project would temporarily impact 0.01 hectare (0.02-acre) of wetlands.

## **AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES**

WL1. Due to impacts to the English Canyon Channel, the project will require a 404 permit from the ACOE, a 1602 SAA from the CDFG, and a Section 401 Water Quality Certification from the RWQCB. For impacts on non-wetland waters, typical mitigation measures required by the regulatory agencies (ACOE, CDFG, and RWQCB) include the following:

On-site preservation enhancement.

- Offsite preservation through the purchase of suitable habitat or participation in an existing mitigation bank.
- On-site treatment of flows from developed surfaces prior to such flows entering waters of the U.S. (e.g., mechanical filters, bio-swales, or other similar post-construction BMPs).
- No work will be performed within the English Canyon Channel during periods of excessive water flow.

### **2.3.3 Plant Species**

The USFWS and CDFG share regulatory responsibility for the protection of special-status plant species, which are selected for protection because they are rare and/or subject to population and habitat declines. Special status is a general term for species that are afforded varying levels of regulatory protection. The highest level of protection is given to threatened and endangered species; these are species that are formally listed or proposed for listing as endangered or threatened under the Federal Endangered Species Act (FESA) and/or the California Endangered Species Act (CESA). Please see Section 2.3.5, Threatened and Endangered Species, in this document for detailed information regarding these species.

This section of the document discusses all the other special-status plant species, including CDFG fully protected species and species of special concern, USFWS candidate species, and non-listed California Native Plant Society (CNPS) rare and endangered plants.

The regulatory requirements for FESA are in United States Code 16 (USC), Section 1531, et. seq.; see also 50 CFR Part 402. The regulatory requirements for CESA are in



California Fish and Game Code, Section 2050, et. seq. Department projects are also subject to the Native Plant Protection Act in the Fish and Game Code, Section 1900-1913, and CEQA, PRC Sections 2100-21177.

The following is based on information provided in the NES prepared in August of 2004. The data provided in the NES were taken from general surveys of the study area conducted on April 20, 2004.

**AFFECTED ENVIRONMENT**

**Special Status Plant Species**

The following table (Table 2-19) lists the special status plant species that are known to occur from the vicinity of the proposed project.

**TABLE 2-19. Special Status Plant Species**

Scientific Name	Common Name	Status	General Habitat Description	Habitat Present/Absent	Rationale
<b>Plants</b>					
<i>Abronia villosa</i> var. <i>aurita</i>	Chaparral sand-verbena	US:- CA:SP CNPS:1B	Annual herb of sandy areas in chaparral and coastal sage scrub .2 to 1,615.4 meters (250 to 5,300 feet) elevation. Known only from Riverside, Orange (believed extirpated), and San Diego Counties.	Absent	Suitable habitat (chaparral and coastal sage scrub) for this species is not within the proposed project area.
<i>Atriplex coulteri</i>	Coulter's atriplex	US:- CA:SP CNPS: 1B	Perennial herb of alkaline or clay soils in ocean bluffs and ridgetops and alkaline low places in coastal bluff scrub, coastal dunes, coastal sage scrub, and valley and foothill grasslands at 3 to 457 meters (10 to 1,500 feet) elevation. In California, known only from Los Angeles, Orange, Riverside, Santa Barbara, San Bernardino, and San Diego Counties.	Absent	Suitable habitat (native upland habitat and alkaline soils) for this species is not within the proposed project area.
<i>Atriplex serenana</i> var. <i>davidsonii</i>	Davidson's saltscale	US:- CA:SP CNPS: 1B	Annual herb found on alkaline soils in coastal bluff scrub, coastal scrub; typically 10 to 198 meters (33 to 650 feet) in elevation; Los Angeles, Orange, Riverside, Santa Barbra, and Ventura Counties, Channel Islands, and Baja California.	Absent	Proposed project site is outside of the elevational range for this species and suitable habitat (alkaline soils and coastal sage scrub) for this species is not within the proposed project area.
<i>Astragalus brauntonii</i>	Braunton's milkvetch	US: END CA:SP CNPS: 1B	Perennial herb of stiff gravelly clay soils overlying granite or limestone in coastal sage scrub, chaparral and grasslands below 457 meters (1,500 feet). Los Angeles, San Bernardino, Orange, and Riverside Counties. May require fire to clear areas for colonization.	Absent	Suitable habitat (native upland habitat) for this species is not within the proposed project area. The closest record of this species is located in Black Star Canyon quadrangle at Ridge Road between Coal and Gypsum Canyons.
<i>Berberis nevinii</i>	Nevin's barberry	US: END CA: END CNPS:1B	Sandy and gravelly soils at margins of dry washes and coarse soils in chaparral; typically 275 to 825 meters elevations; Los Angeles, San Bernardino, Riverside, and San Diego Counties.	Absent	The perennial shrub was not observed during the site visits.
<i>Brodiaea filifolia</i>	Threadleaved brodiaea	US: THR CA: END CNPS:1B	Clay or alkaline soils; open grasslands at edges of vernal pools or floodplains. Below 1,220 meters elevation. Los Angeles, Orange, Riverside, and San Diego Counties, known from about 20 locations.	Absent	Suitable soils (clay soils) are not present within the proposed project. No records of this species occur in the soil that occurs on-site.

