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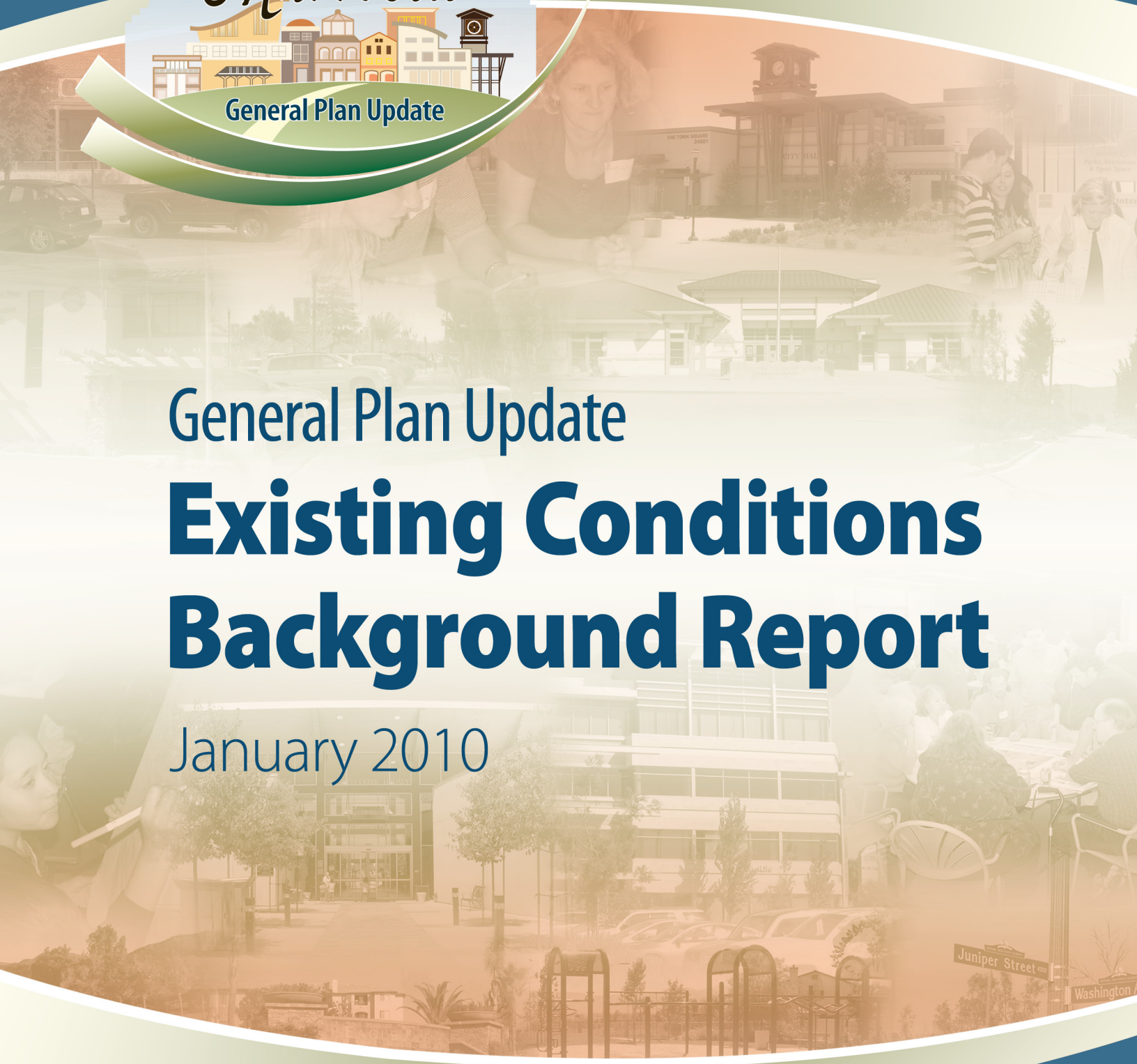
Murrieta

General Plan Update



General Plan Update

Existing Conditions Background Report

January 2010

RBF CONSULTING

MURRIETA GENERAL PLAN UPDATE
EXISTING CONDITIONS BACKGROUND REPORT

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January 2010

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NOTE TO USERS:

The Existing Conditions Background Report was the first major technical product of the General Plan update process, and describes the existing conditions as of late 2009/early 2010.

In preparing the General Plan 2035 and General Plan 2035 Environmental Impact Report, data and/or exhibits may have subsequently revised/updated in those two documents to reflect agency and/or public comments or new/corrected information.

1.0 Introduction

2.0 Community Development
- 2.1 Land Use
- 2.2 Policy Context
- 2.3 Population and Demographics
- 2.4 Housing

3.0 Economic Conditions
- 3.1 Office and Industrial Data Review
- 3.2 Economic Trends and Conditions

4.0 Circulation

5.0 Emerging Planning Themes
- 5.1 Healthy Community
- 5.2 Sustainability
- 5.3 Global Climate Change

6.0 Public Health and Safety
- 6.1 Noise
- 6.2 Geologic and Seismic Hazards
- 6.3 Flood Hazards
- 6.4 Fire Hazards
- 6.5 Hazardous Materials
- 6.6 Emergency Response

7.0 Environmental Resources
- 7.1 Air Quality
- 7.2 Biological Resources
- 7.3 Cultural Resources
- 7.4 Agricultural Resources
- 7.5 Mineral Resources
- 7.6 Scenic Resources
- 7.7 Water Resources and Quality

8.0 Public Services
- 8.1 Police Protection
- 8.2 Fire Protection
- 8.3 Parks and Recreation
- 8.4 Civic and Community Facilities
- 8.5 Libraries
- 8.6 Schools
- 8.7 Health Facilities

9.0 Utilities
- 9.1 Water
- 9.2 Sewer/Wastewater
- 9.3 Storm Drainage
- 9.4 Solid Waste
- 9.5 Electricity and Natural Gas

Exhibits

1-1 Regional Location Map 1-3
2.1-1 Amended Project Area 2.1-9
2.2-1 City of Murrieta General Plan Study Area 2.2-3
2.2-2 Murrieta General Plan/Zoning Map 2.2-9
4.1-1 Existing Functional Classifications 4.1-11
4.1-2 Existing Number of Lanes (2008) 4.1-15
4.1-3 2008 Weekday Average Daily Traffic Volumes 4.1-19
4.1-4 2008 Roadway Volume-to-Capacity Ratios 4.1-21
4.1-5 Study Intersections 4.1-27
4.1-6A Existing Lane Configurations 4.1-29
4.1-6B Existing Lane Configurations 4.1-31
4.1-7A Existing Peak Hour Turning Movement Volumes 4.1-33
4.1-7B Existing Peak Hour Turning Movement Volumes 4.1-35
4.1-8 Existing Transit Routes 4.1-39
4.1-9 Bikeways and Paths 4.1-41
5.1-1 Percent of Persons Below the Poverty Level in 1999:2000 ..... 5.1-7
5.1-2 Food Outlets 5.1-27
5.1-3 Identified Hazardous Materials Sites 5.1-33
5.1-4 Residential Parcels Within 500 Feet of Freeway 5.1-37
5.3-1 The Greenhouse Effect 5.3-10
6.1-1 Sound Levels and Human Response 6.1-12
6.2-1 Regional Geology Map 6.2-7
6.2-2 Subsidence Susceptibility Map 6.2-13
6.2-3 Alquist-Priolo Earthquake Fault Zone Map 6.2-17
6.2-4 Riverside County Fault Hazard Map 6.2-19
6.2-5 Liquefaction Susceptibility Map 6.2-23
6.2-6 State Seismic Hazard Zones 6.2-25
6.3-1 FEMA Flood Zones 6.3-7
6.3-2 Dam Inundation 6.3-9
6.4-1 High Fire Hazard Zones 6.4-3
6.5-1 Regulatory Sites Within Murrieta 6.5-11

6.6-1 Emergency Management Planning System 6.6-7
6.6-2 EOC Interfaces 6.6-10
7.2-1 MSHCP Area Plans and Subunits 7.2-7
7.2-2 MSHCP Existing and Proposed Conservation Land 7.2-9
7.2-3 Vegetation and Land Use 7.2-17
7.4-1 Important Farmland 7.4-9
7.4-2 Williamson Act Farmland (2006) 7.4-11
7.5-1 Mineral Resources 7.5-5
8.3-1 Recreational Facilities 8.3-7
8.3-2 Multi-Purpose Trails 8.3-13
8.3-3 Underserved Park Areas in City 8.3-15
8.3-4 Open Space 8.3-19
8.6-1 School District Boundaries 8.6-5
8-6-2 Location of School Facilities (Public and Private) 8.6-9
8.6-3 Location of Higher Educational Facilities 8.6-13
9.1-1 Water District Service Area Boundaries 9.1-3
9.3-1 Storm Drain Map 9.3-5

Tables

2.2-1 Existing Land Use Summary 2.2-6
2.3-1 Population and Household Characteristics 2.3-2
2.3-2 Age Distribution 2.3-3
2.3-3 Educational Attainment 2.3-4
2.3-4 Regional Employment Growth 2.3-5
2.4-1 Housing Stock by Type 2.4-2
2.4-2 Housing Tenure 2.4-3
4.1-1 City of Murrieta Functional Classifications 4.1-8
4.1-2 Daily Roadway Capacity Values 4.1-17
4.1-3 Roadway Segment Level of Service Criteria 4.1-17
4.1-4 Signalized Intersection Level of Service Criteria 4.1-18
4.1-5 Unsignalized Intersection Level of Service Criteria 4.1-23
4.1-6 List of Study Intersections 4.1-24
4.1-7 Existing Levels of Service 4.1-25
4.1-8 Bikeways and Paths 4.1-43
5.1.1 Leading Causes of Death by Percentage, Murrieta, 2003-2007 ..... 5.1-9
5.1-2 Asthma and Heart Attack Hospitalizations per 10,000 Residents, 2006-2008 Combined 5.1-10
5.1-3 Commuting to Work – Transportation Mode Used by Percentage 5.1-17
5.1-4 Traffic Collisions in Murrieta by Type and Year, 2006-2008 ..... 5.1-23
5.1-5 Murrieta Retail Food Environment Summary 5.1-29
5.1-6 Fast Food Eaten How Many Times in Past Week in Riverside County 5.1-30
5.1-7 Licensed Bed, Physician, and Nursing Ratios, 2005 ..... 5.1-36
5.1-8 Hospitalization Payer Source by City and County, 2005 ..... 5.1-39
5.2-1 Annual Per Capita Diversion Rate for Murrieta, 1995-2006 ..... 5.2-6
5.2-2 Annual Per Capita Disposal Rate for Murrieta, 2007-2008 ..... 5.2-6
5.2-3 Summary of Waste Reduction Programs in Murrieta 5.2-8
6.1-1 Noise Descriptors 6.1-1
6.1-2 Design Noise Level/Activity Relationship 6.1-3
6.1-3 Federal Exterior Noise Acceptability Criteria for Housing 6.1-4
6.1-4 HUD External Noise Exposure Standards for New Residential Construction 6.1-4
6.1-5 Land Use Compatibility For Community Noise Environments 6.1-5
6.1-6 City of Murrieta Construction Noise Standards 6.1-7
6.1-7 City of Murrieta Exterior and Interior Noise Limits 6.1-8

6.1-8 Noise Levels and Human Responses 6.1-14
6.1-9 Effects of Noise on People 6.1-15
6.1-10 Highly Annoyed Persons and Registered Complaints as a Function of Ldn 6.1-16
6.5-1 DTSC & GEO TRACKER Identified Regulatory Sites Within Murrieta 6.5-8
6.6-1 Specific Hazards Summary 6.6-11
6.6-2 Riverside County Local Jurisdiction Hazard Assessment Worksheet 6.6-12
7.1-1 National and California Ambient Air Quality Standards 7.1-3
7.1-2 2008 Estimated Emissions Inventory for Riverside County 7.1-10
7.1-3 Local Air Quality Levels 7.1-12
7.2-1 Soil Associations/Soil Types 7.2-14
7.2-2 Wildlife Habitat Within the General Plan Study Area 7.2-15
7.2-3 Species of Importance in the City of Murrieta General Plan Study Area (Western Riverside County Multiple Species Habitat Conservation Plan) 7.2-21
7.3-1 Cultural Chronology of Riverside County 7.3-10
7.3-2 Evaluated Resources in the Historic Properties Directory 7.3-14
7.3-3 Properties Listed in the City of Murrieta Historic Resources Inventory 7.3-19
7.4-1 Farmland Mapping Categories 7.4-7
8.1-1 Response Times 8.1-4
8.1-2 Police Activity (2006 to 2008) 8.1-4
8.2-1 Fire Department Development Impact Fees 8.2-1
8.2-2 Fire Department Facilities 8.2-2
8.3-1 Recreational Facilities Inventory 8.3-3
8.6-1 School Development Fees 8.6-2
8.6-2 Murrieta Valley Unified School District Facilities 8.6-4
8.6-3 Menifee Union School District Facilities Serving Murrieta and Sphere of Influence 8.6-7
8.6-4 Perris Union High School District Facilities Serving Murrieta and Sphere of Influence 8.6-7
8.6-5 Hemet Unified School District Facilities Serving the Sphere of Influence 8.6-8
8.6-6 Higher Education Extension Facilities Serving Murrieta 8.6-11
9.1-1 Rancho California Water District Planned Water Supplies (Acre-Feet/Year [AF/Y]) 9.1-8
9.1-2 Elsinore Valley Municipal Water District Planned Water Supplies (Acre-Feet/Year [AF/Y]) 9.1-9
9.1-3 Western Municipal Water District Planned Water Supplies (Acre-Feet/Year [AF/Y])) 9.1-12

9.1-4 Eastern Municipal Water District Planned Water Supplies (Acre-Feet/year [AF/Y]) 9.1-13
9.3-1 Planned Stormwater Infrastructure Improvements 9.3-4
9.4-1 Disposal Facilities Used by Murrieta (2008) 9.4-4
9.5-1 Southern California Edison 2008 Renewable Energy Summary 9.5-4
9.5-2 Southern California Gas Company Self-Generation Incentive Levels 9.5-5

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Introduction

This section provides background for the update of the City of Murrieta's General Plan. The section describes what a General Plan is, provides an overview of the update process, and defines the purpose and context of the Existing Conditions Background Report.

BACKGROUND

The current General Plan for the City of Murrieta was adopted in 1994 and has accomplished many of the goals established for the City at that time. However, much of the data, analysis, and goals identified in the 1994 General Plan no longer reflect the current conditions and direction of the City. The General Plan Update is necessary to reflect the current conditions of the City and to establish a vision for future growth. Goals and policies will be updated to respond to the identified growth, while at the same time protecting and preserving cherished resources and addressing community priorities.

The General Plan Update process was initiated in late 2009. A community visioning process will begin in early 2010 to elicit the values, aspirations, and ideas of Murrieta's residents and property owners. This process is ongoing, but will lead to a vision and series of findings that form a framework for updating the plan and directing future City planning efforts.

This Existing Conditions Background Report (ECBR) is the first major technical product of the General Plan Update process. The purpose of the ECBR is to provide a profile and analysis of existing conditions pertaining to the General Plan Study Area, which includes the City boundaries and the City's Sphere of Influence (SOI).

Existing physical, social, and economic conditions are described for the baseline date of December 2009. The ECBR will be used as the foundation document for the development of subsequent planning policies and programs, and also as the basis for preparing the "Existing Setting" section for each topic of the Environmental Impact Report.

GENERAL PLAN

The General Plan is a State-required legal document that provides guidance to decision-makers regarding the allocation of resources and determining the future physical form and character of development in counties and cities. It is the official statement of the jurisdiction regarding the extent and types of development needed to achieve the community's physical, economic, social, and environmental goals. Although the General Plan consists of individual sections, or "elements," that address a specific area of concern, it also embodies a comprehensive and integrated planning approach for the jurisdiction.

The General Plan clarifies and articulates the City's intentions with respect to the rights and expectations of the general public, property owners, special interest groups, prospective investors, and business interests. Through the General Plan, the City informs the community of its goals, policies, and development standards, thereby communicating the City's expectations in meeting the intentions of the General Plan.

Under State law, each county and city General Plan must contain the following seven elements:

- Land Use
- Circulation
- Housing
- Conservation
- Open Space
- Noise
- Safety

Government Code Section 65303 permits local jurisdictions to formulate other elements, which, in the "judgment of the planning agency," relate to the physical development of a region. These "permissive" elements are as legally binding as a mandatory element, once adopted. The City will prepare the following permissive elements: Air Quality, Healthy Community, and Economic Development. The updated General Plan will address issues related to sustainability throughout the document.

GENERAL PLAN STUDY AREA

The City of Murrieta is located in southeastern Riverside County, and is comprised of 26,852 acres (41.96 square miles) of which 21,511 acres (33.61 square miles) is located within the City Limits and 5,341 acres (8.34 square miles) is located within the City's Sphere of Influence. Surrounding cities include Menifee to the north, Temecula to the south and east, Wildomar to the northwest, and unincorporated Riverside County to the north, south, and east; refer to *Exhibit 1-1*, *Regional Location Map*. Regional access to the City is provided by the Interstates 15 and 215.

LAKE ELSINORE
SEDCO HILLS
WILDOMAR
MURRIETA
TEMECULA
SPHERE OF INFLUENCE
COUNTY
COUNTY

MURIETTA RD
SCOTT RD
BRIGGS RD
LEON RD
ANTELOPE RD
BUNDY CANYON RD
CORYDON RD
MISSION TRL
PALOMAR ST
CENTRAL ST
CLINTON KEITH RD
GRAND AVE
NUTMEG ST
JACKSON AVE
ALAMOS RD
THOMPSON RD
WASHINGTON ST
BOREL RD
WHITEWOOD RD
ALTA MURRIETA DR
WASHINGTON AVE
IVY ST
WEBSTER AVE
JEFFERSON AVE
AVENUE CRESTA
CALLE PINO
TENAJA RD
LUZ RD
NICOLAS RD
WINCHESTER RD
REY RD
GARFIELD AVE
YNEZ RD
LONG VALLEY RD

215
15
79

LEGEND

- Murrieta
- Temecula
- Lake Elsinore
- Sedco Hills
- Wildomar
- Sphere of Influence

December 18, 2009

0 2,500 5,000
Feet

Source:
County of Riverside,
City of Murrieta,
ESRI - World Shaded Relief

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12/09 JN 10-106976 Regional_Location.mxd

Regional Location Map

Exhibit 1-1

Back of 11 x 17 color exhibit

Existing Conditions Background Report

PURPOSE

The purpose of this ECBR is to provide a profile and analysis of existing conditions pertaining to the General Plan Study Area. The Study Area includes the City boundaries and the City's Sphere of Influence (SOI). Existing conditions are described for the baseline date of December 2009 and supplemented with the relevant adopted policy or data that has become available since that time.

The ECBR presents the physical, social, and economic resource information required to support the preparation of the General Plan Update. This detailed information on the City's population and economic characteristics, existing land uses, transportation, utilities and public services, environmental resources, and public safety is provided. Additionally, the ECBR is the foundation document from which subsequent planning policies and programs will be formulated. The document will also be used to prepare the "Existing Setting" section of the EIR on the General Plan Update.

ORGANIZATION AND OVERVIEW

The Existing Conditions Background Report is divided into nine sections, as described below:

Section 1.0 – Introduction. This section provides background information on the purpose of the General Plan Update, and outlines the goals and content of the ECBR.

Section 2.0 – Community Development. This section identifies existing land uses, existing policies and plans, and includes exhibits showing general plan designations and zoning. Existing and projected population and demographic characteristics, and a summary of the most recent Housing Element, are included.

Section 3.0 – Economic Conditions and Trends. This section provides an overview of current demographics and economic trends within the City of Murrieta.

Section 4.0 – Transportation. This section describes roadway, transit, water, aviation, railway, bicycle, and pedestrian facilities and conditions within the General Plan Study Area.

Section 5.0 – Emerging Trends. This section describes three emerging planning trends and issues: healthy community, sustainability, and global climate change.

Section 6.0 – Public Health and Safety. This section describes noise levels and patterns, various soil characteristics and hazards, geologic hazards, seismic activity, flood hazards, fire hazards, emergency response systems, and other public health and safety issues.

Section 7.0 – Environmental Resources. This section describes air quality, animal species and plant habitats, cultural and historical resources, agricultural resources, mineral resources, scenic resources, and ground and surface water resources and quality.

Section 8.0 – Public Services. This section provides an overview of existing services including fire and emergency services, police protection, public schools, parks and recreations facilities, as well as, cultural and social services.

Section 9.0 – Utilities. This section includes a review of existing water, waste water, storm water, solid waste, electricity, and natural gas facilities.

FORMAT

Each section of each chapter of the ECR includes the following:

Introduction: The introduction provides a brief description of the issues covered in the chapter.

Regulatory Context: Each section summarizes the regulatory context pertaining to the topical area. When applicable, federal, State, and local regulations are presented.

Existing Conditions: This section describes the existing conditions as of December 2009 for each resource or issue area. Supplemental information developed since that time is provided in some cases. When applicable, this section describes the existing conditions within the City separate from the existing conditions outside of the City but within the Study Area (includes SOI).

Findings: Most sections of the ECBR contain a brief summary of key findings. The findings present key facts and preliminary issues from the section. These findings serve as the basis for the identification of technical issues in the next phase of the General Plan Update.

Significance Thresholds: This section describes the anticipated thresholds to be used for the Environmental Impact Report. The thresholds are based upon the CEQA Guidelines Appendix G, Environmental Checklist.

Sources Cited: Lists all references used in the preparation of the section.

Introduction

The Policy Context section summarizes existing policy documents that affect the City of Murrieta, including documents the City has adopted. The section first discusses the City's existing General Plan, currently adopted Specific Plans and Redevelopment Plan, and other plans and policies that address area-specific and citywide planning issues. This section then discusses planning and policy documents adopted by surrounding jurisdictions, which govern land uses in adjacent areas that may affect existing and/or future development within the City. Finally, multi-jurisdictional plans, regional plans, and legislation that have implications on future growth and development within Murrieta, the region and the state are also discussed.

Regulatory Context

CITY OF MURRIETA GENERAL PLAN

The *City of Murrieta General Plan* serves as the primary planning document for land use and development decisions within the City. The Planning Area (or Study Area) for the current *General Plan* includes both the incorporated City Limits (21,511 acres) and the Sphere of Influence (5,341 acres); refer to *Exhibit 2.2-1*.

The *General Plan* is comprised of the following eight elements, adopted or updated at various times. The Land Use, Circulation, and Economic Development Elements were most recently updated in 2006. Each element contains goals, objectives, and policies specific to the topical area.

- Land Use (2006)
- Housing (2001)
- Circulation (2006)
- Conservation and Open Space (1994)
- Safety (2001)
- Noise (1994)
- Air Quality (1994)
- Economic Development (2006)

Land Use Element

The purpose of the Land Use Element is to establish the location and intensity of future development in the City while maintaining orderly growth and economic vitality with community character, historical identity, and the stewardship of natural resources. The goals and policies of this Element are based in community values and offer a vision of what Murrieta strives to be in the future. The Land Use Element of the *Murrieta General Plan* indicates the

distribution, location, and density/intensity of residential, commercial, industrial, and public land uses.

Housing Element

The Housing Element sets forth the City's policies and strategies for addressing the housing needs of all households in Murrieta for a five year period (2000-2005). The Housing Element identifies population and household characteristics for the City, as well as the quantity, quality, and characteristics of the existing housing stock. It identifies the housing needs of the region and the City, as well as recommends ways to meet these needs while balancing other community objectives and available resources. The Housing Element establishes four primary goals: diversified housing stock; preserve and maintain existing affordable housing; remove governmental constraints; and provide housing opportunities to everyone. The City is currently in the process of updating its Housing Element for 2008-2014.

Circulation Element

The Circulation Element provides a master blueprint for implementation of the City's circulation system. Its function is to provide for the movement of goods and people, including pedestrians, bicycles, transit, trains, and automobiles. The circulation system is one of the most critical components in the overall physical organization of the City. The Circulation Plan is intended to show how buildout of the Land Use Plan can be accommodated through the identification of desired alignments and a hierarchy of roadways and circulation routes in the City and Sphere of Influence. Operational policies, levels of service, and safety are also addressed in the Element. The Circulation Element includes the goals, objectives, and policies necessary to implement the Circulation Plan.

Conservation and Open Space Element

The Conservation and Open Space Element establishes goals, objectives, and policies to address areas of conservation including water resources, biotic resources, land resources, energy resources, cultural/historic resources, and rural character, as well as the provision and preservation of open space habitat and resources, including parks and recreation and the community trail system.

Safety Element

The purpose of the Safety Element is to identify policies and programs to help protect the City of Murrieta from such natural and man-made hazards as earthquakes, floods, fires, and hazardous materials. These hazards can cause injury or death, property damage and/or economic and social dislocation. The Safety Element identifies a number of potentially hazardous situations that could potentially affect the City including geologic hazards such as surface fault rupture, liquefaction, landslides, subsidence, and fissuring. Other areas of concern include those

susceptible to severe flooding from Murrieta Creek and its tributaries, dam failure, areas vulnerable to large-scale wildland fires, and the influence area around the French Valley Airport. The potential for hazardous materials incidents also exists, particularly on the freeways or in industrial areas. The Element establishes goals, objectives, and policies to address these hazards including disaster planning and emergency management.

Noise Element

The Noise Element provides an overview of noise terminology, a description of the effects of noise on humans, applicable State regulations, a summary of the City noise environment, and a statement of goals, objectives, and policies designed to minimize existing and foreseeable noise impacts. The Element is intended to be used as a guide in decision-making for public and private development matters where noise is a concern, and in assessing compliance with California Noise Insulation Standards. The ultimate purpose of noise control policies is to minimize the exposure of community residents to excessive noise. Goals, objectives, and policies are provided to control environmental noise through the thoughtful location of land uses, proper site design and protection techniques.

Air Quality

Murrieta's Air Quality Element is an optional element that has been prepared to address local responsibility for air pollution. Air Quality is a regional issue and therefore pollution standards and planning requirements must be considered on a local, state, and federal level. The goals, objectives, and policies are designed to reduce the health and economic impacts of air pollution in Murrieta and to increase awareness of local, regional, and governmental responsibility for air quality.

Economic Development

The purpose of the Economic Development Element is to provide guideline direction concerning future economic growth of the community. Within the scope of this Element, the desired role and contribution of key economic sectors of the community are identified through goals, objectives, and policies. This Element is closely related to the Land Use Element because many aspects of economic growth (jobs, housing, property values, retail sales) are manifested through land use development and resulting activities. Overall, this element establishes a direction for continued growth and guideline for decision-makers, City Staff, civic organizations, businesses, and residents.

SPECIFIC PLANS

There are currently 8 adopted Specific Plans within the General Plan Study Area. The locations of the Specific Plans are illustrated on the Murrieta General Plan/Zoning Map; refer to *Exhibit 2.2-2*.

Greer Ranch Specific Plan

The Greer Ranch Specific Plan was adopted in September 1995. The Greer Ranch Specific Plan area consists of approximately 555 acres located along the northerly boundary of the City, north of Clinton Keith Road and west of the I-215 Freeway. The Specific Plan area is characterized by two valleys created by three northeast to southwest trending ridgelines.

The Specific Plan permits 688 residential dwelling units in 12 planning areas, ranging from gross densities of 0.5 dwelling units per acre (du/ac) to 3.8 du/ac. The residential development area is approximately 333.1 acres (60 percent) of the site. Approximately 196.8 acres (35.5 percent) of the site would be maintained as open space, predominately comprised of natural areas. Approximately 17.9 acres (3.2 percent) of the site would be developed for recreational use, including a 4.3 acre private Community Center for the residents of Greer Ranch and a 13.6-acre public Neighborhood Park. The remaining 7.2 acres (1.3 percent) would serve the circulation system.

The purpose of the Greer Ranch Specific Plan is to provide a set of master plans, guidelines, regulations, and implementation programs for guiding and ensuring the orderly development of Greer Ranch.

The Vineyard Specific Plan

The Vineyard Specific Plan was originally approved in February 1988 and then revised and certified complete in September 1988. Since then, four substantial conformances to the Specific Plan have been approved to facilitate minor modifications to planning area boundaries, to relocate uses within the planning area, and to facilitate minor modifications to the alignment of Kalmia Street, while remaining consistent with the intent of the approved Specific Plan.

The Specific Plan is located in the western portion of the City, west of Murrieta Creek and adjacent to the City's western City limit; refer to *Exhibit 2.2-2*. The Vineyard Specific Plan consists of approximately 521 acres and allows for a maximum of 1,306 dwelling units on 332.5 acres. Approximately 171.7 acres of open space would be maintained, including 155.6 acres of passive open space and 16.1 acres of active park. Neighborhood commercial uses would be located on 4.8 acres. Development standards and design guidelines, including community elements, architectural guidelines and landscape guidelines are identified in the Specific Plan.

Copper Canyon Specific Plan

The Copper Canyon Specific Plan was adopted on April 26, 1996. The Specific Plan is comprised of 579 acres located in the western portion of the City, west of Murrieta Creek and adjacent to the City's western City limit; refer to *Exhibit 2.2-2*. The Copper Canyon Specific Plan proposes development of a mixed-use master planned community with up to 1,027 dwelling units on 291.5 acres, 14.1 acres of neighborhood commercial uses; 18.8 acres of recreational park areas; 55.0 acres of natural open space and 17.2 acres of roadways. A 167.3 acre 18-hole golf course and 5.1 acre golf club are also proposed along with a conference center.

Plaza de Murrieta Specific Plan

The Plaza de Murrieta Specific Plan was adopted in September 2007. The Specific Plan is located on approximately 52.25 acres at the northeast corner of Jefferson Avenue and Lemon Street. The Plaza de Murrieta Specific Plan proposes a mixed-use master planned community within five planning areas with up to 95 single family detached units on 17.70 acres, 140 Townhome-1 residential units on 14.08 acres, 68 Townhome-2 residential units and 19 live/work residential units on 6.07 acres specifically designed to accommodate home-based businesses, and a Village Commercial center on 7.66 acres. Within the center of the community, a 1.03 Central Park is proposed with opportunities for active and passive recreational uses. The remaining acreage would consist of pocket parks, landscaped paseos, and roadways.

The Specific Plan includes a Pedestrian Connectivity Plan with a system of extensively landscaped paseos, sidewalks, and pedestrian pathways to facilitate walking throughout the area. The Specific Plan encourages an "Urban Village" for the commercial component of the site with a "Main Street" design concept. The Specific Plan establishes planning standards, architecture design guidelines for each planning area, and site design guidelines for the various land uses to promote a consistent and compatible development with a "French Cottage" style.

Historic Murrieta Specific Plan

The Historic Murrieta Specific Plan was adopted in October 2000 and amended February 2003. The Historic Murrieta Specific Plan consists of approximately 250 acres bounded by Kalmia Street on the north, Ivy Street on the south, Hayes Avenue on the west and Jefferson Avenue on the east. The Specific Plan area is essentially the original "Murrieta Town Site" subdivided by the Temecula Land and Water Company in 1884. The Specific Plan establishes policy direction to guide future development within Historic Murrieta.

The Specific Plan includes 10 land use districts: Village Rural Residential; Village Residential – Single Family 1; Village Residential – Single Family 2; Village Residential – Multi Family 1; Village Residential – Office; Village Commercial Neighborhood; Village Mixed Use; Village Public/Civic/Institutional; Historic Preservation Overlay District; and Design Guidelines Overlay District. Site development standards and land use regulations are provided for each district.

Design guidelines and a streetscape plan with text and illustrations provide an overall vision for Historic Murrieta. At buildout, the Historic Murrieta Specific Plan would allow for 982 residential dwelling units, 142,389 square feet of commercial uses, 325,611 square feet of civic/institutional uses, 607,444 square feet of mixed-uses, and 96,000 square feet of office uses.

Specific Plan 276

Specific Plan 276 was adopted on October 30, 1990 by the County of Riverside. The Specific Plan is located generally east of the I-15 freeway, west of the I-215 freeway, and south of Murrieta Hot Springs Road, in an area known as "the triangle."

Specific Plan 276, commonly known as the "Murrieta Springs Mall Specific Plan" proposes a plan for a 1,767,914 square foot regional shopping center/mall, comprised of retail, office, restaurant, entertainment, and hotel uses on approximately 64 acres. The Specific Plan proposes development of the area within three phases. The Regional Mall would be located on approximately 51.5 acres and contain eight major anchor tenants, a food court, multi-screen cinema complex, and smaller retail shops located throughout the mall. The remainder of the site would include eight free-standing building pads to include restaurants, retail shops, office space, hotel, and financial services. The Specific Plan includes development standards, including Commercial Design Guidelines.

Specific Plan 310

Specific Plan 310 was adopted in December 2001 and amended in December 2004. The purpose of the Specific Plan is to delineate a mixed-use residential development plan encompassing approximately 1,734.5 acres located in the Winchester area of unincorporated Riverside County. Only 175 acres of the Specific Plan area are within Murrieta's Sphere of Influence.

The land use concept creates a community with a historic California theme comprised of up to 4,186 residential units located within three distinct villages focused around a championship 18-hole golf course integrated into natural habitat/open space and uniquely themed, pedestrian-oriented mixed-use core areas. The Specific Plan identifies 37 planning areas supplemented by greenbelts and roadways. Overall the Specific Plan allows for 4,186 residential dwelling units on 768 acres, including 1,096 dwelling units within the residential portion of the Mixed-use designation, 200.8 acres of Mixed Use, 142.4 acres of commercial uses, including 11.4 acres of Commercial within the Mixed Use area, 147.7 acres of commercial recreation and 463.1 acres of Open Space/Recreation/School uses. The Specific Plan includes planning standards and design guidelines for the area.

Creekside Village Specific Plan

The Creekside Village Specific Plan was adopted in was adopted in May 2002 and amended in August 2003. The Specific Plan consists of approximately 145 acres located east of the I-215 freeway and south of Murrieta Hot Springs Road and its intersection with Whitewood Road. The Specific Plan proposes 500 residential units on 97.74 acres, 10.03 acres for an elementary school, 19.28 acres of natural creek and related vegetation, 4.43 acres for greenways/village green, and 13.64 acres for roadways and runoff treatment basins. The Specific Plan includes four potential alternatives with Alternative 3 allowing up to 780 residential units and an elementary school. The Specific Plan includes land use regulations and design standards for the area.

Murrieta Springs Specific Plan

The Murrieta Springs Specific Plan was adopted in June 2002. The 697-acre Murrieta Springs Specific Plan is located east of the I-215 freeway, adjacent to the western edge of Winchester Road, north and west of Borel Road and west of the French Valley Airport Road entrance. The Specific Plan area was annexed into the City of Murrieta in July 2002. The Specific Plan proposes a master-planned community, primarily composed of residential, open space, commercial, an elementary school and recreation land uses. The Specific Plan allows for a maximum of 2,202 dwelling units on 415.3 acres, an elementary school of 12.7 acres, two active park sites totaling 22.7 acres, 209.6 acres of open space, 9.4 acres of commercial uses, 27.3 acres of primary roadways, and 5.23 acres of expanded landscape parkways. The Specific Plan includes land use development standards and design guidelines for the area.

Murrieta Oaks Specific Plan

The Murrieta Oaks Specific Plan was adopted on June 20, 2000. The Specific Plan is comprised of approximately 259.6 acres located in the area between the I-15 freeway and the I-215 freeway, north of Los Alamos Road, with Clinton Keith Road crossing the site at the northern edge. The Specific Plan proposes residential, open space, and recreational uses, as well as the potential for an elementary school. The land use plan proposes a cluster development to maintain significant natural features, such as the ridgeline, steep hillside areas, and drainage courses. Without an elementary school, four residential neighborhoods would contain up to 600 dwelling units. With an elementary school the four residential neighborhoods would accommodate up to 560 dwelling units. The elementary school would be located on 10.0 acres. The natural system would consist of 76.02 acres designated for natural hillside, conserved creek open space, and the natural hillside are not in slope bank, but subject to fuel modification. Modified open space would consist of 33.58 acres and include a neighborhood park (5.13 acres), landscaped slope banks, and a trail system with picnic/rest areas, and fuel modification areas. The remaining area would consist of roadways.