Scientific Name	Common Name	Status	General Habitat Description	Habitat Present/Absent	Rationale
<i>Calochortus plummerae</i>	Plummers mariposa lily	US:- CA:SP CNPS:1B	Perennial herb of sandy or rocky sites of (usually) granitic or alluvial material in valley and foothill grassland, coastal scrub, chaparral, cismontane woodland, and lower montane coniferous forest at 91 to 1,707 meters (300 to 5,600 feet) elevation. Known from the Santa Monica Mountains to San Jacinto Mountains in Riverside, San Bernardino, Los Angeles, and Ventura Counties.	Absent	Suitable habitat (native upland habitat) for this species is not within the proposed project area.
<i>Calochortus weedii</i> var. <i>intermedius</i>	Intermediate mariposa lily	US:- CA:SP CNPS:1B	Rocky areas in hills with annual grassland and coastal sage scrub. Below 610 meters (2,000 feet) elevation. Los Angeles, Orange, and Riverside Counties.	Absent	Suitable habitat (native upland habitat) for this species is not within the proposed project area.
<i>Centromadia (Hemizonia) pungens</i> ssp. <i>laevis</i>	Smooth tarplant	US:- CA:SP CNPS: 1B	Alkaline areas in chenopod scrub, meadows, playas, riparian woodland, valley and foothill grassland; below 610 meters (2,000 feet) elevation. Known from Riverside and San Bernardino Counties; extirpated from San Diego County.	Absent	Suitable habitat (alkaline areas) for this species is not within the proposed project area.
<i>Centromadia parryi</i> ssp. <i>australis</i>	Southern tarplant	US:- CA:- CNPS: 1B	Marshes and swamp margins, valley and foothill grassland, vernal pools, often in disturbed sites near the coast. Also in alkaline soils.	Absent	Suitable habitat (marshes, native grasslands) for this species is not within the proposed project area. Mostly occurs near the coast. Closest recorded occurrence is north of Yorba Linda, south of Telegraph Canyon.
<i>Dodecahema leptoceras</i>	Slender horned spineflower	US: END CA: END CNPS: 1B	Gravel soils of Temecula arkose deposits in openings in chamise chaparral in the Vail Lake area, or on sandy soils in opening in alluvial scrub (usually late serai state) in floodplain terraces and benches that receive overbank deposits every 50 to 100 years; 200 to 760 meters elevation. Los Angeles, Riverside, and San Bernardino Counties.	Absent	Suitable habitat (chamise chaparral, alluvial scrub) for this species is not present within the proposed project area.
<i>Eriastrum desniflorum sanctorum</i>	Santa Ana River wooly star	US: END CA: END CNPS: 1B	Sandy soils on river floodplains and terraced fluvial deposits. Known only from Santa Ana River and larger tributaries in San Bernardino and Riverside Counties; elevations of 120 to 625 meters.	Absent	Suitable habitat (sandy soils) for this species is not present within the proposed project area.
<i>Horkelia cuneata</i> ssp. <i>puberula</i>	Mesa horkelia	US:- CA:SP CNPS: 1B	Sandy or gravelly soils in chaparral, or rarely in cismontane woodland or coastal scrub; 70 to 823 meters (230 to 2,700 feet) elevation. Known from San Luis Obispo, Santa Barbara, Los Angeles, and Orange Counties. Believed extirpated from Ventura, San Bernardino, Riverside, and San Diego Counties.	Absent	Suitable habitat (chaparral and coastal sage scrub) for this species is not within the proposed project area.
<i>Chorizanthe parryi</i> var. <i>parryi</i>	Parry's spineflower	US:- CA:SP CNPS: 3	Annual herb of dry sandy soils in chaparral or coastal scrub at 40 to 1,707 meters (130 to 5,600 feet) elevation. Known only from Riverside and San Bernardino Counties and possibly extending into Los Angeles County.	Absent	Suitable habitat (chaparral and coastal sage scrub) for this species is not within the proposed project area.

Source: *Natural Environment Study*. March 2005.

## PERMANENT IMPACTS

### ***Build Alternatives and No Build Alternative***

The proposed project does not have suitable habitat for any special status plant species. No threatened or endangered plants have the potential to occur within the project limits; therefore, no such permanent impacts are anticipated.

## TEMPORARY IMPACTS

No threatened or endangered plants have the potential to occur within the project limits; therefore, no such temporary impacts are anticipated.

## AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES

No mitigation is required.

### **2.3.4 Animal Species**

Many state and Federal laws regulate impacts on wildlife. The USFWS, the National Marine Fisheries Service (NOAA Fisheries) and the CDFG are responsible for implementing these laws. This section discusses potential impacts and permit requirements associated with wildlife not listed or proposed for listing under the State or Federal ESAs. Species listed or proposed for listing as threatened or endangered are discussed in Section 2.3.5 below. All other special-status animal species are discussed here, including CDFG fully protected species and species of special concern, and USFWS or NOAA Fisheries candidate species.

The major Federal laws and regulations pertaining to wildlife are:

- National Environmental Policy Act (NEPA)
- Migratory Bird Treaty Act (MBTA)
- Fish and Wildlife Coordination Act

State laws and regulations pertaining to wildlife include the following:

- California Environmental Quality Act (CEQA)
- Sections 1602 of the California Fish and Game Code
- Section 4150 and 4152 of the California Fish and Game Code

## AFFECTED ENVIRONMENT

Table 2-20 lists the species of concern for the area. The following special-status animal species have a low to moderate potential to occur within the project area: northern red diamond rattlesnake, coast horned lizard, golden eagle, long-eared owl, western burrowing owl, yellow-breasted chat, and the Santa Ana Sucker. The following species presently occur in the project area: willow flycatcher, Southwestern willow flycatcher, and the least Bell's vireo.

**TABLE 2-20. Protected Wildlife Species Known to Occur in the Project Area**

Scientific Name	Common Name	Status	Habitat Present/Absent	Potential to be Present	Rationale
<b>Reptiles</b>					
<i>Clemmys marmorata pallida</i>	Southwestern pond turtle	US:- CA: CSC	P	High	Species has a high potential to occur within the riparian habitat of English Channel within the proposed project site.
<i>Crotalus exsul</i>	Northern red diamond rattlesnake	US:- CA: CSC	P	Low	Species has a low potential to occur within the grassland and disturbed pasture land of proposed project site.
<i>Phrynosoma coronatum</i>	Coast horned lizard	US:- CA: CSC	P	Moderate	Species has a moderate potential to occur within grasslands and floodplains on-site.
<b>Birds</b>					
<i>Aquila chrysaetos</i>	Golden eagle	US:- CA: CSC	P	Low	Species has a low potential to be found foraging, however does not have any nesting suitable habitat within the proposed project site.
<i>Asio otus</i>	Long-eared owl	US:- CA: CSC	P	Moderate	Species has a moderate potential to occur within riparian areas on-site.
<i>Athene cunicularia hypugea</i>	Western burrowing owl	US:- CA: CSC	P	Low	Species has a low potential to occur within grasslands and pastures on-site.
<i>Icteria virens</i>	Yellow-breasted chat	US:- CA: CSC	P	High	Species has a high potential to occur within the riparian areas on-site.

Source: *Natural Environment Study*. March 2005.

Absent [A] means no further work needed. Present [P] means general habitat is present and species may be present. Critical Habitat [CH] means that the project footprint is located within a designated critical habitat unit, but does not necessarily mean that appropriate habitat is present.

Legend:

FE= Federal Endangered Species	SE= California Endangered Species
FT= Federal Threatened Species	ST= California Threatened Species
FPE= Federal Proposed Endangered Species	CSC= California Species of Special Concern
FPT= Federal Proposed Threatened Species	SSC= Federal Species of Special Concern
SA= California Special Animal	C = Federal Candidate for Listing
SP= California Special Plant	CNPS= California Native Plant Society

\* The proposal to list the flat-tailed horned lizard as a federally threatened species was withdrawn on January 3, 2003. The species has no federal status at this time.

### ***Southwestern Pond Turtle***

The southwestern pond turtle is a non-listed species of concern for which suitable habitat exists along English Canyon Channel. This species inhabits permanent or nearly permanent water below 1,829-m (6,000-ft) throughout California, west of the Sierra-Cascade crest and requires basking sites such as partially submerged logs, rocks, or open mud banks. The southwestern pond turtle was not detected during the general biological resources assessment, the wetland delineation, or the focused surveys. However, the species has a high potential to occur at the English Canyon Channel within the proposed project site.