Golden City Specific Plan

The Golden City Specific Plan was originally adopted in November 1996. Substantial Conformance No. 1 was approved in June 1999. The Golden City Specific Plan is located in the northern portion of the City. It is generally located east of Antelope Road and the I-215 freeway, west of the City's Sphere of Influence, north of Baxter Road and south of Brian's Way. The Specific Plan is comprised of approximately 248 acres. The Specific Plan allows for 502 dwelling units on 150.1 acres. Non-residential uses include business park (21.4 acres), multiple use (19.3 acres), fire station (5.3 acres), open space (34.3 acres), neighborhood park (11.6 acres), green belts (1.5 acres), and detention basins (4.5 acres). The development guidelines provide for a Neo-traditional planned community, providing a close integration of land uses.

Murrieta Highlands Specific Plan

The Murrieta Highlands Specific Plan was originally adopted in October 1995. Substantial Conformance No. 1 was approved in July 1999. The Specific Plan area is comprised of 419 acres generally located north of Brian's Way and Keller Road, east of Antelope Road and the I-215 freeway, west of Pitman lane, and south of Scott Road and rural residential land uses. The Specific Plan provides for 1,167 dwelling units on 277.5 acres and 67.3 acres of commercial uses. Additional uses include an elementary school (12.6 acres), neighborhood parks (22.5 acres), multi-purpose greenbelt (11.9 acres), and open space (27.2 acres). The development plan emphasizes a pedestrian-oriented environment with recreational uses that are within walking distances inside the community.

REDEVELOPMENT PLAN

The Original Redevelopment Plan for the City of Murrieta was adopted on June 15, 1999. The Original Project Area is comprised of seven subareas totaling 1,133 acres. On July 5, 2006, the City approved the 2006 Amendment to the Original Plan, which added approximately 1,193 acres (Added Territory) to the Original Project. Together the Original Project Area and the Added Territory are identified as the Amended Project Area; refer to *Exhibit 2.1-1*, *Amended Project Area*. The purpose of the Amended Plan is to eliminate the conditions of blight existing in the Amended Project Area. Plan objectives for the Amended Project Area include:

- Encourage employment opportunities through environmental and economic improvements resulting from the redevelopment activities.
- Provide for the rehabilitation of commercial structures and residential dwelling units.

LAKE ELSINORE
SEDCO HILLS
WILDOMAR
MURRIETA
TEMECULA
SPHERE OF INFLUENCE
COUNTY
COUNTY

MURIETTA RD
SCOTT RD
BRIGGS RD
LEON RD
ANTELOPE RD
BUNDY CANYON RD
CORYDON RD
MISSION TRL
PALOMAR ST
CENTRAL ST
CLINTON KEITH RD
GRAND AVE
NUTMEG ST
JACKSON AVE
ALAMOS RD
THOMPSON RD
WASHINGTON ST
BOREL RD
WHITEWOOD RD
ALTA MURRIETA DR
WASHINGTON AVE
IVY ST
WEBSTER AVE
JEFFERSON AVE
AVENUE CRESTA
CALLE PINO
TENAJA RD
LUZ RD
NICOLAS RD
WINCHESTER RD
REY RD
GARFIELD AVE
YNEZ RD
LONG VALLEY RD

215
15
79

LEGEND

- Murrieta
- Temecula
- Lake Elsinore
- Sedco Hills
- Wildomar
- Sphere of Influence

December 18, 2009

0 2,500 5,000
Feet

Source:
County of Riverside,
City of Murrieta,
ESRI - World Shaded Relief

RBF CONSULTING

12/09 JN 10-106976 Regional_Location.mxd

Regional Location Map

Exhibit 1-1

Back of 11 x 17 exhibit page.

- Provide for the participation in the redevelopment of property in the Amended Project Area by owners who agree to so participate in conformity with the Amended Plan.
- Provide for the management of property owned or acquired by the Agency.
- Provide relocation assistance where Agency activities result in displacement.
- Provide public infrastructure improvements and community facilities, such as the installation, construction and/or reconstruction of streets, utilities, public buildings, facilities, structures, street lighting, landscaping and other improvements which are necessary for the effective redevelopment of the Amended Project Area.
- Increase and improve the community's supply of affordable housing.
- Acquire real property.
- Dispose of real property acquired by the Agency in the Amended Project Area, except property conveyed to it by the City.
- Encourage the redevelopment of the Amended Project Area through cooperation of private enterprise and public agencies.

The 2006 Amendment to the Redevelopment Plan identifies potential infrastructure improvement projects, community facilities programs, community development programs, and housing programs.

OTHER CITY OF MURRIETA PLANNING AND POLICY DOCUMENTS

Golden Triangle Development Framework Plan

The *Golden Triangle Development Framework Plan* (GTDFP) (adopted February 16, 1999) is a Master Development Plan for the 200 acre portion of the Golden Triangle located adjacent to and east of the I-15 freeway, west of the I-215 freeway and south of Los Alamos Road; refer to *Exhibit 2.2-2*. The area addressed by the GTDFP is limited to the area designated as Multiple Use Area 1 by the General Plan. The goal of the GTDFP is to set the foundation for future development in the plan area in order to implement the General Plan goals for an urban center. The GTDFP focuses on identification of appropriate land uses and on identifying adequate infrastructure, such as streets, sewers, water, and drainage systems to serve ultimate buildout of this area. The plan area is divided into nine planning areas, defined by natural drainage courses, major streets, and site topography. The GTDFP identifies the allowable uses and permit requirements for each planning area, as well as development standards for each land use. Uses allowed within the plan area include multi-family residential, commercial, office/medical professional, and open space. Existing utility infrastructure, streets, and drainage were evaluated as part of the GTDFP and backbone systems were identified based on buildout of the plan area in accordance with the land use plan.

Retail Corridor Action Plan

The *Retail Corridor Action Plan* was originally adopted on May 23, 1995 and Amended on February 1, 2002. The Retail Corridor area is comprised of three non-contiguous tracts of land under various ownerships. The western tract encompasses 213 acres and is bounded by Jefferson Avenue on the west, Los Alamos Road on the north, Guava Street on the south, and the I-15 freeway on the east. The central tract consists of 26.22 acres located north of Murrieta Hot Springs Road, east of the I-15 freeway, and west of Hancock Avenue. The eastern tract consists of 54 acres and is generally bounded by Murrieta Hot Springs Road on the north and the I-215 freeway on the west. The Master Plan provides the following:

- Distribution, location, and extent of uses of land within the area covered by the Plan.
- The proposed distribution, location, and extent and intensity of infrastructure, including but not limited to sewer, water, drainage, streets, utilities and other essential facilities to support the land uses proposed in the plan.
- The location and description of physical conditions affecting the property including, but not limited to geotechnical, biological, topographical, drainage and hydrology, traffic and cultural resources.
- Standards and criteria which regulate all aspects of development, including but not limited to such standards as parking, architecture, landscaping, and signs.
- A program of implementation and administration of the Master Plan, including but not limited to, processing requirements and other administrative procedures.

Murrieta Parks and Recreation Master Plan

The *Murrieta Parks and Recreation Master Plan* (June 2009) provides a realistic guide for the creative, orderly development and management of parks, recreation facilities and programs for the City, now and into the future. The Master Plan is an implementation tool of the General Plan, providing strategies for addressing the General Plan's vision, as well as goals and policies based on current analysis and community input. The Master Plan accomplishes the following:

- Identifies existing recreational resources;
- Assesses recreational facilities needs;
- Provides an inventory of recreation programs and services;
- Provides recommendations with respect to existing and proposed parks, unimproved parkland, and joint use and collaborative or partnering opportunities; and
- Identifies sources for funding capital costs and discusses current funding strategies.

OTHER JURISDICTION PLANS

The City of Murrieta is bordered by the County of Riverside and the City of Temecula. Although the City does not have control over land use decisions outside its City limits, coordination with surrounding jurisdictions is important to minimize potential conflicts among adjacent land uses.

Riverside County General Plan

Approximately 5,341 acres of unincorporated territory in Murrieta's General Plan Study Area are within the jurisdiction of Riverside County. The *Riverside County General Plan* (October 2003) covers the entire unincorporated portion of the County and is augmented by 19 more detailed Area Plans covering the County's territory with the exception of the undeveloped desert areas and the March Air Reserve Base. The purpose of the General Plan is to manage the overall pattern of development more effectively. The Area Plans provide a clear and more focused opportunity to enhance community identity within the County and stimulate quality of life at the community level. The General Plan consists of 10 sections that describe County policies related to land use, circulation, multipurpose open space, safety, noise, housing, and air quality, as well as administration of the General Plan.

Murrieta is located within the Southwest planning area of the *Riverside County General Plan*. The Southwest planning area is bounded by San Diego County to the south, Orange and San Diego Counties to the west, Lake Elsinore to the northwest, and the vast mountain and desert area known as REMAP – the Riverside Extended Mountain Area Plan to the east. The Southwest Area Plan borders the Sun City/Menifee Valley and Harvest Valley/Winchester Area Plans. The *Riverside County General Plan* only has jurisdiction over unincorporated territory within the County of Riverside that is under the authority of the Board of Supervisors. Land within a city's sphere of influence can be given land use designations by both the city and the county. The city's designation applies if the land is annexed into the city, otherwise the county's designation prevails.

The Southwest Area Plan Land Use Plan generally reflects the predominantly rural character of the area. Approximately 89 percent of the Southwest planning area is devoted to Open Space, Agricultural, and Rural designations. The remaining 11 percent of the land is devoted to a variety of urban uses. Most of this urban development is focused near the Cities of Temecula and Murrieta and in French Valley, where commitments to urban uses have been made through adoption of specific plans. By concentrating development patterns, the land use plan anticipates future growth would be accommodated in these areas and the unique rural and agricultural lifestyle found elsewhere in the Southwest planning area will be maintained.

Future growth is largely accommodated northeast of the existing Cities of Temecula and Murrieta in the French Valley. Proposed land uses reflect, or are influenced by, the adopted specific plans. These specific plans depict a largely residential community with local-serving

commercial and employment uses located along the major roadways. The residential community is focused around State Route 79 North (Winchester Road). Within that residential pattern, the French Valley Airport acts as a hub for surrounding business and industrial park development, which contributes significantly to an employment and economic focus for the Southwest planning area. State Route 79 North is the chief circulation route in the valley other than the I-15 and I-215 freeways. The adjacent areas accommodate regional uses and a large segment of potential commercial development.

City of Temecula General Plan

The City of Temecula and its Sphere of Influence are located adjacent to Murrieta. Temecula's General Plan (2005) identifies a community vision for the future and establishes a framework to guide future decisions regarding development, resource management, public safety, public services, and the overall quality of the community. Temecula's planning area totals approximately 62 square miles with 28 square miles within the City and 24 square miles within the Sphere of Influence. The Temecula General Plan is organized into 10 elements: Land Use, Circulation, Housing, Open Space/Conservation, Growth Management/Public Facilities; Public Safety; Noise; Air Quality; Community Design; and Economic Development.

MULTI-JURISDICTIONAL PLANS

Riverside County Airport Land Use Compatibility Plan

As adopted by the Riverside County Airport Land Use Commission (ALUC), the *Riverside County Airport Land Use Compatibility Plan Policy Document* (October 2004) establishes policies applicable to land use compatibility planning in the vicinity of airports throughout Riverside County. Compatibility plans serve as a tool for use by airport land use commissions in fulfilling their duty to review proposed development plans for airports and surrounding land uses. Additionally, compatibility plans set compatibility criteria applicable to local agencies in their preparation or amendment of land use plans and ordinances and to landowners (including special district and other local government entities as well as private parties) in their design of new development. State law requires each local agency having jurisdiction over land uses within an ALUC's planning area to modify its general plan and any affected specific plans to be consistent with the compatibility plan.

French Valley Airport, located approximately 1.5 miles east of Murrieta, is addressed within the *Riverside County Airport Land Use Compatibility Plan*. The compatibility plan includes an overall compatibility map for French Valley Airport. The compatibility map illustrates the airports influence boundary and divides the area into compatibility zones. Maps of the noise contours and airspace protection (height limit) are also provided. Portions of the City of Murrieta and its Sphere of Influence are located within the French Valley Airport influence boundary.

Western Riverside County Multiple Species Habitat Conservation Plan

The *Western Riverside County Multiple Species Habitat Conservation Plan* (MSHCP) is a comprehensive, multi-jurisdictional Habitat Conservation Plan (HCP) focusing on Conservation of species and their associated Habitats in Western Riverside County. The MSHCP plan area encompasses approximately 1.26 million acres (1,966 square miles); it includes all unincorporated Riverside County land west of the crest of the San Jacinto Mountains to the Orange County line, as well as the jurisdictional areas of the Cities of Temecula, Murrieta, Lake Elsinore, Canyon Lake, Norco, Corona, Riverside, Moreno Valley, Banning, Beaumont, Calimesa, Perris, Hemet, and San Jacinto.

The MSHCP serves as an HCP pursuant to Section 10(a)(1)(B) of the Federal Endangered Species Act of 1973 (FESA), as well as a Natural Communities Conservation Plan (NCCP) under the NCCP Act of 2001. The purpose of the MSHCP is to allow the participating jurisdictions to authorize "Take" of plant and wildlife species identified within the plan area. The United States Fish and Wildlife Service (USFWS) and California Department of Fish and Game (CDFG) have authority to regulate the Take of Threatened, Endangered, and rare Species. Under the MSHCP, the Wildlife Agencies will grant "Take Authorization" for otherwise lawful actions, such as public and private Development that may incidentally Take or harm individual species or their Habitat outside of the MSHCP Conservation Area, in exchange for the assembly and management of a coordinated MSHCP Conservation Area.

South Coast Air Basin Air Quality Management Plan

The South Coast Air Quality Management District (SCAQMD) and Southern California Association of Governments (SCAG) are designated by the State of California to develop regional air quality plans for the South Coast Air Basin (SCAB) to ensure attainment of national and state ambient air quality standards. Every three years, the SCAQMD prepares an overall plan, or *Air Quality Management Plan* (AQMP), for the air quality improvement to be submitted for inclusion in the State Implementation Plan (SIP). Each iteration of the plan is an update of the previous plan. The most current SCAQMD AQMP was adopted by the AQMD Governing Board on June 1, 2007.

Strategies for controlling air pollutant emissions in the AQMP are grouped into three “tiers,” based on their anticipated timing for implementation. Tier I consists of the implementation of best available current technology and management practices that can be adopted within the next five years. Tier II is based on anticipated advancements in current technology and vigorous regulatory action, and Tier III controls consist of development of new technology. In total, the three tiers include 123 recommended control measures.

In order to achieve the goals and objectives of the AQMP at the local level, all cities and counties must adopt Air Quality Elements, ordinances, or plans that fully address air quality and help to implement AQMP measures for achieving compliance with state and federal standards.

Local responsibilities for achieving compliance with national and state ambient air quality standards primarily focus on measures that control "indirect sources" such as "facility, building, structure, installation, real property, road, or highway which attracts, or may attract mobile sources of pollution. Such term includes parking lots, parking garages and other facilities subject to any measure for management of parking supply."

Riverside County Hazardous Waste Management Plan

The Riverside *County Hazardous Waste Management Plan* (CHWMP) was adopted by the Board of Supervisors in 1989 and identifies current and projected future hazardous waste generation and management needs throughout the County. The CHWMP also includes a Households Hazardous Waste Element that is designed to divert household hazardous wastes from the County's landfills. Further, the plan addresses only those hazardous waste issues with which local governments have responsibilities, namely land use decisions. The County and cities are required to implement facility siting policies and criteria within local planning and permitting processes.

Non-Motorized Transportation Plan

The *Non-Motorized Transportation Plan* (NMTP) (April 1996) documents the results of a study to develop non-motorized transportation alternatives for the Western Riverside County Sub-Region. Plan development included collaboration between the Riverside County Transportation Commission (RCTC), Southern California Association of Governments (SCAG), CalTrans, the County of Riverside, and the Riverside Transit Agency. More specifically, the plan addresses bicycle, pedestrian and trail facilities, as well as air quality and congestion management related issues to the extent that air quality benefits and congestion relief accrue as a result of increased bicycling, walking, and reduction in vehicle trips/vehicle miles traveled (VMT). Phase I of the report assesses the need for non-motorized transportation facilities and programs. Phase II of the report includes a proposed sub-regional non-motorized transportation network, along with supporting policies and programs, funding guidelines, and other implementation measures and strategies.

Regional Transportation Plan

State law requires that Regional Transportation Plans (RTP) be developed to address long-range transportation issues, and to help local and state decision makers shape the future of California's transportation infrastructure. The RTP provides a framework for transportation improvement projects that will allow the region to meet future mobility goals and air quality requirements in a financially-constrained environment.

The Regional Transportation Plan (RTP) is developed, maintained, and updated by the Southern California Association of Governments (SCAG), Southern California's Metropolitan Planning Organization. It encompasses the six counties in Southern California including Los Angeles,

Orange, San Bernardino, Riverside, Ventura and Imperial. On May 8, 2008, the 2008 RTP: Making the Connections was adopted by the Regional Council of the Southern California Association of Governments.

The RTP project list is divided into three sections. At the center is the Regional Transportation Improvement Program (RTIP), which forms the foundation of the RTP project investment strategy and represents the first six years of already-committed funding. The RTP also contains an additional financially constrained set of transportation projects above and beyond the RTIP. Finally, the Strategic Plan represents an unconstrained, illustrative list of potential projects that the region would pursue given additional funding.

LEGISLATION

State Assembly Bill (AB) 32 – Global Warming Solutions Act

The *Global Warming Solutions Act of 2006* was adopted by the California State Legislature to establish a comprehensive program of regulatory and market mechanisms to achieve real, quantifiable, cost-effective reductions of greenhouse gases (GHG) emissions throughout the state. Under the California Environmental Protection Agency (CEPA), the bill requires the California Air Resources Board (CARB) to be the responsible agency for monitoring and reduction of GHG emissions to year 1990 levels by year 2020. Further, ARB is responsible for adopting a plan that indicates how emission reductions will be achieved via regulations, market mechanisms and other actions that are technologically feasible and cost effective, as well as consider impacts on California's economy, environment, public health, equity between regulated entities, electricity reliability, conformance with other environmental laws, and to ensure that rules do not disproportionately impact low-income communities.

State Senate Bill (SB) 375 – Transportation Planning: Sustainable Communities Strategy

State Senate Bill (SB) 375 became law in 2009 and sets out to achieve the Greenhouse Gas (GHG) emissions reduction goals outlined by the Global Warming Solutions Act of 2006. The bill requires the California Air Resources Board (CARB) to develop regional reduction targets specific to automobiles and light trucks. In turn, the Metropolitan Planning Organizations (MPOs) are required to integrate their respective sub-regional planning processes for transportation, land use and housing through development of a Sustainable Communities Strategy (SCS). Contained with the bill are several local government and private sector incentives to encourage new development of more concentrated land use mixes and transportation alternatives.

Findings

- The current General Plan consists of elements adopted at various dates.
- The Land Use, Circulation, and Economic Development Elements were most recently adopted in 2006.
- There are currently 8 adopted Specific Plans within the General Plan Study Area.
- Understanding the development that has already occurred and what could potentially occur within the designated Specific Plan areas is necessary in order to understand potential growth that may still occur within these areas.
- The City's Amended Redevelopment Project Area totals 2,326 acres.
- The Murrieta Parks and Recreation Master Plan was recently adopted and provides current information on the existing resources, facility needs, and recommendations.
- The Golden Triangle Development Framework Plan identifies appropriate land uses and necessary infrastructure, such as streets, sewers, water, and drainage systems to serve ultimate build-out of the area.
- Coordination and consistency with the Riverside County Airport Environs Land Use Plan will continue to be important as future growth within and adjacent to the airport influence area occurs.
- Coordination with the County in terms of future growth and development, especially in the French Valley area will continue to be important to ensure land use compatibility and that growth does not negatively impact Murrieta.
- Coordination with the City of Temecula will continue to be important, including being aware of and understanding planned growth and development that may directly or indirectly affect Murrieta.
- Coordination and consistency with other regional agency and/or multi-jurisdictional plans related to habitat conservation, air quality, hazardous waste management, and transportation will be important as the City of Murrieta continues to grow.
- All future land use development and transportation alternatives to be provided in the City of Murrieta shall be consistent with the intent of the Global Warming Solutions Act of 2006 and State Senate Bill (SB) 375.

Sources Cited

City of Murrieta General Plan, various dates.

City of Murrieta Golden Triangle Development Framework Plan, adopted February 16, 1999, effective March 18, 1999.

City of Murrieta Parks and Recreation Master Plan, June 2009.

City of Temecula General Plan, 2005.
Copper Canyon Specific Plan EIR, Adopted April 26, 1996.

Creekside Village Specific Plan, August 2003.

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Domenigoni-Barton Specific Plan Final SP and Final EIR, December 2004.

Golden City Specific Plan Substantial Conformance #1, August 15, 2005.

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Greer Ranch Specific Plan EIR Volume I and II, October 1994.

Historic Murrieta Specific Plan Mitigated Negative Declaration, January 1997.

Historic Murrieta Specific Plan, October 30, 2000.

Murrieta Highlands Specific Plan Substantial Conformance No. 1, December 2001.

Murrieta Oaks Specific Plan, July 2000.

Murrieta Springs Mall Specific Plan No. 276, Adopted October 30, 1990.

Murrieta Springs Specific Plan (SP 309) and EIR No. 408, June 25, 2002.

Redevelopment Plan for the Murrieta Redevelopment Project as Amended by the 2006 Amendment, Murrieta Redevelopment Agency, June 2006.

Riverside County Airport Land Use Compatibility Plan Volume I Policy Document, October 14, 2004.

Riverside County Airport Land Use Compatibility Plan Volume I Policy Document, Chapter 15 – French Valley Airport, Adopted October 2007.

Riverside County General Plan, October 7, 2003; Amendments December 2008.

The Vineyards Specific Plan and EIR Substantial Conformance No. 1, June 13, 1989.

The Vineyards Specific Plan Substantial Conformance No. 4, 1992.

Western Riverside County Multiple Species Habitat Conservation Plan, June 2003.

South Coast Air Quality Management Plan (SCAQMP), Adopted June 1, 2007.

Western Riverside County Sub-Region Non-Motorized Transportation Plan, April 1996.

Western Riverside Council of Governments (WRCOG) Regional Transportation Plan, Adopted 2001.

State of California, Assembly Bill 32 (Nunez/Pavley): Global Warming Solutions Act Fact Sheet, 2006.

State of California, Senate Bill 375 (Steinberg): Transportation Planning, Sustainable Communities Strategy Fact Sheet, 2008.

Introduction

The Land Use section describes the planning boundaries for the General Plan, which includes the City limits and Sphere of Influence. This section identifies existing land uses and development within the General Plan Study Area, including the distribution of land use designations and the types of land uses that currently occur. Current land use designations, including allowed densities and intensities are also identified.

Regulatory Context

LAND USE ELEMENT

The existing Land Use Element of the General Plan sets forth goals, objectives, and policies for the permitted types, intensities, and locations of land uses in the City. The existing Land Use Element contains descriptions of residential, commercial, multiple use, industrial, parks/open space uses, and civic/institutional uses, as well as specific plan and master plan overlay areas. The Element includes a Land Use Map that establishes a planned pattern of land use by designating the types of uses permitted for land and their location in the City. Objectives and policies in the existing Land Use Element are intended to provide a balance of land uses, maintain the City's rural/equestrian character, provide orderly growth with necessary public services, and provide for the preservation and development of special areas of the City including Historic Murrieta, the Los Alamos District, and the Golden Triangle. Revitalization and redevelopment are also identified.

ZONING CODE

Zoning is the means by which cities implement their General Plan. The City of Murrieta's Development Code translates the long-term goals and policies of the General Plan into the regulations and guidelines used for decision-making on future developments. While the General Plan and zoning designations are consistent, the Development Code identifies specific uses allowed within each zoning district and provides specific development requirements, such as density, setbacks, height, size, and development character and appearance.

The City of Murrieta's Development Code is contained in Title 16 of the Municipal Code, and establishes zoning districts to achieve compatibility of uses within each district. Each district distinguishes between land uses and structures, intensity of uses and open spaces.

Existing Conditions

PLANNING BOUNDARIES

The Planning Area (or Study Area) for the City of Murrieta's General Plan includes both the incorporated City Limits and the Sphere of Influence; refer to *Exhibit 2.2-1*, *City of Murrieta General Plan Study Area*. The Study Area is comprised of 26,852 acres (41.96 square miles) of which 21,511 acres (33.61 square miles) is located within the City Limits and 5,341 acres (8.34 square miles) is located within the City's Sphere of Influence. The County of Riverside is responsible for final land use decisions within the Sphere of Influence.

Sphere of Influence

The Sphere of Influence (possible future annexation area) is 5,341 acres east of the City, generally located south of Scott Road, west of Winchester Road (SR-79) and north of Clinton Keith Road/Los Alamos Road. The area includes 2,516 acres pre-zoned Rural Residential (RR), 1,955 acres pre-zoned Estate Residential 2 (ER-2), 108 acres pre-zoned Single-Family 1 (SF-1) Residential, 149 acres pre-zoned Business Park (BP), 40 acres pre-zoned Community Commercial (CC) and 175 acres pre-zoned Specific Plan (SP).

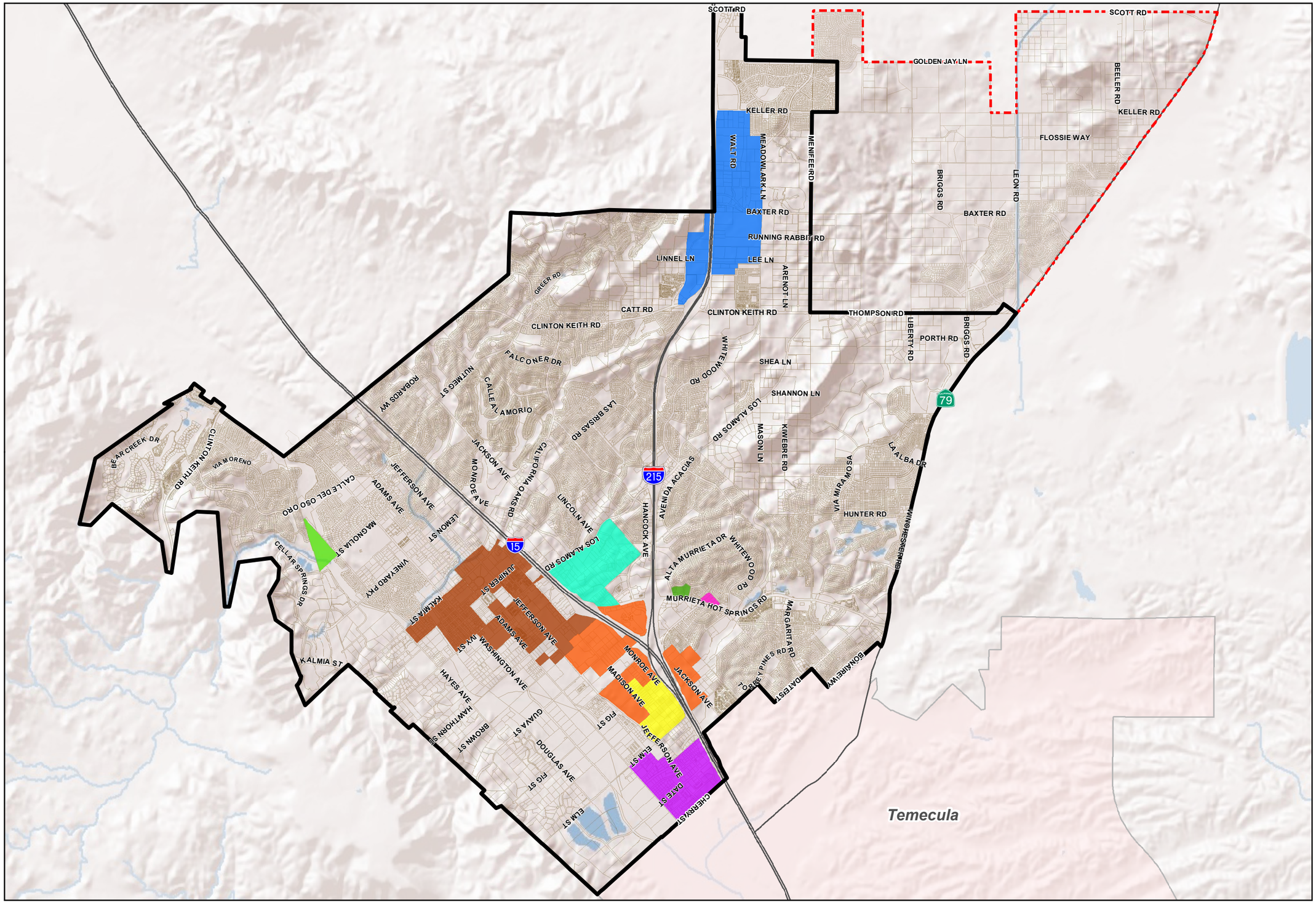
HISTORY

The following information is summarized from the "Guide to Historic Murrieta," written by the Citizens for Historic Murrieta, in March 1992, as provided in the *Introduction* section of the existing *General Plan*.

Paleo-Indian Period. Archaeological research in the Murrieta-Temecula area suggests that prehistoric occupation of the valley dates back thousands of years. There are a number of long-term prehistoric sites located in Murrieta, which are valuable resources. The carvings and other signs left in local rocks and boulders provide an important record of Murrieta's early occupation by Native Americans.

Shoshonean Period. Luiseno and Cahuilla groups of the Southern California Shoshone Indian Tribe entered into the area sometime after 1500 and settled at various sites along streams throughout the Murrieta-Temecula area. The Payomik Kowichum, as they were called before the Mission Era, were a hunting-gathering people.

Avaxat, referring to the cottonwoods of Murrieta Creek, was the name of the Paymik settlement located near old town Murrieta, and Toatwi was a settlement site located near Los Alamos and Winchester Road. Ceremonial sites were often associated with large trees and boulders located throughout the General Plan area.



Murrieta
The future of southern California
General Plan Update

LEGEND

Redevelopment Project Area Designations

- A
- B
- C
- D
- E
- F
- G
- H
- I
- Parcels
- Sphere of Influence
- City Boundary

December 18, 2009

0 0.5 1
Miles

Source:
County of Riverside,
City of Murrieta
ESRI - World Shaded Relief

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12/18 JN 10-106976 RedevelopmentPA.mxd

Amended Redevelopment Project Area

Exhibit 2.1-1

Back of 11 x 17 exhibit page.

Spanish-Mexican Period. In the early 1800s, Avaxat became a rest stop on the Sonoran Trail and was referred to as Alamos, the Spanish name for cottonwood trees. Both the San Luis Rey and the San Juan Capistrano Missions claimed the territory for cattle raising and used local vaqueros to manage their cattle herds. They likely used Los Alamos Road to travel from the Alamos grasslands to the missions. Soon after Spain lost control of Mexico and the missions closed, the entire Murrieta area was divided among three land grants: Rancho Temecula, San Jacinto Rancho and Rancho Santa Rosa.

American Settlement Period. American and European settlers came in search of mining claims, grazing lands, and homesteads. By 1861, the Butterfield Overland Stage stopped at the Willow Springs Station (Alamos/Avaxat). In 1873, Juan Murrieta, an immigrant sheepherder, and partners purchased 52,000 acres of the Temecula and Pauba Ranchos. Murrieta sold his share of the Rancho property to the Temecula Land and Water Company in 1884. It was the height of the land boom of the 1880s and the company promptly surveyed and subdivided the Murrieta portion of the Temecula Rancho.

American Farming Period. By 1883, the California Southern Railway located a depot on Clay Avenue near "B" Street. The train brought ice, groceries, laundry, new settlers, and guests for the nearby hot springs. It also provided the means to export hay, grains, and silica ore. As the pioneering families moved in and settled, they cleared land and put in fruit and nut orchards, vineyards, and olive groves. They raised poultry, livestock, and such crops as alfalfa, oats, wheat, and barley. The foundation was in place for the town of Murrieta and the surrounding agricultural community to develop and prosper.

The area along Los Alamos Road became known as the Alamos District, named for the Alamos School where the farmer's children were taught. The open grain fields of Los Alamos, along with those of the Antelope Valley and the Santa Rosa Plateau, collectively gave Murrieta its identity as a grain farming community. Many of the area's historic landscape and structural resources are of this period.

By 1885, the Murrieta town site grew from a railroad boxcar station to include a depot, post office, grammar school, blacksmith shop, and livery stable. The Fountain House Hotel was built near the railroad at Clay Avenue and "B" Street. The First Methodist Church was built in 1886, along with an assortment of general merchandise and specialty stores. The estimated population was about 800 in 1890. Murrieta was one of the original judicial townships, election precincts, and school districts when Riverside County was established from northern San Diego County in 1893.

The hot springs, now known as Murrieta Hot Springs, were a popular destination for San Diego and Los Angeles residents even in the 1880s. Visitors would frequent the hot springs to camp and "take its waters." The history of the hot springs goes back to earlier times, however. The Payomik referred to them as "warm smelling water" and held ceremonies nearby. The hot springs were deeded to the Temecula Land and Water Company with Juan Murrieta's holdings

and were subsequently acquired by the German Fritz Guenther, in 1902. Guenther developed the popular resort known as "Guenther's Murrieta Hot Springs." The springs have a long-standing reputation for their medicinal qualities.

Present Day. After the close of the rail line in 1935, the land boom ended. By 1947, the town had an estimated population of 1,200. In that same year, the Murrieta Fire Protection District was formed. Civic accomplishments in the 1950s included a new town hall (1956) and the formation of the Murrieta Valley Chamber of Commerce (1959). In the 1960s, the area became known for the breeding of fine race horses. A construction boom began in the late 1980s. In 1987, Murrieta's population was an estimated 3,350. The following year residents resisted the attempts to include Murrieta in the incorporation of Temecula. By 1990, Murrieta's population soared to an estimated 19,000 residents. On July 1, 1991, Murrieta incorporated as a city with more than 24,000 residents. By 2005, more than 85,000 people had moved to the community, making it one of the five largest in Riverside County. As of 2009, the City's population is estimated to be 100,714.[1]

EXISTING LAND USE

City of Murrieta

Existing land uses within the City limits are identified in *Table 2.2-1*, *Existing Land Use Summary*.

Table 2.2-1
Existing Land Use Summary

Land Use	Acres	Percent of Area
Single Family Residential	6,560.08	30.50
Multiple Family Residential	238.35	1.11
Mobile Homes	1,036.26	4.82
Agricultural	1,011.09	4.70
Commercial	737.28	3.43
Commercial Office	127.05	0.59
Industrial	254.11	1.18
Public/Institutional	229.26	1.07
Parks/Open Space	148.53	0.69
Cemetery	9.84	0.05
Golf Course	518.83	2.41
Vacant	7,291.23	33.90
Roadways/Infrastructure	3,348.69	15.57
Total	**21,510.60**	**100.00**

[1] Stanley R. Hoffman Associates, *Economic Trends and Conditions Murrieta General Plan Update*, January 7, 2010, and California Department of Finance.

As indicated in *Table 2.2-1*, approximately 34 percent of the City is currently vacant. Single-family residential uses represent approximately 31 percent of the City. Less then seven percent of the City is developed with commercial, commercial office, industrial, and public/institutional uses.

2006 GENERAL PLAN LAND USE DESIGNATIONS

The *General Plan Land Use Element* (2006) designates land uses for the City; refer to *Exhibit 2.2-2*, *Murrieta General Plan/Zoning Map*.

Residential

Rural Residential (0.0-0.4 du/ac) (RR) – This is the lowest density residential classification and is established for large lot single-family uses within a rural atmosphere. The minimum lot size is 2.5 acres.

Estate Residential (ER) – The Estate Residential category is delineated by three separate land use designations. Each designation has a different minimum lot size and density. The overall Estate Residential designation provides for a transition from the rural areas to the traditional single family subdivisions. The following designations are within the Estate Residential category:

- Estate 1 Residential (0.5-1.0 du/ac) (ER-1) – Minimum lot size is 1.0 acre.
- Estate 2 Residential (1.1-2.0 du/ac) (ER-2) – Minimum lot size is 0.5 acre.
- Estate 3 Residential (2.1-3.0 du/ac) (ER-3) – Minimum lot size is 10,000 square feet.

Single-Family 1 Residential (2.1-5.0 du/ac) (SF-1) – Single-Family subdivisions are the primary use in this designation. Developments should have uniform lot patterns, with a minimum lot size of 7,200 square feet.

Single-Family 2 Residential (5.1-10.0 du/ac) (SF-2) – Small lot single-family detached homes and attached single-family units with common walls are allowed in this designation. The minimum lot size for single-family units is 5,000 square feet. Clustering of units to provide aggregate open space is encouraged and on-site recreational facilities are required. Units are on individual lots with open spaces commonly maintained.