### ***Northern Red Diamond Rattlesnake***

The northern red diamond rattlesnake is found in desert scrub, thornscrub, open chaparral and woodland, and occasionally in grasslands and cultivated areas. The northern red diamond rattlesnake has a low potential to occur along the non-native grasslands, the pasture fields, and the horse stables within the proposed project site.

### ***Coast Horned Lizard***

The coast horned lizard occurs in valley-foothill hardwood, conifer and riparian habitats, coastal sage scrub, chaparral, and annual grassland. This species prefers open country, especially sandy areas, washes, and floodplains and requires open areas for sunning, bushes for cover, patches of loose soil for burial, and abundant supply of ants or other insects. The coast horned lizard has a moderate potential to occur along riparian habitat and grasslands within the proposed project site, although preferable sandy areas and ant hills were not observed during the general biological resources assessment.

### ***Golden Eagle***

The golden eagle is found in grasslands, scrub, deserts, oak savannas, open coniferous forests and mountain valleys. It nests primarily in rugged mountainous country and is an uncommon resident in southern California. The golden eagle was not detected during the general biological resources assessment, the wetland delineation, or the focused surveys. The golden eagle does not have any suitable nesting habitat on-site; however, the eagle has a low potential to forage within the proposed project site.

### ***Long-Eared Owl***

The long-eared owl is found in dense willow-riparian woodland and oak woodland. It is a rare resident in coastal southern California. The long-eared owl breeds from valley foothill hardwood up to ponderosa pine habitat. The long-eared owl was not detected during the general biological resources assessment, the wetland delineation, or the

focused surveys. However, the species has a moderate potential to occur at the English Canyon Channel within the proposed project site.

#### ***Western Burrowing Owl***

Burrowing owl is a non-listed species of concern that may occur along the limits of the purposed project site. Under Sections 3503 and 3503.5 of CDFG code, it is unlawful to take, possess, or needlessly destroy any bird of prey or the nests or eggs of any bird species (except as otherwise provided in the CDFG codes and regulations). Disturbance of any active bird nest during the breeding season, including any active owl burrow, would be prohibited by CDFG code. The burrowing owl was not detected during the general biological resources assessment, the wetland delineation, or the focused surveys. However, this species has a low potential to occur along the non-native grasslands, pasture fields, and road shoulders within the proposed project site. Along Peyton Drive, rodent burrows that could potentially be utilized by the burrowing owl were present. However, there was no evidence (feathers, pellets, or scat) that burrowing owls were occupying the burrows.

#### ***Yellow-Breasted Chat***

The yellow-breasted chat is found in riparian thickets of willow, brushy tangles near watercourses and nests in riparian woodland throughout much of western North America. The yellow-breasted chat was not detected during the general biological resources assessment, the wetland delineation, or the focused surveys. However, the species has a high potential to occur at the English Canyon Channel within the proposed project site.

### **PERMANENT IMPACTS**

#### ***Build Alternatives***

The proposed project will result in the loss of potentially suitable habitats for the southwestern pond turtle, coast horned lizard, yellow-breasted chat, and long-eared owl. This may result in the loss of a few individuals of the species. The loss of foraging habitat would cumulatively contribute to the ongoing regional and local loss of foraging habitat for these species. This is considered an adverse, although not significant, impact because a relative substantial amount of similar foraging habitat is available in the region.

In addition, the proposed project would have impacts on limited nesting habitat for raptor species including the golden eagle. Impacts on any active raptor nest (common or special status species) would be considered a violation of the California Fish and Game Code Section 3503.5. Therefore, any impact on the nest of any raptor species would be considered significant. No active or inactive nests were observed during surveys.

Potential impacts on raptor nesting would be reduced to less than adverse levels with implementation of mitigation measures specified below.

### ***Burrowing Owl***

As mentioned above, the burrowing owl was not detected during the general biological resources assessment or focused surveys and has a low potential to occur along the non-native grasslands, pasture fields, and road shoulders within the proposed project site. However, existing rodent burrows could potentially be utilized by the burrowing owl.

A pre-construction survey for burrowing owl would be required to determine whether active owl burrows exist within the limits of the site. If burrowing owl is present on the project site, the CDFG may recommend avoiding ground-disturbing activities during the breeding season (February - August), using trap doors to exclude owls from burrows prior to the breeding season, or using other measures to offset potential impacts to this species.

### ***Night Lighting***

Lighting could inadvertently result in an indirect effect on the behavioral patterns of nocturnal and crepuscular (i.e., active at dawn and dusk) wildlife at these areas. Of greatest concern is the effect on small ground-dwelling animals that use the darkness to hide from predators, and from owls, which are specialized night foragers. However, these impacts would not be considered adverse given the developed nature of the project vicinity. No mitigation would be required.

### ***Noise***

Noise is not expected to substantially increase after project implementation. Therefore, the chronic (i.e., permanent) noise increase would be considered less than adverse, and no mitigation would be required.

### ***No Build Alternative***

Under the No Build Alternative, no new construction would occur and there would be no new impacts on potential special status species.

## **TEMPORARY IMPACTS**

Noise levels in the project area would increase over present levels during construction of the proposed project. During construction, temporary noise impacts have the potential to disrupt foraging, nesting, roosting, and denning activities of common wildlife species. These impacts are considered adverse, but not significant, because the proposed project

would not substantially reduce wildlife populations in the region. However, nesting raptors may potentially incur temporary short-term impacts from construction noise, if present in the vicinity of the project site, and may be temporarily be displaced by these disturbances, resulting in potential nest, egg, or young abandonment. Indirect noise impacts on raptor species would be considered adverse because these species are protected by the California Fish and Game Code.

## **AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES**

No mitigation measures are anticipated to be required.

### **2.3.5 Threatened and Endangered Species**

The primary Federal law protecting threatened and endangered species is FESA, United States Code (USC), Section 1531, et seq. See also 50 CFR Part 402. This act and subsequent amendments provide for the conservation of endangered and threatened species and the ecosystems upon which they depend. Under Section 7 of this act, Federal agencies, such as the FHWA, are required to consult with the USFWS and the NOAA Fisheries to ensure that they are not undertaking, funding, permitting or authorizing actions likely to jeopardize the continued existence of listed species or destroy or adversely modify designated critical habitat. Critical habitat is defined as geographic locations critical to the existence of a threatened or endangered species. The outcome of consultation under Section 7 is a Biological Opinion (BO) or an incidental take permit. Section 3 of FESA defines take as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect or any attempt at such conduct."