Multi-Family 1 Residential (10.1-15.0 du/ac) (MF-1) – Low density multi-family units are permitted in this designation. Stacked flats or townhouses with ample amounts of open space are allowed. Recreation facilities and open space are required and are commonly maintained. Air space or "postage stamp" subdivisions providing individual ownership are allowed. Sites are large, generally 5 to 15 acres in size, and are located throughout the City.

Multi-Family 2 Residential (15.1-18.0 du/ac) (MF-2) – This high density designation is intended for town homes and stacked flat apartment and condominium developments. Uses such as senior housing, congregate care, or group quarters are allowed in this designation. Recreational facilities and open space are required and are commonly maintained. Sites are generally 5 to 15 acres in size, and are located throughout the City. Target density is 16.0 du/ac.

Commercial

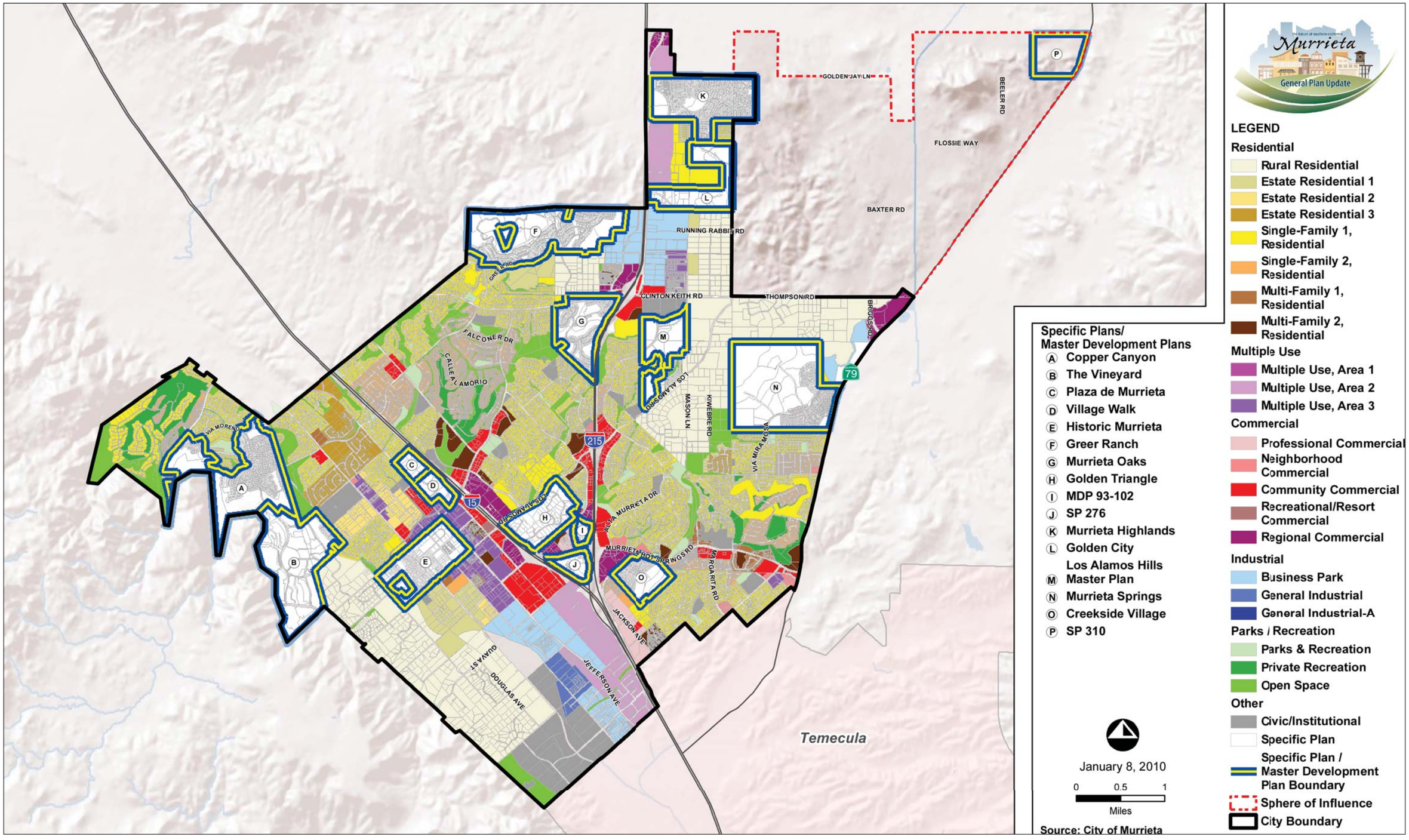
Regional Commercial (RC) – Regional commercial centers, with department stores or other major tenants as anchors, are provided for in this designation. Professional office uses are also included. Regional centers typically have several major anchor tenants as well as smaller retail, restaurant, hotel, motel, financial and accessory uses. Medium sized retail uses as well as theaters are also found in regional centers. Parking, access, signage, and landscaping are provided in common. Regional centers are generally 30 acres or larger in size, and have a Maximum Floor Area Ratio (FAR) of 0.5.

Community Commercial (CC) – This designation is intended to serve the daily shopping needs of a community. It includes destination centers, supermarket centers, and smaller single-lot commercial activities. Beyond the retail uses, financial, office, and restaurant activities are also allowed. Buffering from adjacent residential use is essential. Hotel and motel uses would also be included. Community centers are generally 10 to 30 acres in size and have a Maximum FAR of 0.27 to 0.35.

Neighborhood Commercial (NC) – This designation is for convenience shopping. It includes individual retail and service uses and small or centers on sites generally ranging from 3 to 10 acres in size. Buffering and screening from residential uses is essential. Maximum FAR is 0.25.

Recreational/Resort Commercial (RRC) – This category provides for resort type uses. Lodging accommodations with eating and conference facilities along with a recreational use such as golf course and/or tennis courts are allowed in this designation. Theme parks and recreation centers would also be allowed. Allowable FAR will be project specific and determined by the City on a project-by-project specific basis.

Professional Commercial (PC) – Office, administrative, business, and medical services are allowed in this designation. Financial institutions and eating establishments all support the primary office use. Maximum FAR is 0.5.



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01/10 • JN 10-106976

Murrieta General Plan / Zoning Map

Exhibit 2.2-2

Back of 11 x 17 exhibit page.

Multiple Use

The Multiple Use designation provides the City with a flexible land use category to respond to location and market considerations. The designation allows for commercial and residential uses, except where indicated in the discussion below.

Area 1 (MU-1) – Professional offices, retail, hotels, congregate care facilities, institutions of higher learning, and other medical related uses. Residential uses utilizing the target density of the Multi-Family 2 designation are also permitted in limited areas. The MU-1 area has an approved Master Development Plan (Golden Triangle) that defines permitted locations and intensities of these land uses.

Area 2 (MU-2) – Service commercial, industrial, and office uses are allowed, as well as hotels and motels. Residential uses are not permitted.

Area 3 (MU-3) – Uses such as civic/institutional, office, retail, and residential are allowed in a mixed use setting. Because residential and commercial uses are permitted, special design consideration must be incorporated into all projects. Residential uses may account for up to forty percent (40 percent) of the total area of an individual development site or parcel (as part of a mixed-use project), at a maximum density of 18.0 du/ac.

Industrial

Business Park (BP) – Light manufacturing, fabrication, materials processing, and assembly are allowed in this designation, provided that the uses are conducted in a controlled setting. Research and product development are also encouraged in this designation. Limited retail to serve the primary business park tenants is allowed. Maximum FAR is 0.40.

General Industrial (GI) – This designation allows for the processing of raw materials into manufactured parts or products. Warehousing, bulk storage, and distribution facilities are also allowed. These uses normally require buffering from residential and commercial uses. While outdoor storage and assembly are allowed, additional review is required to regulate these activities on-site. Maximum FAR is 0.40.

Civic/Institutional

This designation allows for public uses such as hospitals, government offices, civic centers, public agency or district facilities, educational facilities, and churches. Buffering from adjacent residential uses is essential.

General Industrial - A (GI-A) – this designation allows for areas for outdoor storage of materials and vehicles, small scale manufacturing, and handicraft industries. Maximum FAR is 0.40.

Open Space

Lands set aside for protection and conservation of natural resources are designated as open space. Steep hillsides, equal to or exceeding 50 percent slope, and other significant habitat areas may be included in this designation. Creeks should remain in a natural condition and should be encouraged to include a trail system.

Parks

This designation is for active and passive open space and recreational areas generally open to the public. Development in this designation is subject to special review by the City.

Private Recreation

This designation is for both public and private active recreational uses. Golf courses are the primary use in this designation. Development in this designation is subject to special review by the City.

Master Plan Overlay

This designation is applied on a case-by-case basis for single-family residential properties with unique characteristics or circumstance that require additional detail in planning future development. However, the Master Plan Overlay (MPO) may not be used within the Los Alamos District. The MPO designation is an overlay to the base land use designation and will only be applied in areas where conditions such as terrain, environmental resources, public amenities, and/or the inclusion of significant public open spaces beyond that normally required support the clustering of single-family residential dwelling units within projects. Developments should have uniform lot patterns.

The base zoning designation and density will control the overall gross density of the site and the minimum permitted lot size. In other words, the MPO designation does not permit a greater number of lots than would otherwise be permitted under the base zoning. However, the MPO allows the clustering of lots to more efficiently utilize those portions of a site that are best suited for development. Minimum lot sizes in an MPO range as follows:

- Rural Residential (RR) zone: One acre;
- Estate Residential – 1 (ER-1) zone: 10,000 square feet;
- Estate Residential – 2 (ER-2) zone: 7,200 square feet; and
- Single-Family 1 (SF-1) zone: 5,000-6,000 square feet.

The MPO process is not applicable for non-residential or multi-family zoned properties, although the Master Development Plan process is available for commercial and industrial zoned properties.

Specific Plan

The Specific Plan designation is applied to larger properties that have approved specific plans that govern site zoning. Specific Plans must comply with the provisions of Government Code Section 65450, which identifies required elements of a specific plan. The intent of a specific plan is to create a cohesive design and development program for properties that can benefit from comprehensive planning because of unique physical features. Specific plans may include a mixture of land uses. SPM reflects Specific Plans adopted by the City of Murrieta.

EXISTING ZONING

The City is divided into zoning districts, which are consistent with the General Plan Land Use designations identified above; refer to *Exhibit 2.2-2*.

Additionally, the *Development Code* identifies the following Overlay Districts:

- LAD (Los Alamos District) Overlay District. The LAD overlay is applied to the historic district east of 1-215 and south of Los Alamos Road, including the right-of-way, to preserve the historic rural character of the neighborhood, in terms of architectural, landscape, and roadway design. Bicycle, equestrian, pedestrian access, and shuttle van services and infill development are encouraged, subject to guidelines that protect the historic character of the district.

- SHO (Scenic Highway) Overlay District. The SHO designation is applied to the 1-15 and 1-215 corridors, as defined in the Master Plan of State Highways Eligible for Official Scenic Highway Designation, to provide protection for scenic qualities of historic significance with appropriate conservation plans. The SHO designation is consistent with the scenic highway/special corridor designation in the conservation and open space element of the *General Plan*.

Findings

The General Plan Study Area is comprised of the City of Murrieta (21,511 acres) and the City's Sphere of Influence (5,341 acres).

As of 2009, the City's population is estimated to be 100,714.

Approximately 36 percent of the City is currently vacant.

Approximately 7,750 acres within the City limits are vacant and available for future development.

Single-family residential units represent the largest amount of developed land within the City.

Sources Cited

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Murrieta General Plan/Zoning Map, Adopted July 20, 1999 and Amended February 7, 2006.

2.3 Population and Demographics

Introduction

The Murrieta townsite was established in 1885 and grew slowly until the mid-1980s. The Department of Finance, using Census data, estimated that the population grew from approximately 3,000 to nearly 19,000 persons between 1980 and 1990. Following incorporation in July 1991, the City of Murrieta recorded steady growth from approximately 24,000 to nearly 44,000 persons during the period between 1992 and 2000.

A Community Profile prepared at that time estimated the median age to be 31.9 years. Approximately 30 percent of the population was under 18 years of age, 30 percent represented the young adult category of 18 to 34 years of age, and 30 percent was between 35 and 64 years of age. The remaining 10 percent the population represented the 65+ years of age category. Further, the average annual household income was approximately $43,000 in 1990.

In past years, Murrieta's economy was based on the agricultural production of livestock, orchard and produce crops, and dry-land grains. Murrieta's economy today is primarily driven by consumer attraction to the area's affordable housing opportunities, natural beauty, and quality of life. The number of people who have moved into the City has stimulated both retail commercial and office development. The broad range of housing types is a key element in determining the amount and type of commercial uses.

Existing Conditions

POPULATION AND DEMOGRAPHICS

The City of Murrieta's total population grew from 24,334 in 1992 to 100,714 in 2009 at an annual average growth rate of 7.76 percent, compared to a lower growth rate of 2.68 percent during that same period for all of Riverside County. The City's population more than doubled between 1992 and 2009, due in large part to high levels of residential construction occurring between 2001 and 2005. Residential permitting activity slowed down beginning in 2006, evidenced by the reduction from 1,592 residential unit permits issued in 2005 to only 377 permits in 2006. This decline continued into 2008 when permits for only 24 residential units were granted.

Table 2.3-1, *Population and Household Characteristics*, shows that the number of persons per household within the City experienced a decline from 3.22 in 1990 to 3.06 in 2009. However, Riverside County population and household population steadily increased from 1992 to 2009. This trend can be seen in persons per household for the 1992 to 2009 period, which increased from 2.90 to 3.06 persons per household. The total number of households located in the City of Murrieta increased from 7,538 in 1992 to 32,677 in 2009.

Table 2.3-1
Population and Household Characteristics

	Population	Household Population	Occupied Units	Persons Per Household
City of Murrieta	**100,714**	**100,054**	**32,677**	**3.08**
Surrounding Cities				
Temecula	102,604	102,582	31,560	3.13
Lake Elsinore	50,267	50,194	15,014	4.79
Corona	148,597	147,965	43,949	2.41
Riverside County	2,107,653	2,072,532	677,582	2.87
San Bernardino County	2,060,950	2,008,900	610,352	3.44
San Diego County	3,173,407	3,074,598	1,099,130	2.98

Source: Stanley R. Hoffman Associates, Inc.
California Department of Finance

RACIAL AND ETHNIC DISTRIBUTION

The ethnic composition in the City of Murrieta shifted between 2000 and 2008. While the Hispanic, Asian, Black and other populations in the City experienced general growth, the non Hispanic White population in the City declined.

The non Hispanic White population declined from approximately 80 percent in 1990 to approximately 56 percent in 2008. The Hispanic or Latino population and the Asian population in the City experienced an opposite trend, as both populations increased from the 1990 to 2008 time period. The Hispanic or Latino population increased from approximately 17 percent in 1990 to approximately 26 percent in 2008. The Asian population increased from approximately 0.4 percent in 1990 to nearly 8 percent in 2008. The Black population increased from approximately 0.6 percent in 1990 to approximately 5 percent in 2008. Finally, all Other Races comprised nearly 2 percent of the population in 1990 and increased to approximately 5 percent of the population in 2008.

AGE DISTRIBUTION

The City of Murrieta's age distribution is separated into the following categories for the time period between 2000 and 2008:

- Less than 18 years of age
- 18 to 34 years of age
- 35 to 64 years of age
- 65+ years of age

Table 2.3-2, *Age Distribution*, shows that the population in the age group from 35 to 64 years of age has the highest distribution of the City's population from approximately 38 percent in 2000 then decreasing to nearly 35 percent in 2008. Population in the age group less than 18 years of age also shows a decline from nearly 34 percent in 2000 to approximately 31 percent in 2008. In contrast, the population ranging from 18 to 34 years of age experienced an increase from approximately 17 percent in 2000 to nearly 25 percent in 2008. The population group over 65 years of age experienced a decline from approximately 11 percent in 2000 to approximately 9 percent in 2008.

Table 2.3-2
Age Distribution

	2000		2008	
	Total	Percent Total	Total	Percent Total
Under 18 years	14,876	33.5	30,243	31.2
18 to 34 years	7,610	17.2	23,947	24.7
35 to 64 years	16,872	38.0	33,749	34.8
65 and over	4,992	11.3	9,090	9.4
Total	**44,350**	**100.0**	**97,029**	**100.0**

Source: Stanley R. Hoffman Associates, Inc.
U.S. Census Bureau, Decennial Census 2000
American Community Survey, 2006-2008

INCOME

Average household income is defined as the mean income of all households in the City, while the median income is the income statistic for the 50th percentile household within the City.

The median household income in actual dollars for the City of Murrieta increased from approximately $61,000 in 2000 to approximately $79,000 in 2008, with an average annual growth rate of 3.33 percent in the 2000 to 2008 time period. The average household income for the City increased from approximately $73,000 in 2000 to approximately $84,000 in 2008.

EDUCATION

Table 2.3-3, *Educational Attainment*, shows that the educational attainment of residents within the City of Murrieta during the 2000 to 2008 time period reflects an overall positive increase.

Individuals with some college, but no degree comprised the largest educational grouping in the City at nearly 29 percent in 2008. The percentage of individuals in the City who had at least a Bachelor's Degree experienced an overall increase from 23 percent in 2000 to approximately 27 percent in 2008. This trend was the same for individuals in the City with Associates Degrees, represented by an increase from nearly 9 percent in 2000 to nearly 9.5 percent in 2008. The percentage of individuals who had at least an Associates Degree increased from approximately 32 percent in 2000 to approximately 37 percent in 2008. The percent of individuals with no High School Diplomas decreased from 10 percent in 2000 to nearly 9 percent in 2008.

Table 2.3-3
Educational Attainment

Educational Level	2000		2008	
	Total	Percent Total	Total	Percent Total
City of Murrieta				
Bachelor's/Grad./Prof. degree	6,131	23.0	15,781	27.4
Associate degree	2,362	8.9	5,385	9.4
Some college, no degree	9,060	34.0	16,513	28.7
High school grad. (incl. equivalency)	6,450	24.2	14,871	25.9
No high school diploma	2,661	10.0	4,977	8.7
Total Persons	**26,664**	**100.0**	**57,527**	**100.0**

Source: Stanley R. Hoffman Associates, Inc.
U.S. Census Bureau, Decennial Census 2000
American Community Survey, 206-2008

LABOR FORCE EMPLOYMENT

The City of Murrieta's labor force composition, or employed population age 16 years and over, more than doubled from nearly 19,000 persons in 2000 to approximately 43,000 persons in 2008. Labor force increased in management, service and sales related occupations whereas the construction and production related occupations decreased.