California has enacted a similar law at the State level, CESA, California Fish and Game Code, Section 2050, et seq. CESA emphasizes early consultation to avoid potential impacts on rare, endangered, and threatened species and to develop appropriate planning to offset project caused losses of listed species populations and their essential habitats. The CDFG is the agency responsible for implementing CESA. Section 2081 of the Fish and Game Code prohibits "take" of any species determined to be an endangered species or a threatened species. Take is defined in Section 86 of the Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." CESA allows for take incidental to otherwise lawful development projects; for these actions an incidental take permit is issued by CDFG. For projects requiring a BO under Section 7 of the FESA, CDFG may also authorize impacts on CESA species by issuing a Consistency Determination under Section 2080.1 of the Fish and Game Code.



The following section addresses special status biological resources observed, reported, or having the potential to occur in the region. These resources are plant and wildlife species that have been afforded special status and/or recognition by Federal and State resource agencies, as well as private conservation organizations. In general, the principal reason an individual taxon (i.e., species, subspecies, or variety) is given such recognition is the documented or perceived decline or limitations of its population size, geographic range, and/or distribution resulting, in most cases, from habitat loss. These resources have been defined by Federal, State, and local government conservation programs.

### AFFECTED ENVIRONMENT

A brief description of threatened and endangered wildlife species known to occur in the proposed project region is listed below (Table 2-21) with their scientific name.

**TABLE 2-21. Threatened and Endangered Wildlife Species Known to Occur in the Project Area**

Scientific Name	Common Name	Status	Habitat Present/Absent	Potential to be Present	Rationale
<b>Fish</b>					
<i>Catostomus santannae</i>	Santa Ana sucker	US: THR CA: CSC	P	Low	Species has a very low potential to occur within the perennial English Channel that drains into the Prado Basin and Santa Ana River. However, site is isolated from known locations and critical habitat of this species by the concrete channelization of English Creek and Chino Creek for approximately 5 km (3 mi) downstream of the proposed project.
<b>Birds</b>					
<i>Empidonax traillii</i>	Willow flycatcher	US: - CA: END	P	Present	Species was observed during focused surveys within the proposed project area.
<i>Empidonax traillii extimus</i>	Southwestern willow flycatcher	US: END CA: END	P	Present	Species was observed during focused surveys within the proposed project area.
<i>Vireo bellii pusillus</i>	Least Bell's vireo	US: END CA: END	P	Present	Species was observed during focused surveys within the proposed project area.

Source: *Natural Environment Study*. March 2005.

Absent [A] means no further work needed. Present [P] means general habitat is present and species may be present. Critical Habitat [CH] means that the project footprint is located within a designated critical habitat unit, but does not necessarily mean that appropriate habitat is present.

Legend:

- |   |  |
|---|--|
| FE= Federal Endangered Species            | SE= California Endangered Species          |
| FT= Federal Threatened Species            | ST= California Threatened Species          |
| FPE= Federal Proposed Endangered Species  | CSC= California Species of Special Concern |
| FPT = Federal Proposed Threatened Species | SSC= Federal Species of Special Concern    |
| SA= California Special Animal             | C = Federal Candidate for Listing          |
| SP= California Special Plant              | CNPS= California Native Plant Society      |

\* The proposal to list the flat-tailed horned lizard as a federally threatened species was withdrawn on January 3, 2003. The species has no federal status at this time.

US EPA ARCHIVE DOCUMENT

### **Fish**

The Santa Ana sucker is a Federally threatened and State species of special concern. The species is found in shallow, cool, running water and in the Santa Ana River, Los Angeles and San Gabriel River drainage systems. The species has a very low potential to occur within the perennial English Canyon Channel. No focused survey was conducted for this species. Critical habitat is designated approximately 5-km (3-mi) downstream of the proposed project; however, the majority of that 5-km (3-mi) stretch consists of a concrete channel, which does not support habitat for this species. It is highly unlikely that the Santa Ana sucker is found within the proposed project site due to the distance that the fish would have to swim upstream from known locations around the Prado Basin along a concrete channel, with a lack of suitable habitat and an increased velocity of flow.

### **Birds**

The willow flycatcher is a State listed endangered species and was observed during the focused surveys within the project area. The listed willow flycatcher is found in extensive thickets of low, dense willows at the edges of surface water and requires dense willow thickets for nesting and roosting. The willow flycatcher was detected during the focused surveys for this species in the year 2003. Since it was observed late in the season (June 21 and 23), it was considered to be a southwestern willow flycatcher.

The State and Federally endangered least Bell's vireo is found in riparian forests and willow thickets. It breeds and nests only in southwestern California. The least Bell's vireo was detected during the year 2003 focused surveys for this species.

### **Biological Opinion**

Based on review of the proposed project, the United States Fish and Wildlife Service (USFWS) provided a Biological Opinion that analyzes the project's effects on the federally endangered least Bell's vireo (*Vireo bellii pusillus*), in accordance with section 7 of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.). Ongoing threats to the vireo include loss of habitat and brood parasitism by cowbirds. The proposed project involves impacts to riparian habitat; however, the proposed project is not located in an area designated by the USFWS as critical habitat for the vireo. After reviewing the status of the vireo, environmental baseline for the action area, effects of the proposed action, and cumulative effects, USFWS concluded that the proposed project, with implementation of conservation/minimization measures listed below, is not likely to jeopardize the continued existence of this species or result in adverse modification of critical habitat. This conclusion is based on the following reasons: 1) the proposed project will impact only a small amount (0.81 acre) of riparian habitat and one pair of

vireo; 2) after restoration, the proposed project will result in a net increase in potential habitat for vireo at this location; and 3) the project will permanently conserve and provide for ongoing maintenance of vireo habitat at this location.

Section 9 of this Act prohibits the take of endangered and threatened species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct. Harm is further defined by the USFWS to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. The USFWS defines harass as intentional or negligent actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavioral patterns which include, but are not limited to, breeding, feeding, or sheltering. Incidental take is defined as take that is incidental to, and not the purpose of the carrying out of an otherwise lawful activity. The proposed project will result in the removal of a relatively small amount of vireo breeding and foraging habitat, but because the riparian stretch where the proposed project will occur is small and isolated, project-associated impacts will result in the temporary loss of a substantial fraction of the remaining habitat at this location. Therefore, if a breeding pair of vireo returns to this location, they will have less foraging, sheltering, and breeding habitat during project implementation, resulting in harm due to reduced reproductive output by up to one pair of vireos in the first year following project implementation. The Carlsbad Fish and Wildlife Office determined that this level of anticipated take is not likely to result in jeopardy to the species, destruction, or adverse modification of critical habitat.

FHWA also requested consultation regarding project-associated adverse effects to the federally endangered southwestern willow flycatcher (*Empidonax traillii extimus*). While surveys in 2003 documented a male flycatcher on only two occasions at the edge of the project boundary, the limited amount of habitat and the habitat characteristics (e.g. lack of open water) make it unlikely that the flycatcher will breed in this location. Project implementation will result in sufficient habitat available to support foraging by migratory flycatchers. In addition, the project proponent will commit to conservation/minimization measures that will protect and restore potential flycatcher habitat and minimize potential disturbance of flycatchers during project implementation. Thus, it was concluded that the proposed project may affect, but is not likely to adversely affect the southwestern willow flycatcher. The complete Biological Opinion can be found in Appendix G of this document.

## PERMANENT IMPACTS

### ***Build Alternatives***

The proposed project will result in permanent impacts to 0.16-ha (0.42-ac) of native vegetation and temporary impacts to 0.15-ha (0.39-ac) of native vegetation, consisting of a combination of willow, woodland, mulefat, and a small amount of emergent wetland habitat. The area of impact to riparian habitat is small, but there is a limited amount of riparian habitat available at this location. In addition, because surveys have not been conducted since 2003, the number and distribution of vireo using this riparian habitat may have changed slightly. During construction, project impacts will reduce the amount of foraging and nesting habitat for returning or new vireos establishing territories. Thus, vireos at this location will likely experience a slight increase in competition during the breeding season and be forced to adjust their territory boundaries, particularly in the first year or two following project implementation, before temporarily impacted vegetation has recovered and restores areas have become established.

### ***No Build Alternative***

Under the No Build Alternative, no new construction would occur and there would be no new impacts to potential special status species.

## TEMPORARY IMPACTS

The proposed project could result in an incremental increase in noise levels on either side of Peyton Drive. The proposed project will increase the area with a noise level above 60 dBA Leq in about 0.23-ha (0.59-ac) of riparian habitat occupied by the vireo. In addition, project construction could result in increased noise and activity levels in and near riparian habitat during the vireo breeding season. These increased noise levels could interfere with territorial and mating vocalizations and reduce the quality of riparian habitat for vireo in close proximity to Peyton Drive. The 91.4-m (300-ft) buffer between construction activities and occupied riparian habitat (see conservation measures below) will help reduce the potential for indirect effects during construction, but there is still the possibility for limited interference as a result of the proposed activities because of the close proximity of occupied habitat and anticipated construction.

The proposed project also has the potential to result in degradation of riparian habitat as a result of construction activities, which can lead to increased pollution, sedimentation, trash, etc. in the riparian habitat.

## AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES

- TE1.** Riparian vegetation shall be removed outside the vireo and flycatcher breeding season (March 15 to September 15). To the extent practicable, construction within 91.4-m (300-ft) of riparian habitat shall also be done outside the breeding season. If construction must be completed during this period, then weekly surveys for vireo and flycatcher shall be conducted prior to and during construction activity. If vireo or flycatcher are found, the Carlsbad Fish and Wildlife Office (CFWO) and FHWA shall be contacted and measures shall be taken to reduce sound levels reaching areas used by vireo to less than 60 dBA or the background noise level, whichever is higher.
- TE2.** The limits of grading shall be clearly marked, and temporary fencing or other appropriate markers shall be placed around any sensitive habitat adjacent to work areas as prior to the commencement of any ground-disturbing activity or native vegetation removal. No construction access, parking, or storage of equipment or materials shall be permitted within the marked areas.
- TE3-** A biological monitor shall be present during all activities involving removal of vegetation to ensure that impacts to wetland and riparian habitat do not exceed the limits of grading and to minimize the likelihood of inadvertent impacts to vireo, flycatcher, and other wildlife species.
- TE4.** No material (e.g., litter, debris, trash, etc.) shall be deposited within sensitive habitat areas designated by the project biologist, temporary fencing, or other appropriate markers.
- TE5-** Appropriate erosion and siltation controls shall be used and maintained during construction and maintenance activities.
- TE6-** Best Management Practices shall be employed to ensure that toxic materials, silt, debris, or excessive erosion do not enter jurisdictional waters or leave the construction or maintenance areas.
- TE7-** All vehicle maintenance, staging, storage, and dispensing of fuel shall occur in designated upland areas and in such a manner as to prevent any runoff from entering waters of the U.S.

- TE8.** Raw cement/concrete or washing thereof, asphalt, paint or other coating material, oil or other petroleum products or any other substances which could be hazardous to wildlife resulting from project-related activities shall be prevented from contaminating the soil and/or entering any jurisdictional waters.
- TE9.** Construction crews shall be briefed on the presence of vireos and measures to be taken to minimize impacts to the vireo and its habitat before activities are conducted.
- TE10.** 0.58-hectares (ha) (1.45-acres [ac]) of mixed willow woodland and mulefat scrub shall be restored in English Channel following project completion, consistent with a future habitat restoration plan. The restoration plan shall be completed and submitted to FHWA and CFWO for review and approval prior to initiating impacts to riparian habitat. Site preparation and restoration shall be implemented immediately following project completion.
- TE11.** As part of the restoration plan, invasive non-native species, including castor bean, pampas grass, and fan palm shall be removed from the riparian vegetation in English Channel, from the boundary with the McCoy Equestrian Center (approximately 457.2-m [1,500-ft] upstream of the culvert under Peyton Drive) to approximately 152.4-m (500-ft) downstream of the culvert.
- TE12.** A conservation easement or deed restriction shall be placed over 1.37-ha (3.40-ac) of English Channel between McCoy Equestrian Center at the upstream end and the proposed "Armorflex mat" at the downstream end. Following proposed restoration, the entire conserved area shall contain riparian habitat consisting of mixed willow woodland and mulefat scrub, with small patches of emergent wetland. The easement or deed restriction shall accommodate educational field trips in the channel and a potential pedestrian bridge over the creek. The property is owned by the City of Chino Hills, and the conservation easement is being offered without federal reimbursement. The City of Chino Hills shall enforce the easement or deed restriction and maintain the habitat (e.g., remove trash and non-native invasive weed species) in perpetuity. A draft easement or deed restriction shall be submitted to the CFWO for review and approval, and the easement or deed restriction shall be adopted prior to impacting riparian habitat.

- TE13.** Two cowbird traps shall be placed at the equestrian center or other mutually agreed upon location in close proximity to the proposed project and operated for a period of two years.
- TE14.** Signs shall be placed on either side of the riparian habitat identifying it as a sensitive habitat type that supports federally endangered species and requesting that park patrons use identified trails to minimize impacts to the habitat and wildlife.

### **2.3.6 Invasive Species**

On February 3, 1999, President Clinton signed E.O. 13112 requiring Federal agencies to combat the introduction or spread of invasive species in the United States. The order defines invasive species as "any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem whose introduction does or is likely to cause economic or environmental harm or harm to human health." FHWA guidance issued August 10, 1999 directs the use of the State's noxious weed list to define the invasive plants that must be considered as part of the NEPA analysis for a proposed project.