The number of City residents working in management related services increased from an estimated 6,500 jobs in 2000 to an estimated 14,500 jobs in 2008. Following the same trend, sales related occupations increased from an estimated 5,700 jobs in 2000 to an estimated 13,200 jobs in 2008.

HISTORIC EMPLOYMENT TREND: 1991 TO FIRST QUARTER 2009

The number of jobs, estimated by aggregating ZIP codes in the City of Murrieta that also include areas of unincorporated Riverside County, increased from an estimated 1,000 jobs in 1991 to an annual average of approximately 17,400 jobs in 2005. Data updated for this geography indicates employment estimates to have reached a peak of nearly 22,000 jobs by 2008, resulting in a decline to only approximately 20,000 by the first quarter of 2009.

Based on additional place code data that does not include areas of unincorporated Riverside County, employment estimates for only the City during the first quarter of 2009 reported an approximate total of 16,000 jobs. This decrease reflects the national economic downturn and job losses concentrated within the City's local servicing sectors such as retail, construction, as well as accommodation and food services.

REGIONAL EMPLOYMENT GROWTH COMPARISON: 2005 TO 2008

Table 2.3-4, *Regional Employment Growth*, shows that total employment within the City of Murrieta grew from approximately 16,000 jobs in 2005 to approximately 18,000 in 2008, at an annual average growth rate of 4.3 percent. In comparison, employment within the surrounding Temecula Valley Region increased by approximately 3.3 percent, while Riverside County remained flat.

Table 2.3-4
Regional Employment Growth

	2005	2006	2007	2008	Annual Average Growth Rate 2005 to 2008
City of Murrieta	15,873	17,780	19,253	18,009	4.3%
Temecula Valley Sub-region	76,387	82,917	86,331	84,296	3.3%
City as % Sub-region	20.8	21.2	22.3	21.4	
Riverside County	662,712	693,857	694,155	667,844	0.3%
Sub-region as % County	11.5	12.1	12.4	12.6	

LOCAL SERVING EMPLOYMENT

The employment structure in the City of Murrieta is dominated by sectors that have a predominantly local serving orientation. Growth in these sectors is primarily driven by local household demand for products and services. These sectors, which comprised nearly 78 percent of the total employment in the City in 2008, include:

- Retail Trade
- Construction

- Accommodation and Food Services
- Educational Services
- Health Care and Social Assistance
- Arts and Entertainment
- Other Services
- Government

The largest sectors within the City in 2008 included Retail Trade at approximately 19 percent, Local Government at approximately 14 percent, Health Care and Social Assistance at approximately 13 percent, Construction at nearly 10 percent, as well as Accommodation and Food Services at nearly 10 percent.

As a result of jobs concentration in lower to medium skill set levels, average annual wages in the City of Murrieta in 2008 were approximately 28 percent lower, at around $36,000 per person, compared to Southern California at around $50,000 per person. Local serving jobs in the City were estimated to have an average annual wage of $34,400.

In comparison to other surrounding regions and communities, the City had a noticeably higher share of local serving jobs.

EXPORT-BASE EMPLOYMENT

Conversely, sectors with a predominantly export-base orientation comprised the remaining 22 percent of the City of Murrieta's employment base in 2008. Such jobs serve a wider market and therefore, are impacted by larger dynamics at the regional and higher levels. These sectors include:

- Manufacturing
- Transportation and Warehousing
- Wholesale Trade
- Professional
- Scientific and Technical
- Information
- Management of Companies
- Administration and Waste Management

When examined on a per capita basis, the City of Murrieta represented only 0.04 jobs per capita or 40 jobs per 1,000 city residents in export-base industries. This statistic was lower compared to the Riverside County estimate of 0.09 jobs per capita, and significantly lower compared to the neighboring communities of Temecula City at 0.17.

Export-base jobs in the City of Murrieta were estimated to have an average annual wage of $41,600 in 2008, which is higher than the overall local servicing employment average wage of approximately $34,400.

Findings

- The City of Murrieta's total population grew from 24,334 in 1992 to 100,714 in 2009 at an annual average growth rate of 7.76 percent, compared to a growth rate of 2.68 percent during that same period for all of Riverside County.

- The number of persons per household within the City experienced a decline from 3.22 in 1990 to 3.06 in 2009. Riverside County household population steadily increased from 2.90 in 1992 to 3.06 persons per household in 2009.

- The total number of households located in the City of Murrieta increased from 7,538 in 1992 to 32,677 in 2009.

- The non Hispanic White population within the City declined from approximately 80 percent in 1990 to approximately 56 percent in 2008.

- The Hispanic or Latino population increased within the City from approximately 17 percent in 1990 to approximately 26 percent in 2008.

- The Asian population within the City increased from approximately 0.4 percent in 1990 to nearly 8 percent in 2008.

- The Black population within the City increased from approximately 0.6 percent in 1990 to approximately 5 percent in 2008.

- All Other Races within the City comprised nearly 2 percent of the population in 1990 and increased to approximately 5 percent of the population in 2008.

- The largest age group within the City is between 35 to 64 years of age and represents the mature working age population. They represent 35 percent of the City's population in 2008.

- The smallest age group within the City is the population group over 65 years of age. This group experienced a decline from approximately 11 percent in 2000 to approximately 9 percent in 2008.

- The median household income in actual dollars for the City in 2008 was approximately $79,000.

- The average household income in actual dollars for the City in 2008 was approximately $84,000.

- During the 2000 to 2008 time period, individuals in the City received more advanced degrees as the distribution of the population increased for individuals with Bachelor's Degrees and decreased for individuals with no High School Diploma.

- As percent of total jobs in 2008 within the City, management, service and sales related jobs comprised of an estimated 84 percent of the total labor force, whereas construction and production related jobs comprised approximately 16 percent of the labor force.

- As of first quarter 2009, an estimated 16,000 jobs existed within the City. This estimate does not include areas of unincorporated Riverside County and reflects a decrease from an estimated 18,000 jobs in 2008. The decline occurred in the City's retail, construction, as well as accommodation and food service sectors due to the national economic downturn.

- Employment estimates within the surrounding Temecula Valley Region increased by approximately 3.3 percent, while Riverside County remained flat.

- In comparison to other surrounding regions and communities, the City had a noticeably higher share of local serving jobs in 2008, representing nearly 78 percent of the total employment in the City. These jobs were estimated to have an average annual wage of $34,400.

- As a result of jobs concentration in lower to medium skill set levels, the City's overall average annual wage in 2008 was approximately $36,000 per person, compared to Southern California at around $50,000 per person.

- Job sectors with a predominantly export-base orientation comprised the remaining 22 percent of the City's employment base in 2008.

- Export-base jobs in the City were estimated to have an average annual wage of $41,600 in 2008, which is higher than the overall local servicing employment average wage.

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Introduction

The 1990 Murrieta Community profile identified an estimated 7,000 households within the City limits. At that time, the average household size was estimated to be 2.86 persons per household. Families comprised 75 percent of the households, single people comprised 13 percent of households, and the remaining 12 percent were classified as other types of households. Also during 1990, the median sales price of a single-family home was approximately $150,600.

Existing Conditions

HOUSING STOCK

Table 2.4-1, *Housing Stock by Type*, shows that housing stock in the City of Murrieta dramatically increased between 1992 and 2009. The Department of Finance recorded nearly 7,800 housing units in 1992 and approximately 25,000 in 2009, reflecting an increase of approximately 17,200 units.

As of 2009, the majority of the City's housing units are single-family homes, represented as approximately 73 percent of the total units. In 1990, the number of single-family homes was approximately 80 percent of the housing stock. In 2000, this percentage increased to 85 percent. Multi-family homes comprised nearly 22 percent of the City's total housing stock in 2009, reflecting an overall increase of 9 percent in multi-family units from the 13 percent recorded in 1990.

Riverside County, similar to the City of Murrieta, recorded a majority of single-family housing units in 2009, represented as approximately 72 percent of the total housing stock. This reflects an increase of 7 percent from the 65 percent recorded in 1990. Throughout Riverside County, the number of multi-family housing units decreased in the 1992 to 2009 time period, from nearly 20 percent in 1992 to nearly 17 percent in 2009.

Table 2.4-1
Housing Stock by Type

Housing Unit Type	1992		2000		2009	
	Units	Percent	Units	Percent	Units	Percent
City of Murrieta						
Single	7,768	80.0	12,580	85.0	25,075	73.1
Multiple	1,292	13.3	1,672	11.3	7,513	21.9
Mobile Homes	652	6.7	541	3.7	1,705	5.0
Total	**9,712**	**100.0**	**14,793**	**100.0**	**34,293**	**100.0**
Riverside County						
Single	334,184	65.2	395,578	68.1	564,836	72.4
Multiple	101,523	19.8	102,918	17.7	128,592	16.5
Mobile Homes	77,123	15.0	82,593	14.2	86,684	11.1
Total	**512,830**	**100.0**	**581,089**	**100.0**	**780,112**	**100.0**

Source: Stanley R. Hoffman Associates, Inc.
California Department of Finance (DOF), 1992, 2000, and 2009

HOUSING TENURE

Table 2.4-2, *Housing Tenure*, shows that in 2008, the City of Murrieta recorded approximately 75 percent of the housing units as owner occupied and the remaining 25 percent as renter occupied. Compared to the surrounding cities, the City had the highest proportion of owner occupied housing units. The City of Corona had the lowest proportion of owner occupied housing units at approximately 67 percent. Compared to the surrounding counties, Riverside County had the highest proportion of owner occupied housing units at nearly 68 percent, while San Diego County has the lowest proportion of owner occupied housing at approximately 56 percent.

Table 2.4-2
Housing Tenure

	Murrieta	Temecula	Lake Elsinore[1]	Corona	Riverside County	San Bernardino County	San Diego County
Owner Occupied	22,546	20,607	n/a	31,579	438,193	365,279	585,307
Renter Occupied	7,318	8,992	n/a	15,356	209,250	215,082	452,651
Total	**29,864**	**29,599**	**n/a**	**46,935**	**647,443**	**580,361**	**1,037,958**
	Murrieta	Temecula	Lake Elsinore[1]	Corona	Riverside County	San Bernardino County	San Diego County
Owner Occupied	75.5	69.6	n/a	67.3	67.7	62.9	56.4
Renter Occupied	24.5	30.4	n/a	32.7	32.3	37.1	43.6
Total	**100.0**	**100.0**	**n/a**	**100.0**	**100.0**	**100.0**	**100.0**

Source: Stanley R. Hoffman Associates, Inc.
U.S. Census Bureau, American Community Survey (ACS), 2008
1. Information was not provided for Lake Elsinore by ACS 2008

BUILDING PERMITS

Of the total residential units constructed in the City of Murrieta during 1996 to 2008, approximately 81 percent of the building permits were filed for single-family homes while the remaining 19 percent were filed for multi-family units. The annualized growth rate of single-family homes in the same time period was approximately 1,000 units per year. The majority of multi-family permits were filed for buildings with more than five units.

The City experienced sizable growth during the 2002 to 2004 time period as the number of annual building permits increased from nearly 1,800 in 2002 to nearly 3,100 in 2004. However, just as the number of annual building permits peaked in 2004, there was a sharp decline from nearly the 3,100 permits filed in 2004 to only approximately 380 permits in 2006. Further decreases in the number of residential building permits filed also were recorded in 2007 and 2008.

The City recorded a steady increase in single-family residential building permits filed during the 1996 to 2001 time period, followed by another overall increase from 2001 to 2004. Single-family residential building permits declined sharply from 2004 to 2008, again reflecting the economic downturn. During the 1996 to 2008 time period, there were not as many multi-family building permits filed as single family building permits. The majority of multi-family building permits were filed during the 2000 to 2006 time period.

In 1996, the average construction cost per single-family unit in the City of Murrieta was approximately $222,500. In 2008, the average construction cost per single-family unit was recorded as approximately $375,100 in constant 2008 dollars. For multi-family units with more than five units in a building, the average construction cost per unit was approximately $49,000 in 1998 and approximately $100,400 in 2005. There were no average construction costs recorded for the years 1996, 1997, 1999, 2000, 2006, 2007 and 2008 because no multi-family building permits were filed during those years.

HOME PRICE TRENDS

In 2002, the average sales price of single-family homes in the City of Murrieta was approximately $322,500. From 2002 to 2005, the average single-family home prices increased to approximately $533,000. After 2005, average single-family home prices declined to approximately $245,000 in 2009, reflecting a 54 percent decrease. This trend was the same for average condominium and townhouse sales prices as they increased from approximately $258,000 in 2002 to $339,000 in 2004, and then declined to approximately $120,000 in 2009, reflecting a 65 percent decrease.

Similarly, Riverside County experienced an increase in average single-family home prices from approximately $252,000 in 2002 to $469,000 in 2004. After 2004, these sales prices declined to approximately $245,000 in 2009, resulting in a 48 percent decrease. This trend was the same for average condominium and townhouse sales prices for Riverside County as they increased from approximately $181,000 in 2002 to $326,000 in 2005, and then declined to approximately $153,000 in 2009, reflecting a 53 percent decrease.

The bulk of change in single-family home median sales prices occurred from 2007 to 2009 with prices decreasing by approximately 49 percent in the City of Murrieta and approximately 59 percent in Riverside County. Similarly, the bulk of change in median condo sales prices also occurred from 2007 to 2009. The City of Murrieta experienced a decline in median condo sales prices by approximately 60 percent and Riverside County by approximately 54 percent.

Findings

- The City's housing stock dramatically increased between 1992 and 2009, reflecting an increase of approximately 17,200 additional units.
- In 2009, the majority of the City's housing units were single-family homes, representing approximately 73 percent of the total units.
- In 2009, multi-family homes comprised nearly 22 percent of the City's total housing stock.

- Similar to the City in 2009, Riverside County recorded approximately 72 percent of their housing stock as single-family homes and approximately 17 percent as multi-family units.

- In 2008, the City recorded approximately 75 percent of the housing units as owner occupied and the remaining 25 percent as renter occupied.

- Of the total residential units constructed in the City from 1996 to 2008, approximately 81 percent of the building permits were filed for single-family homes while the remaining 19 percent were filed for multi-family units. The majority of multi-family permits were filed for buildings with more than five units.

- In 2008, the average construction cost per single-family unit was recorded as approximately $375,100 in constant 2008 dollars. For multi-family units with more than five units in a building, the average construction cost per unit was approximately $100,400 in 2005. Given that no multi-family building permits were filed in 2008, no average construction cost figures were available for that year.

- Average single-family home prices within the City declined to approximately $245,000 in 2009, reflecting a 54 percent decrease from 2002.

- Average single-family home prices in Riverside County declined to approximately $245,000 in 2009, reflecting a 48 percent decrease from 2002.

- Average condominium and townhouse sales prices within the City declined to approximately $120,000 in 2009, reflecting a 65 percent decrease from 2002.

- Average condominium and townhouse sales prices in Riverside County declined to approximately $153,000 in 2009, reflecting a 53 percent decrease from 2002.

Sources Cited

California Department of Finance (DOF), Housing Estimates, 1992, 2000, and 2009.

City of Murrieta General Plan, Housing Element, various dates.

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Office and Industrial Data Review

The report prepared by Stanley R. Hoffman Associates is included in its entirety as Appendix Q in the Final General Plan 2035 and Final General Plan 2035 EIR Technical Appendices.

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Economic Trends and Conditions

The report prepared by Stanley R. Hoffman Associates is included in its entirety as Appendix R in the Final General Plan 2035 and Final General Plan 2035 EIR Technical Appendices.

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Introduction

This section provides an overview of the existing transportation and circulation network in the City of Murrieta. It includes a brief summary of the existing policies and plans that affect transportation and circulation in the City of Murrieta and its surrounding Sphere of Influence; a description of the City's key transportation elements, including roadways and transit service; and a summary of existing link-level and intersection levels of service.

Regulatory Context

Much of the transportation system in the City of Murrieta is owned and controlled by the City, such as the local, collector and arterial street system, and most of the traffic signals. Some of the facilities, however, are owned and controlled by other agencies, including Caltrans and the County of Riverside, or shared with other jurisdictions, such as the Cities of Temecula and Wildomar. Similarly, while much of the funding for the transportation system is local, significant funds for improvement and maintenance also come from other sources including State, Federal and County-level funding sources. Finally, transportation planning and programming is the responsibility of a number of agencies including the City of Murrieta, the County of Riverside, the Riverside County Transportation Commission (RCTC), and the Southern California Association of Governments (SCAG). At the State level, Caltrans is the agency responsible for funding and maintaining the State Highway System and Interstate Highway System.

The regional planning agencies of RCTC and SCAG are responsible for regional transportation planning, traffic forecasting, developing regional plans, and distributing regional transportation funds. At the County level, the County of Riverside operates some county facilities, and also administers Measure A, the local county half-cent sales tax for transportation. Several transportation plans and project lists are prepared by the various agencies, including the Regional Transportation Plan (RTP) by SCAG, with input from all other agencies, and the State and Regional Transportation Improvement Programs (STIP and RTIP). The Western Riverside Council of Governments (WRCOG) developed and administers the Transportation Uniform Mitigation Fee (TUMF) program. This section provides a brief overview of local and regional transportation planning and programming, and how it affects the City of Murrieta.

STATE TRANSPORTATION IMPROVEMENT PROGRAM

The State Transportation Improvement Program (STIP) is a multi-year capital improvement program for transportation projects on and off the State Highway System, funded with revenues from the Transportation Investment Fund and other funding sources. STIP programming generally occurs every two years. The programming cycle begins with the release of a proposed fund estimate in July of odd-numbered years, followed by California Transportation Commission (CTC) adoption of the fund estimate in August (odd years). The fund estimate serves to identify

the amount of new funds available for the programming of transportation projects. Once the fund estimate is adopted, Caltrans and the regional planning agencies prepare transportation improvement plans for submittal by December 15th (odd years). Caltrans prepares the Interregional Transportation Improvement Program (ITIP) and regional agencies prepare the Regional Transportation Improvement Plans (RTIPs). Public hearings are held in January (even years) in both northern and southern California. The STIP is adopted by the CTC by April (even years) (California Department of Transportation, STIP).

Cities and other local agencies work through their Regional Transportation Planning Agency (RTPA) to nominate projects for inclusion in the STIP. Once projects are programmed, agencies may begin the project implementation process. RTPAs such as RCTC, are allocated 75 percent of STIP funding for regional transportation projects in their Regional Improvement Program (RIP), and Caltrans is allocated 25 percent for inter-regional transportation projects in the Inter-regional Improvement Program (IIP).

All STIP projects that directly affect the City of Murrieta are included in the RTIP. Refer to the list of RTIP projects under the Regional Transportation Plan section for a complete list of STIP projects in Murrieta.

REGIONAL TRANSPORTATION PLAN

The Regional Transportation Plan (RTP) is developed, maintained, and updated by the Southern California Association of Governments (SCAG), Southern California's Metropolitan Planning Organization. It encompasses the six counties in Southern California including Los Angeles, Orange, San Bernardino, Riverside, Ventura, and Imperial. On May 8, 2008, the 2008 RTP: Making the Connections was adopted by the Regional Council of the Southern California Association of Governments.

The RTP project list is divided into three sections. At the center is the Regional Transportation Improvement Program (RTIP), which forms the foundation of the RTP project investment strategy and represents the first six years of already-committed funding. The RTA also contains an additional financially constrained set of transportation projects above and beyond the RTIP. Finally, the Strategic Plan represents an unconstrained, illustrative list of potential projects that the region would pursue given additional funding.

RTIP Projects:

- At I-15/California Oaks Road/Kalmia Street Interchange – Reconfigure ramps (construct NB/SB loop on-ramps, relocate SB off-ramp), widen California Oaks from four to six lanes from UC to California Oaks Plaza (RIV010204).

- I-15/Clinton Keith Road Interchange – Reconstruct/widen OC two to six lanes and ramps one and two lanes to three and four lanes, add NB/SB auxiliary lanes prior to and after exit/entry ramps and left-turn lanes (RIV62034).

- In Western Riverside County on State Route 79 – Widen from two to four lanes from Thompson Road to Domenigoni Parkway (46460).

- At I-215/Clinton Keith Road Interchange – Construct partial cloverleaf: Widen OC two to six lanes, reconstruct ramps (widening to existing NB/SB diamond ramps and construct new NB/SB loop on ramps (RIV010203).

- At I-215/Scott Road Interchange near Murrieta – Reconstruct/widen interchange from two to six lanes and ramps from one to two lanes (RIV011232).

- In Murrieta on I-215 at Linnel Lane – Construct new four lane (two lanes each direction) OC from McElwain Road to Meadowlark Lane including sidewalks and bike lanes (RIV060104).

- On I-215 in southwest Riverside County from Murrieta Hot Springs Road to Scott Road: Construct a third mixed-flow lane in each direction (widens I-215 from four to six MF lanes – three in each direction (RIV070305).

- On I-215 in southwest Riverside County from Scott Road to Nuevo Road Interchange: Construct a third mixed flow lane in each direction (widens I-215 from four to six lanes – three in each direction (RIV070309).

- On I-215 at Los Alamos Road Interchange: Reconstruct/widen interchange two to six lanes (three lanes each direction) from Hancock Avenue to Whitewood Road, widen ramps (one to two and one to three lanes) (RIV62040).

- In Riverside County near Murrieta, reconstruct and widen Scott Road from two to six lanes between I-215 and SR-79 (Winchester Road) (RIV010205).

- In Riverside County and Murrieta – Extend/construct Clinton Keith Road (six lanes total – approximately 3.4 miles) with two bridges from Antelope Road to Winchester Road (SR-79) (RIV011236).

- In Murrieta – Construct new two lane Guava Street Bridge (400 feet) over Murrieta Creek from Washington Avenue to Adams Avenue with shoulders and all required approaches (RIV031204).

RIVERSIDE COUNTY MEASURE A

Transportation issues in the City of Murrieta are overseen by the Riverside County Transportation Commission (RCTC), the transportation planning agency responsible for regional planning in Riverside County. As the County Transportation Authority, RCTC administers Measure A, the voter approved half-cent transportation sales tax adopted by Riverside County voters in 1976, and extended to the year 2039 by voters in 2002. Since its implementation, Measure A has provided a steady source of revenue for transportation improvements in the County of Riverside, raising nearly $1 billion from 1989 through 2009.

Completed Projects:

- Addition of call boxes to state and interstate highways.
- Commuter Rail – Provided Metrolink commuter rail service from Riverside to Los Angeles and Orange, including five stations and tracks.

Ongoing Projects:

- Rideshare and Specialized Transit Services – Implement programs to promote the use of carpools, vanpools and other ridershare arrangements. Funded new and existing services to assist seniors and persons with disabilities.
- Local Street and Roads – Measure A revenues are provided to each city and county to improve, maintain and repair high priority local streets and roads. Measure A funds supplement and do not replace other revenues previously available for transportation projects.
- Park and Ride Lots – Lease park and ride lots at various locations on I-5, I-215, SR-60, and SR-91.

Future Projects:

- State Route 79 – Widen to four lanes from Newport Road to Keller Road.
- Commuter Rail – Extend Metrolink service from Riverside to Perris on the Perris Valley Line. Construct a bus and rail multimodal facility in Downtown Perris.

WESTERN RIVERSIDE COUNCIL OF GOVERNMENTS TRANSPORTATION UNIFORM MITIGATION FEE

The City of Murrieta is a member of the Western Riverside Council of Governments (WRCOG). The WRCOG is a voluntary association that represent member local governments, in order to provide cooperative planning, coordination, and technical assistance on issues of mutual concern that cross jurisdictional lines. WRCOG addresses issues of regional importance in the area of goods movement, rail crossings, and growth. They also developed and administer the Transportation Uniform Mitigation Fee (TUMF), a program that ensures that new development pays its fair share for the increased traffic that it creates. The TUMF program will provide significant additional funds from new development to make improvements to the Regional System, complementing funds generated by Measure A, local transportation fee programs and other potential funding sources. The establishment of this fee on new development establishes a manner by which developers contribute their fair share to the regional transportation system. Currently, TUMF fees are allocated as follows:

- Regional Transit Improvements – 2.6 percent of TUMF funds are allocated to the Riverside Transit Agency for regional transit improvements.

- Regionally Significant Transportation Improvements – 48.7 percent of TUMF funds are allocated to the RCTC for programming improvements to arterials of regional significance.

- Zones – The WRCOG area is split into five zones; Murrieta is located in the Southwest TUMF Zone, along with unincorporated county area and the Cities of Temecula, Wildomar, Canyon Lake, and Lake Elsinore. 48.7 percent of TUMF funds are allocated to the five Zones for improvements to the Regional System of Highways and Arterials. The amount of TUMF funds allocated to each Zone is proportionate to the amount of TUMF revenue generated from each Zone.

RIVERSIDE COUNTY CONGESTION MANAGEMENT PROGRAM

Proposition 111, passed in June 1990, provided additional transportation funding through a $0.09 per gallon increase in the State gas tax. Included with the provision for additional transportation funding was a requirement to undertake a Congestion Management Program (CMP) within each county with an urbanized area of more than 50,000 population, to be developed and adopted by a designated Congestion Management Agency (CMA). Within Riverside County, RCTC was designated the CMA by the County Board of Supervisors and a majority of the cities representing the majority of the incorporated population. Although implementation of the CMP was made voluntary by the passage of AB 2419, the CMP requirement has been retained in all five urbanized counties within the SCAG region. In addition to its value as a transportation management tool, CMPs have been retained in these counties because of the Federal Congestion Management System requirement that applies to all large urban areas that are not in attainment

of federal air quality standards. These counties recognize that the CMP provides a mechanism through which locally implemented programs can fulfill most aspects of a regional requirement that would otherwise have to be addressed by the Regional Agency (SCAG).

The CMP for Riverside County was last updated in December 2007 by RCTC. This document identifies goals of the program, defines legal requirements, provides other background information, and describes each individual element, component, and requirement of the program. It also reflects all legislative changes to the program since its inception in 1992. The CMP defines a network of state highways and arterials, level of service standards and related procedures, and provides technical justification for the approach. The next regular update of the CMP is scheduled for 2009, although interim modifications or refinements through the technical and policy channels can occur as needed.

COUNTY OF RIVERSIDE GENERAL PLAN

The County of Riverside General Plan includes a range of objectives and policies that address various aspects of circulation, including but not limited to roadways, public transportation, trucking, and non-motorized facilities.

Existing Conditions

ROADWAYS

Two key components of the circulation network in Murrieta are the regional highway system and the local street system. This section describes both of these systems and highlights important attributes of each type of roadway.

Regional Facilities

Regional access to the City of Murrieta is provided primarily by Interstate 15 (Corona Freeway) and Interstate 215 (Escondido Freeway), which traverse generally through the western and central portion of the City, respectively. State Route 79 (Winchester Road), which travels along the eastern border of the City, also provides regional access from the northeast. A summary of the facilities that provide regional access is provided below.

Interstate 15 – Interstate 15 (I-15), also known as the Corona Freeway, traverses in a generally north/south direction, diagonally through the western portion of the City of Murrieta. To the north, I-15 continues through Riverside and San Bernardino Counties and is the link to the I-10 Freeway (San Bernardino Freeway) and State Routes 91 (Riverside Freeway) and 60 (Pomona Freeway), and the greater Los Angeles area. Near the City of Murrieta, daily traffic volumes on I-15 range from approximately 109,000 to 186,000 vehicles per day.

Interstate 215 – Interstate 215 (I-215), also known as the Escondido Freeway, traverses in a north/south direction through the central portion of the City of Murrieta. To the north, I-215 continues through Riverside County and connects at its northerly terminus with SR-60 in the Moreno Valley area. Near the City of Murrieta, daily traffic volumes on I-215 range from approximately 83,000 to 91,000 vehicles per day.

State Route 79 – State Route 79 (SR-79), also known as Winchester Road, runs in a northeasterly direction from the interchange at the I-15 freeway through the eastern portion of the City of Murrieta toward the City of Hemet. SR-79 generally provides a parallel north/south route to the I-215 freeway, east of the freeway. Existing daily traffic volumes on SR-79 range from approximately 23,500 to 31,500 vehicles per day.

Local Facilities

Functional Classifications

The classification of a roadway is intended to establish its function, or role, in the overall circulation system. It establishes the hierarchy of streets in terms of their purpose in relation to movement of through traffic versus provision of access to adjacent land uses.

The hierarchy of roadway classifications ranges from freeways (with full control access, grade-separated interchanges, high speed/high volume traffic, emphasis on longer distance and intercity travel) to local streets and cul-de-sacs (with unlimited access to fronting properties, low speed/low volume traffic, emphasis on multi-purpose use of the paved street section for travel, parking, pedestrian and bicycle activity).

The Augmented Urban Arterial and the potential Multi-Modal Transportation Corridors are retained to address continuing travel demand and to provide enhanced capacity and the flexibility to accommodate alternative transportation modes. The following functional design guidelines are recommended for roadway classifications depicted in *Exhibit 4.1-1*, *Existing Functional Classifications*. Because the City wants to maintain the aesthetic presentation of roadways, all street classifications shall include landscaping features, which may include a median and parkway plantings, street trees, and rural roadway improvements where appropriate. *Table 4.1-1*, *City of Murrieta Functional Classifications*, below describes the general characteristics of the functional street classifications in the City of Murrieta.

Table 4.1-1
City of Murrieta Functional Classifications

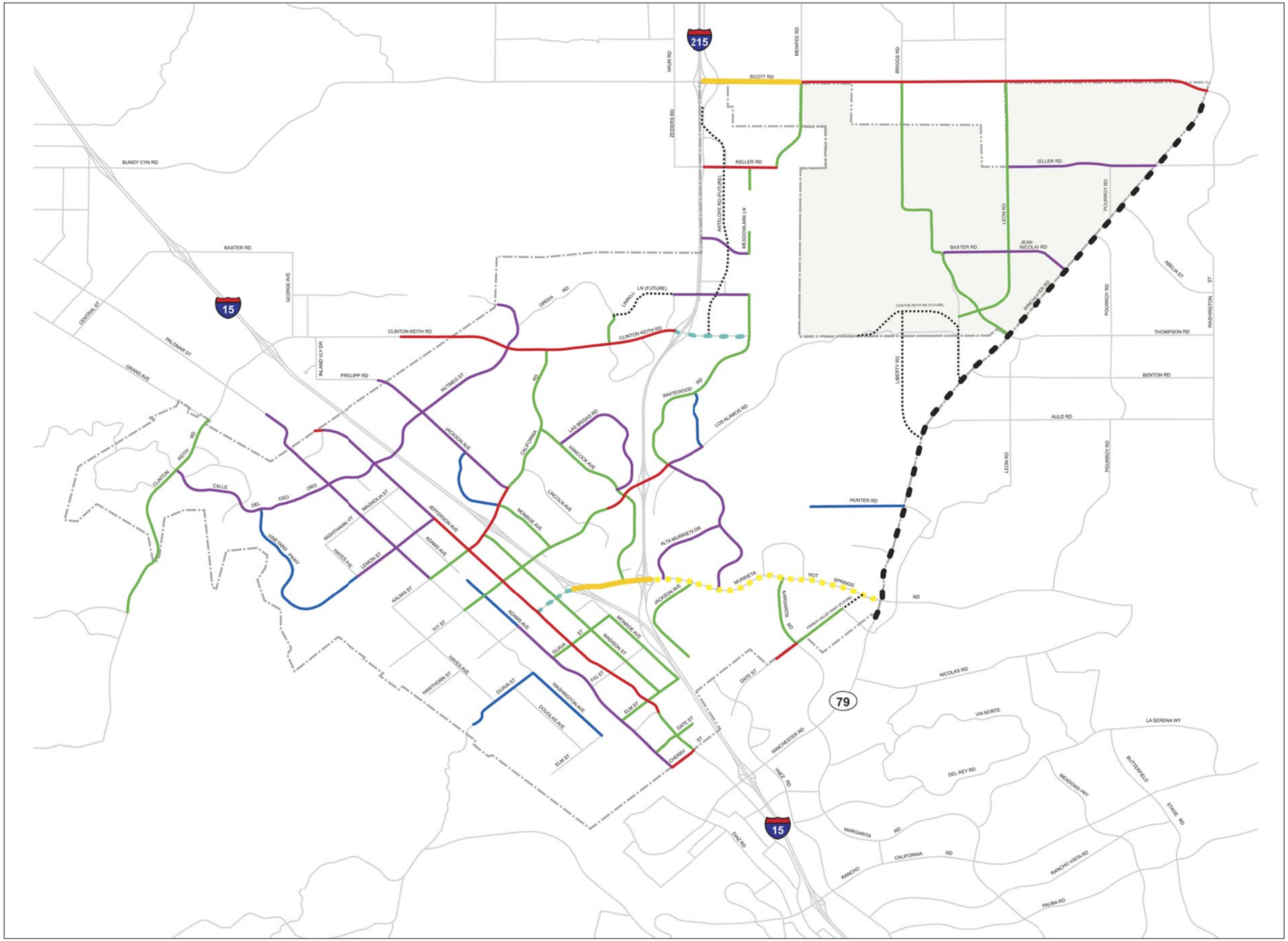
Roadway Classification	Typical Curb-to-Curb Width	Typical Right-of-Way Width	Description
Multi-Modal Transportation Corridor	86'	134'	A Multi-Modal Transportation Corridor typically has four to six lanes, depending on projected traffic volumes, and a right-of-way of sufficient width to accommodate future options, such as fixed rail or high occupancy vehicles. Where feasible, these routes are designed to Caltrans expressway standards. Multi-Modal Transportation Corridors should provide an enhanced traffic-carrying capacity. The augmentation in capacity may be achieved by measures such as: • The addition of through or turn lanes; • Preferential traffic signal timing and synchronization; • Loops for left turns; • Removal of on-street parking; • Intersection grade separations; • Grade separated turning movements; • Access limitation - Right turns only, or no access (streets and/or driveways); access consolidation and pedestrian grade separations.
Augmented Urban Arterial	Commercial Corridor	150'	The intent of the Augmented Urban Arterial is to provide a maximum feasible at-grade cross-section for high capacity facilities in the immediate vicinity of major activity centers such as regional malls or areas of traffic concentration such as freeway interchanges. Transit options may be limited at these locations due to heavy turning movements. Augmented Urban Arterial features include: • Eight through lanes with raised median and dual left turn lanes; • Measures that achieve "shared operations" with transit to maximize person-flow efficiency; • Restrictions on curbside parking; • The dedication of additional right-of-way/easements considered at selected intersection approaches where traffic flows require a separate right-turn lane.
Urban Arterial	110'	134'	Features include: • A six-lane high speed highway with raised median (use for left turn movements) and striped shoulders; • Access restriction may vary depending on where the roadway serves through traffic. Generally, one-quarter mile intersection spacing should be considered as a minimum. Where overriding circumstances will not allow the desired intersection spacing policy to be met, left turn restrictions should be considered at unsignalized intersections; • Curbside parking is generally not considered appropriate along a heavily traveled facility of this type; and • Additional right-of-way/easement dedications should be considered at all key intersections with other Urban Arterials, Arterials, and Major streets for the accommodation of full width auxiliary turn lanes.

Table 4.1-1 (continued)
City of Murrieta Functional Classifications

Roadway Classification	Typical Curb-to-Curb Width	Typical Right-of-Way Width	Description
Arterial	86'	110'	Features include: • A four lane cross-section with raised or painted median (used for left turn movements); • Desirable minimum spacing for Major street intersections along an Arterial is approximately one-quarter mile. Minor street and driveway access may be allowed at shorter intervals but consideration should be given to left turn restrictions at these locations; • As a primary traffic carrier, curbside parking may not be considered appropriate along the more heavily traveled Arterial segments within the City; and • Additional right-of-way/easement dedications should be considered at all key intersections with other Urban Arterials, Arterials, and Major streets for the accommodation of full-width auxiliary turn lanes.
Major	76'	100'	Features include: • A four lane cross-section with raised or painted median (used for left turn movements); • Minimum spacing for principal street intersections along Major streets should be one-eighth mile. Where overriding circumstances will not allow the minimum spacing policy to be maintained, left turn restrictions should be considered at minor unsignalized driveways; • As a primary traffic carrier, curbside parking may not be considered appropriate along the more heavily traveled Major segments within the City; and • Additional right-of-way/easement dedications should be considered at all key intersections with other Urban Arterials, Arterials, and Major streets for the accommodation of full-width auxiliary turn lanes or dual-left turn lanes.
Secondary	64'	88'	Features include: • A four lane cross-section without median (undivided); • Minimum intersection spacing of approximately 330 feet while avoiding direct access from private residential properties where possible; • Curbside parking is allowed except where left turn lanes are needed; • Additional right-of-way/easement dedications should be considered at select intersection approaches where a separate right-turn lane is required.