## **AFFECTED ENVIRONMENT**

No landscaped medians currently exist along Peyton Drive within the limits of the proposed project. Ornamental landscaping associated with adjoining uses has been planted adjacent to both roadways.

## **PERMANENT IMPACTS**

### ***Build Alternatives***

The proposed project may include landscaped medians throughout the project alignment. Invasive species can travel on vehicles and in the loads they carry, and can be moved from site to site during spraying and mowing operations. Weed seed can be inadvertently introduced into the corridor on equipment during construction and through the use of mulch, imported soil or gravel, and sod.

E.O. 13112 on Invasive Species states that the introduction of invasive species should be prevented and that a Federal agency should not authorize, fund or carry out actions that may promote the introduction or spread of invasive species. Protective measures will be taken to ensure that invasive species are not introduced or spread, including:

- landscaping with Department-recommended seed mix from locally adapted species,
- the use of site-specific materials adapted to local conditions, and
- cleaning of construction equipment that may contain invasive plants and/or seeds to reduce the potential of spreading noxious weeds (before mobilizing to arrive at the site and before leaving the site).

In compliance with E.O. 13112, and subsequent guidance from FHWA, the landscaping and erosion control included in the project will not use species listed as noxious weeds.

Landscape designs will be submitted for review and approval by a qualified biologist. The review will determine that no invasive, exotic plant species will be used in any proposed landscaping, and that suitable substitutes are proposed.

#### **No Build Alternative**

Under the No Build Alternative, new construction associated with the proposed project would not occur; therefore, no impacts related to invasive species would result.

#### **TEMPORARY IMPACTS**

No temporary impacts would occur.

#### **AVOIDANCE, MINIMIZATION AND/OR MITIGATION MEASURES**

IS1. Landscape designs shall be submitted for review and approval by a qualified biologist. The review shall determine that no invasive, exotic plant species will be used in any proposed landscaping, and that suitable substitutes are proposed.

### **2.4 Cumulative Impacts**

Cumulative impacts are those that result from past, present, and reasonably foreseeable future actions, combined with the potential impacts of this project. A cumulative effect assessment looks at the collective impacts posed by individual land use plans and projects. Cumulative impacts can result from individually minor, but collectively substantial, impacts taking place over a period of time.

Cumulative impacts on resources in the project area may result from residential, commercial, industrial, and highway development, as well as from agricultural development and the conversion to more intensive types of agricultural cultivation. These land use activities can degrade habitat and species diversity through consequences such



as displacement and fragmentation of habitats and populations, alteration of hydrology, contamination, erosion, sedimentation, disruption of migration corridors, changes in water quality, and introduction or promotion of predators. They can also contribute to potential community impacts identified for the project, such as changes in community character, traffic patterns, housing availability, and employment.

CEQA Guidelines, Section 15130 specifies when a cumulative impact analysis is warranted and what elements are necessary for an adequate discussion of cumulative impacts. The definition of cumulative impacts, under CEQA, is in Section 15355 of the CEQA Guidelines. A definition of cumulative impacts, under NEPA, can be found in 40 CFR, Section 1508.7 of the CEQA Regulations.

Possible cumulative effects associated with the proposed project may occur if other proposed adjacent roadway and development projects are scheduled simultaneously with improvements to Peyton Drive and Eucalyptus Avenue. The City of Chino Hills, County of San Bernardino, and SCAG propose several transportation improvement and developments in the area.

The following tables (Table 2-22 and Table 2-23) identify the major cumulative projects in the City of Chino Hills and nearby City of Chino. Each of these projects would require separate consultation with resource agencies for project impacts.

**TABLE 2-22. Cumulative Projects in the City of Chino Hills and the City of Chino**

Project Name	Project Description and Location
The Shoppes at Chino Hills and Chino Hills Community Park and Civic Center Project.	Along Peyton Drive, includes the construction of a new retail center, civic center campus, multi-family residential units, and the relocation/construction of a new community park.
Fairfield Ranch Mini-Storage (also known as Chino Hills Self-Storage); Planning Entitlement Approved	Construct mini-storage on 141,996 sq. ft.; at Fairfield Ranch Road and Los Serranos Road.
Pomona Rincon Townhomes, 70 Units; On Hold, Urgency Ordinance No. 156 prohibits approval on multi-family zoned property.	To construct 70 medium-density residential units on 4.73 acres; Pomona Rincon Road between Bird Farm Road and Los Serranos Road.
Taylor Woodrow (Artisan Homes) - Tract 14551-1; Under construction	To construct 80 single-family detached homes ranging from 2,300 sq. ft. to 2,800 sq. ft.; west of Butterfield Ranch Road, between Slate Drive and Picasso Drive.
Western Hills by Avalon Homes - Tentative Tract 16596; Under review	To construct 98 single-family detached homes on 192.0-acres; South of Eucalyptus Avenue at Rancho Hills Drive and north of Highland Pass Road.
Fairfield Ranch Business Park, 5 Multi-Tenant Industrial Buildings; Approved Building Plans	To construct 5 multi-tenant industrial buildings on 14.92-acres; Fairfield Ranch Business Park Area 7.
Rindell Office Buildings; Formal submittal for planning entitlement received on December 9, 2003.	To construct office buildings on 10.22-acres; northwest of Fairfield Ranch Business Park Area 8.

Project Name	Project Description and Location
Jolon Condominiums; Waiting for application to submit revised plans.	To develop a 22-unit condominium on a 2.74-acre parcel site on vacant lots. The project consists of five (5), two (2)-story buildings with attached garages where: 1) one (1) building consists of two (2) units, 2) two (2) buildings consist of four (4) units each, and 3) two (2) buildings consist of five (5) units each; Jolon Street and Aqueduct Lane.
Chino Valley Equine Hospital; Grading permits were issued and Building plans were approved.	To construct a 12,000 sq. ft. surgical suite building and barns on 6.45-acres; 2945 English Place.
The Golf Club at Oakcrest Tract Map 15164; The site is being rough graded. The following items to be processed: design review for the single-family homes, detailed plans for the parks, detailed plans for the trails, landscape architectural plans for the development, conditional use permit for the golf course, off-site improvement plans for Woodview Road/Ferree Street, and improvement plans for Streets, Water Booster Station, and Sewer Lift Station.	To construct 205-single family residential lots for custom lot sales with a minimum lot size=10,000 sq. ft., a 1.5-acre public park, a 3.0-acre fire station/neighborhood park site, a private 132-acre, 18-hole golf course and private clubhouse, and 263-acres of open space; At the end of Woodview Road/Ferree Street.
Kaufman & Broad 18 Lot Subdivisions - Tentative Tract Map 15920; final map under review. Applicant needs to submit a Tract Home Design Review to the Planning Commission	To subdivide 3.83-acres into 10 lots for high density residential units; Off Torrey Pines west of Los Serranos County Club Drive.
Galstian Tracts 14551-2, -3, -4, and 14551; rough grading in process	To construct 244 residential lots on 47.65-acres and 86-acres of open space; south of Picasso and west of Slate.
Pinnacle Apartments; Building Permits have been issued	To construct 208 units of high density residential uses on 15.374-acres; northwest corner of Butterfield Ranch Road and Slate Drive.
Acacia Apartments; under construction	To construct 124 apartments on 5.95-acres; East side of Butterfield Ranch Road, near Picasso Street.
Save-On-Drug Store and Retail Shops, under review	To construct a 13,274 sq. ft. drug store and a 8,000 sq. ft. retail store on 3.48-acres; Northwest corner to Chino Hills Parkway/SR-142 and Peyton Drive.
Vila Borba; under review	Planning Area 1-183 single family homes; 5+ acres of public park; Planning Area 2-19 single family homes; Planning Area 3-149 single family homes; Planning Area 4-41 medium density homes, 225 high density homes, and 5-acres of commercial; west and east of Butterfield Ranch Road near Pine Avenue.
B.A.P,S, Hindu Temple and Cultural Center; currently under review	To construct a Hindu Temple, Cultural Center, and other various associated buildings. Total building square footage of 164,372 sq. ft. on 20.31-acres; south of Chino Hills Parkway/SR-142, east of Monte Vista Avenue, and west of Central Avenue.
Fieldstone Chow; currently under review	To construct 125 homes with a minimum lot/pad size of 7,200 sq. ft. on 150-acres; Southwest of existing terminus of Soquel Canyon Parkway, north of the Chino Hills State Park and west of Pipeline Avenue.

TABLE 2- 23. Regional Transportation Improvement Projects in the City of Chino Hills and City of Chino

Lead Agency	Project ID	Description
City of Chino	200002	On Central Avenue at El Prado Road, install a traffic signal.
City of Chino	200003	On El Prado Road at Kimball Avenue, install a traffic signal.
City of Chino	200202	On Chino Avenue from Monte Vista to Sixth Street. Widen existing 2 lanes to 4 lanes and install a signal at the intersection of Chino Avenue and Monte Vista.
City of Chino	200203	On Grand Avenue, realignment from Roswell Avenue to pipeline. Widen south side of Grand Avenue from 3 to 4 lanes and on the west side of Pipeline Avenue from 2 to 3 lanes.
City of Chino	200204	On Kimball Avenue from 600 feet west of Mountain Avenue to Euclid. Widen from 2 to 4 lanes.
City of Chino	200205	In Chino, Montclair, and Upland, on Mountain Avenue from Edison Avenue to 21 <sup>st</sup> Street. Signal coordination project (approximately 40 intersections).
City of Chino	200206	On Mountain Avenue from Kimball Avenue to Bickmore Avenue. Design and construct new road, one lane in each direction. Developer project.
City of Chino	200207	On Pine Avenue from El Prado to State Route 71. Widen bridge from 2 to 4 lanes.
City of Chino	SBD031118	Edison Avenue from Ramona to Central. Widen from 4 lanes to 6 lanes and rehabilitation (spot widening).

City of Chino	SBD031127	Edison Avenue from Cypress Channel to Euclid Avenue. Widen from 2 lanes to 4 lanes.
City of Chino	SBD031137	Edison Avenue at Fern. Install a traffic signal.
City of Chino	SBD031142	Riverside Drive at Fern Avenue. Install traffic signal.
City of Chino	SBD031152	Riverside Drive at San Antonio Flood Control Channel. Widen bridge from 4 lanes to 6 lanes.
City of Chino	SBD31933	On Central Avenue between El Prado Road and State Route 71/Fairfield Ranch and at San Antonio Flood Channel and Little Chino Creek. Realign and widen from 2 to 6 lanes between Fairfield Ranch. Includes Chino Creek Bridge to El Prado. Widen to 4 lanes.
City of Chino	SBD41226	On Riverside Drive at San Antonio. Install a traffic signal.
City of Chino	SBD41228	Chino Avenue and Benson Avenue. Realign and improve geometries (no added capacity).
City of Chino	SBD41233	On Central Avenue at Riverside Drive intersection. Improvement to provide dual left-turn lanes to the east and west.
City of Chino Hills	200072	Grand Avenue, Peyton Drive, Chino Avenue, and Chino Hills Parkway/SR-142. Traffic signal synchronization and traffic operation center.
City of Chino Hills	2001016	On Chino Hills Parkway/SR-142. Install 2 CNG time fill refueling appliances. Located at City Hall and City Yard - 2001 Grand Avenue and 15091 La Palma Avenue.
City of Chino Hills	SBD41236	On Central Avenue at Fairfield Ranch Road to east city limits. Construct Central Avenue. Constructing a new 6 lane road, and bridge within these limits.
City of Chino Hills	SBD41237	On Chino Hills Parkway/SR-142 at San Antonio Channel. Widen southside of bridge on Chino Hills overcrossing, providing 2 lanes in the eastbound direction (1-2 lanes)
City of Chino Hills	SBD41238	On Soquel Canyon Parkway from Peyton Drive to Pipeline Avenue. Construct a new 6-lane road with marked bicycle lanes in each direction.
City of Chino Hills	SBD41239	On Woodview Avenue from Pipeline to Peyton Drive. Widen Woodview Avenue from 30 feet to 52 feet with 2 lanes and marked bike lanes in each direction, includes curb, gutter, and sidewalk improvements.
City of Chino Hills	SBD41240	On Pipeline Avenue at Little Chino Creek. Widen the Westside of the bridge on Pipeline Avenue from 2 to 4 lanes (will include bicycle lanes)
City of Chino Hills	SBD41241	Peyton Drive/Woodview Road to Soquel Canyon Parkway. Construct a new 4-lane road. Bicycle lanes are included.
City of Chino Hills	SBD41243	Woodview Road/Peyton Drive - Soquel Canyon. Construct new 2-lane road to include marked bike lane in each direction.

Source: Final 2002 Regional Transportation Improvement Program, Project Listing Volume III of III.

### Land Use

Project impacts in conjunction with cumulative development in the project vicinity would increase urbanization and diminish open space. Potential land use impacts are, for the most part, site specific, and require evaluation on a case-by-case basis. This would be particularly true with regard to land use compatibility impacts, in that they are generally a function of the relationship between the interactive effects between a specific development site and its immediate environment. As cumulative land use impacts are difficult to individually mitigate, mitigation is most effective through implementation of City and County policies and regulations.

### Community Impacts

The proposed project, combined with future projects within the area, would be developed consistent with development policies and goals of the local jurisdictions of the County of San Bernardino. Cumulative impacts relative to community and other social or economic issues would be evaluated on a case-by-case basis. Compliance with local plans and ordinances, including regional programs establishing land use intensity, would reduce cumulatively considerable social impacts.

### Utilities and Services

Although there would be a substantial service and utility demand increase attributable to the extent of the cumulative development within the City, the overall potential for

service-related cumulative effects to occur is not considered adverse. This conclusion is based on the rationale that: (1) already constructed residential and non-residential development would have occurred only after having satisfied all development specific requisite permit, code policy, and other City of Chino Hills development requirements and having contributed a fair share of impact fees in order to ensure their participation in addressing area wide (cumulative) growth and service-related demand issues; and (2) having done the latter, each specific development would in effect be self mitigating with regard to placing a potentially adverse demand upon an area's public services and utilities.

### ***Traffic/Transportation/Pedestrian and Bicycle Facilities***

Quantification is difficult for transportation-related cumulative impacts, as it would require speculative estimations of impacts. Temporary cumulative impacts associated with concurrent construction activities in the area would temporarily increase the amount of truck and construction worker traffic on area streets, thereby causing a potential deterioration in traffic service levels caused by slow-moving construction equipment. Impacts of this nature are short-term and would be proportionally minimized as each construction project is completed.

### ***Visual Aesthetics***

Construction of currently approved and pending projects in the vicinity of the proposed project would permanently alter the nature and appearance of the area through loss of open space. Cumulative impacts can be mitigated with use of building materials that are consistent with the general character of the area, landscaping design, water-saving irrigation systems, and property-lighting techniques to direct light on-site and away from adjacent properties.

### ***Cultural Resources***

Cumulative development may impact important cultural resources in the absence of any mitigation. Potential impacts would be site-specific and would be evaluated on a project-by-project basis. This is especially true of those developments located in areas considered to have a high sensitivity for historical resources. Each incremental development is required to comply with all applicable State and Federal regulations concerning preservation, salvage, or handling of cultural resources. Given this, potential cumulative effects upon historical resources would not be significant.

### ***Paleontological Resources***

Cumulative development may impact important paleontological resources in the absence of any mitigation due to the geological units present in the City of Chino Hills. Potential

impacts would be site-specific and evaluated on a project-by-project basis. Each development is required to comply with all applicable State and Federal regulations concerning preservation, salvage, handling, and curation of paleontological resources. Therefore, potential cumulative effects upon paleontological resources would be reduced to less than significant levels.

### ***Hydrology and Floodplain***

Ultimate development within the project area and within the City of Chino Hills would contribute to a cumulative increase in surface water runoff volume. Future development within the area would be required to mitigate potential impacts on flooding and floodplain development on a project-by-project basis.

### ***Water Quality and Stormwater Runoff***

Ultimate development within the City of Chino Hills and within the County of San Bernardino would contribute to a cumulative increase in runoff volumes and proportional increases in construction-related sedimentation and roadway pollutant loads. Future development within the area would be required to mitigate short and long-term potential impacts consistent with applicable development standards for reduction of construction and post-construction constituents. Application of standard construction measures, including the incorporation of permanent runoff control facilities, would minimize the cumulative effects on hydrology and water quality.

### ***Geology, Soils, Seismicity, Topography***

Project development in the project vicinity may result in short-term increases in erosion due to grading activities. Increased development density in the surrounding areas could expose persons and property to potential impacts associated with seismic activities. However, on a project-by-project basis, construction in accordance with the standards of the UBC will reduce the potential for structural damage due to seismic activity to the maximum extent feasible. Although these cumulative impacts can be considered substantial, they will be mitigated on a project-by-project basis. Mitigation measures for these projects may include, but are not limited to, erosion control measures, remedial grading techniques, and building setbacks or special foundations for seismic areas (such as post-tensioned slabs, presaturation of footings, and on-grade slabs).

### ***Hazardous Wastes/Materials***

The proposed project, combined with ongoing and future development of related projects in the County of San Bernardino, would be required to comply with Federal, State and

local regulations regarding the use and transport of hazardous materials. Therefore, no adverse cumulative effects are expected.

### ***Air Quality***

Cumulative projects include local development as well as general growth within the project area. However, as with most development, the greatest source of air pollutants is from mobile sources, which travel well out of the local area. Therefore, from an air quality standpoint, the cumulative analysis would extend beyond any local projects and when wind patterns are considered, would cover an even larger region. Accordingly, the cumulative analysis for a project's air quality analysis must be regional by nature.

Construction and operation of cumulative projects will further degrade the local air quality, as well as that of the surrounding area. Air quality will be temporarily degraded during construction activities that occur separately or simultaneously. However, the greatest cumulative impact on the quality of regional air will be the incremental addition of pollutants mainly from increased traffic from residential, commercial, and industrial development and the use of heavy equipment and trucks associated with the construction of these projects.

### ***Noise***

Implementation of the proposed project, combined with development of cumulative projects, would increase ambient noise levels in the site vicinity. This increase would be due to both vehicular traffic noise along local roadways and stationary noise sources associated with other development projects. As with the proposed project, cumulative development projects would be individually required to reduce noise impacts to comply with noise standards consistent with the lead agency.

### ***Wetland and Other Waters***

Development of the proposed project and other local projects would result in an incremental decrease in the extent of wetland habitat and related biological resources within the area. The provision of open space and mitigation areas on a project-by-project basis and regional basis can reduce cumulative impacts by allowing wetland habitat to be retained within the area. Mitigation ratios developed during the regulatory permitting process would serve to reduce cumulative impacts to wetland and nonwetland resources.

### ***Plant Species***

Implementation of the proposed project would contribute to cumulative impacts on areas adjacent to, or in the vicinity of, the study area. The properties in the project vicinity would have to undergo environmental impact analysis for any proposed development.

This project's contribution to the regional loss of these resources would not be substantial.

### ***Natural Communities***

Implementation of the proposed project would contribute to cumulative impacts on areas adjacent to, or in the vicinity of, the study area. The properties in the project vicinity would have to undergo environmental impact analysis for any proposed development. This project's contribution to the regional loss of these resources would not be substantial.

### ***Animal Species***

The development or substantial redevelopment in the project area would have to undergo separate environmental impact analysis. Potential impacts resulting from the proposed project cumulatively with any impact on endangered or threatened species resulting from development in the area and/or implementation of infrastructure improvements would be considered potentially substantial. However, implementation of mitigation would reduce effects such that no substantial effect would occur.

### ***Threatened and Endangered Species***

The properties adjacent to the project area would have to undergo environmental impact analysis for any proposed development. Potential impacts resulting from the proposed project cumulatively with any impact on endangered or threatened species resulting from development of adjacent properties and/or implementation of infrastructure improvements would be considered potentially substantial. However, implementation of compensatory mitigation on a project-by-project basis would reduce effects such that no substantial effect would occur.

### ***Invasive Species***

Protective measures implemented on a project-by-project basis would ensure that no invasive species are introduced or spread within the region. No substantial cumulative effects would occur in this regard.