Table 4.1-1 (continued)
City of Murrieta Functional Classifications

Roadway Classification	Typical Curb-to-Curb Width	Typical Right-of-Way Width	Description
Scenic Rural Parkway	N/A	N/A	The intent of a Scenic Rural Parkway is to provide a circulation facility through primarily rural areas where care must be taken to preserve environmental and historic concerns which are important to the overall character and vision of the City of Murrieta. A Scenic Rural Parkway would consist of two travel lanes which can be divided by a landscaped median when sufficient right-of-way can be obtained without encroaching on adjacent environmental or historic resources. Enhanced width parkways will be required to protect against adjacent resources and provide for multi-purpose trails where feasible. Exact right-of-way and intersection requirements will be determined by specific planning to respond to local environmental and historic preservation issues. Features include: • A two lane roadway divided by a landscaped median where feasible, with enhanced intersection capacity where required to handle projected traffic volumes; • Rural features should be incorporated within enhanced parkways, such as split rail fencing or other rural character elements; • Existing on-site environmental and historic features worthy of preservation; • Multi-purpose trails will be provided within the right-of-way when appropriate and feasible and curbside parking is generally not considered appropriate.
Collector	44'	66'	Features include: • A two lane cross-section without median (undivided); • Primary function of collecting and distributing local traffic.



LEGEND

- Co. of Riverside Standard 83
- Augmented Urban Arterial
- Multi-Modal Transp. Corridor
- Urban Arterial
- Arterial
- Major
- Secondary
- Collector
- City of Murrieta Boundary
- Sphere of Influence
- Future Roadway Alignment

0 1 2 Miles

Source: RBF Consulting.

RBF CONSULTING

01/10 • JN 10-106976

Existing Functional Classification Map

Exhibit 4.1-1

Back of 11 x 17 exhibit page.

Key Existing Streets

Clinton Keith Road – Clinton Keith Road is an east/west roadway that runs through the middle of the City of Murrieta. The roadway provides access to both the I-15 and I-215 Freeways at interchanges, but is discontinuous east of the I-215 Freeway. The roadway is currently two to four lanes undivided and carried 2008 traffic volumes ranging from approximately 9,100 vehicles per day west of Calle Del Oso Oro to 11,100 vehicles per day east of Calle Del Oso Oro.

Scott Road – Scott Road is an east/west road along the northern border of the City of Murrieta that runs westerly from Winchester Road and provides access to the I-215 Freeway. West of the I-215 Freeway, Scott Road transitions to Bundy Canyon Road, which provides interchange access to the I-15 Freeway. The existing roadway cross-section is two to four lanes mostly undivided between the I-215 and Winchester Road. The 2008 traffic volumes are approximately 23,300 vehicles per day at Antelope Road just east of the I-215 Freeway.

Washington Avenue – Washington Avenue is a north/south roadway that runs parallel to the I-15 freeway through the City of Murrieta and becomes Palomar Street to the north. The existing roadway is two lanes undivided south of Ivy Street, and four lanes north of Kalmia Street. A special two-lane design with angled on-street parking was recently completed in the Historic Murrieta area between Ivy Street and Kalmia Street. The 2008 traffic volumes range from approximately 600 vehicles per day east of De Luz Road to 20,800 vehicles per day west of Kalmia Street.

California Oaks Road – California Oaks Road is a north/south roadway that runs southerly from Clinton Keith Road to the I-15 Freeway where it provides freeway access at an interchange. The existing roadway cross-section is four lanes divided north of the I-15 Freeway, and two lanes undivided south of the I-15 Freeway where it becomes known as Kalmia Street. The 2008 traffic volumes range from approximately 15,100 vehicles per day immediately south of the Clinton Keith Road intersection to approximately 42,600 vehicles per day between the I-15 Freeway interchange and Monroe Avenue.

Los Alamos Road – Los Alamos Road runs diagonally northeast across the City of Murrieta providing freeway access to the I-215 Freeway at an interchange. West of the I-15 Freeway, this two lane undivided roadway becomes known as Ivy Street. The 2008/2009 traffic volumes range from approximately 3,600 (2009 traffic volume) vehicles per day south of Clinton Keith Road to 23,000 (2008 traffic volume) vehicles per day east of the I-215 Freeway. West of the I-215 Freeway, volumes are approximately 19,200 (2008 traffic volume) vehicles per day.

Murrieta Hot Springs Road – Murrieta Hot Springs Road is an east/west roadway that crosses both I-15 and I-215 Freeways just north of the freeway confluence, and provides access to both freeways with interchanges. West of Jefferson Avenue, Murrieta Hot Springs Road becomes known as Hawthorn Street. Murrieta Hot Springs Road connects to SR-79 (Winchester Road).

The roadway currently has four to six lanes with medians between Madison Avenue and Jackson Avenue. The 2008 traffic volumes range from approximately 42,600 vehicles per day west of the I-15 Freeway to 61,200 vehicles per day between the I-15 and I-215 Freeways. East of I-215, the roadway volumes range from 74,500 vehicles per day at Alta Murrieta Drive, 51,200 vehicles per day west of Via Princessa West, and 40,000 vehicles per day east of Calle Del Lago.

Jefferson Avenue – Jefferson Avenue is a northwest/south roadway that runs parallel to the I-15 Freeway. Jefferson Avenue varies from four to six lanes with medians to two lanes undivided, and construction is on-going. Traffic volumes in 2008 range from approximately 2,800 vehicles per day north of Nutmeg Street to about 29,000 vehicles per day between Fig Street and Elm Street.

Jackson Avenue – Jackson Avenue is a northwest/south roadway that runs parallel to the I-15 Freeway. Jackson Street varies from four lanes divided at the south and two lanes undivided at the north end. The 2008 traffic volumes range from 7,100 north of Nutmeg Street to approximately 14,900 vehicles per day between Nutmeg Street and California Oaks Road.

Antelope Road – Antelope Road is a north/south frontage road that runs parallel to the I-215 Freeway. It is mostly two lanes undivided north of Clinton Keith Road. The 2008 traffic volumes range from approximately 2,300 vehicles per day north of Clinton Keith Road to 8,300 vehicles per day south of Scott Road.

The existing number of lanes along the key streets in the City of Murrieta is shown in *Exhibit 4.1-2*, *Existing Number of Lanes (2008)*.

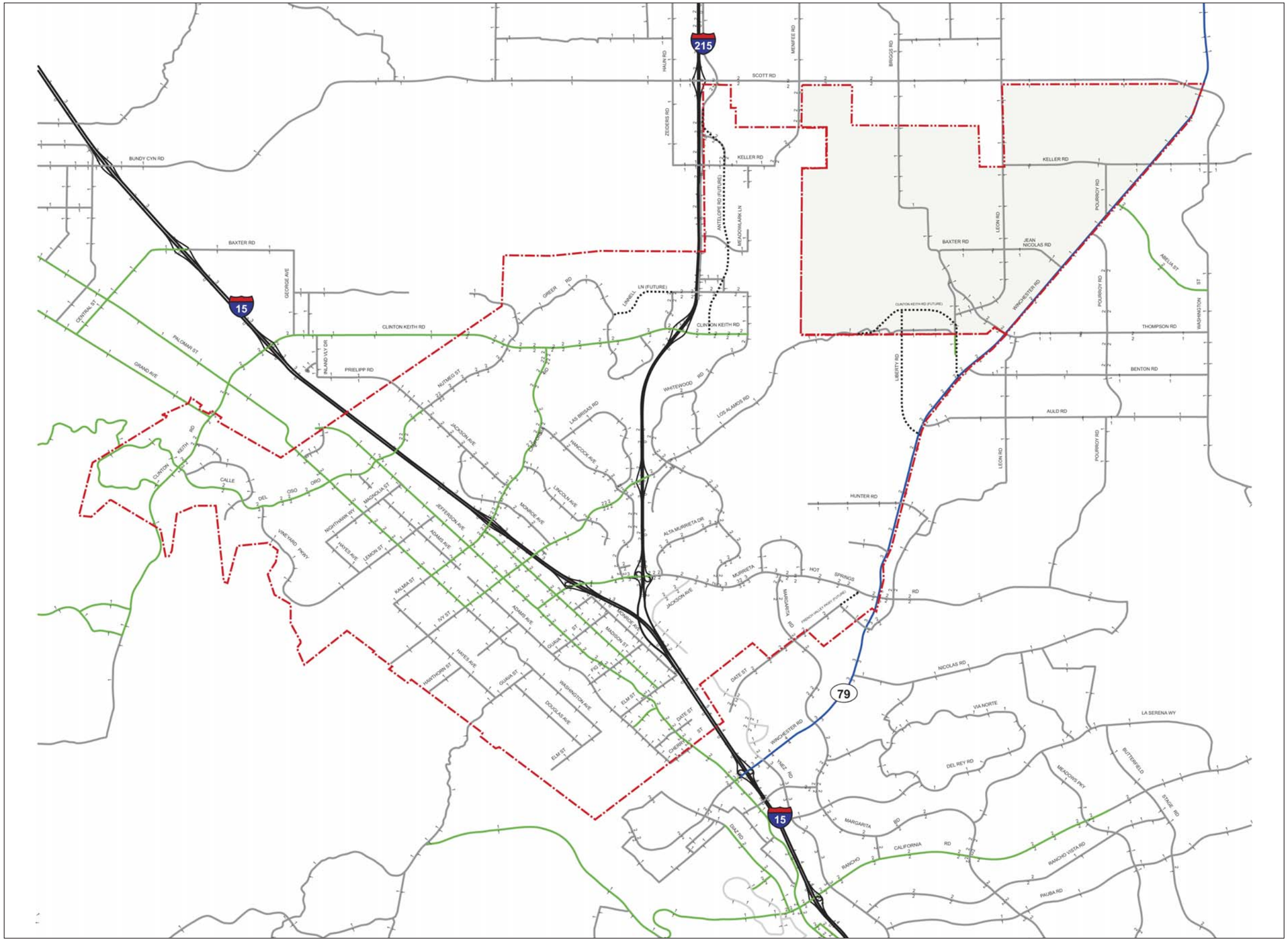
LEVEL OF SERVICE CRITERIA

Roadway Segments

Roadway segments are evaluated by comparing average daily traffic (ADT) volumes to street capacity. Capacity is a measure of the ability of the street system to meet and serve the demands placed on it. It is generally considered the most practical measure of how well the mobility needs of the City are being met.

The capacity of the road is affected by a number of factors, including street width, roadway design, number of travel lanes, number of roadway intersections, number of driveways, presence of on-street parking, and traffic signal cycle length.

The City of Murrieta's Level of Service standards, as published in the City's General Plan, Chapter IV, is LOS C for roadway segments. *Table 4.1-2*, *Daily Roadway Capacity Values*, and *Table 4.1-3*, *Roadway Level of Service Criteria*, depict the maximum daily capacity values for each roadway type and the level of service ranges for roadway segments, respectively.



LEGEND

- Freeway
- Principal Arterial
- Minor Arterial
- Major Collector
- Minor Collector
- City of Murrieta Boundary
- Sphere of Influence
- Future Roadway Alignment

0 1 2 Miles

Source: RBF Consulting.

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Existing Number of Lanes (2008)

Exhibit 4.1-2

Back of 11 x 17 exhibit page.

Table 4.1-2
Daily Roadway Capacity Values

Facility	Number of Lanes	Maximum Capacity [1]
Freeway	4	86,000
Freeway	6	138,000
Freeway	8	190,000
Freeway	10	240,000
Expressway/Multi-Modal Corridor	4	80,000 [2]
Expressway/Multi-Modal Corridor	6	120,000 [2]
Augmented Urban Arterial	8	72,000
Urban Arterial	6	59,000
Arterial	4	38,000
Major	4	38,000
Secondary	4	30,000
Collector [3]	2	18,000

[1] "Level of Service E". This value reflects the absolute maximum volume under ideal conditions. This level of service is characterized by unstable flow, extremely high volumes and limited operating speed with intermittent vehicle queuing. Values indicate Average Daily Traffic.
[2] Effective capacities may be distributed between several transportation modes.
[3] Capacities are for two-lane arterials; Major and Secondary will be similar when constructed as two lanes.
Note: All capacities are based on improvement to full County standards under optimum operating conditions. Capacity can be significantly reduced by a higher incidence of pedestrian traffic or turning movements. Substandard vertical and horizontal alignment or any condition which might restrict sight distance will also reduce capacity.
Source: Riverside County Road Department; Robert Kahn, John Kain & Associates, Inc.

Table 4.1-3
Roadway Segment Level of Service Criteria

Level of Service	Volume-to-Capacity Ratio
A	0 – 0.60
B	> 0.60 – 0.70
C	> 0.70 – 0.80
D	> 0.80 – 0.90
E	> 0.90 – 1.00
F	> 1.00

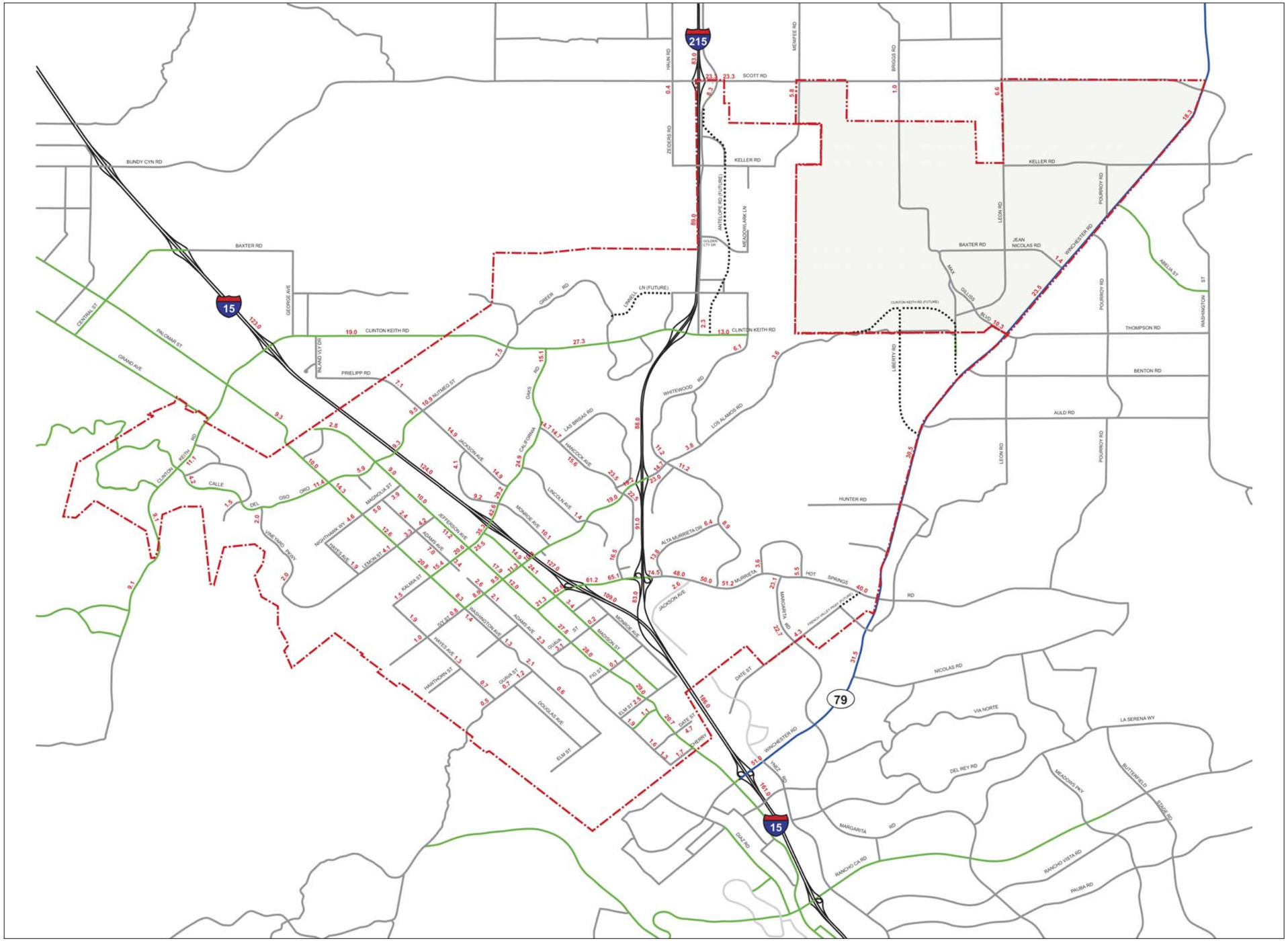
Intersections

Intersection operations are evaluated using a Level of Service system. The concept of level of service is used to characterize how well the roadway network operates. These evaluations are based on empirical data collected and reported in the 2000 Highway Capacity Manual, which is maintained by the Transportation Research Board, as directed by the "Traffic Impact Analysis Preparation Guide" for the City of Murrieta. The 2000 Highway Capacity Manual utilizes a methodology that accesses the average control delay at intersections. This methodology results in level of service measurements, indicating the quality of traffic flow and using letter grades from A (best) to F (worst). The City of Murrieta's Level of Service standards, as published in the City's General Plan, Chapter IV, is LOS D for peak hour intersection operations. The level of service ranges for signalized and unsignalized intersections are provided below in *Table 4.1-4, Signalized Intersection Level of Service Criteria*, and *Table 4.1-5, Unsignalized Intersection Level of Service Criteria*.

Table 4.1-4
Signalized Intersection Level of Service Criteria

Level of Service	Description	Control Delay/Veh (sec/veh)
A	Excellent operation. All approaches to the intersection appear quite open, turning movements are easily made, and nearly all drivers find freedom of operation.	≤ 10
B	Very good operation. Many drivers begin to feel somewhat restricted within platoons of vehicles. This represents stable flow. An approach to an intersection may occasionally be fully utilized and traffic queues start to form.	> 10 – 20
C	Good operation. Occasionally drivers may have to wait more than 60 seconds, and back-ups may develop behind turning vehicles. Most drivers feel somewhat restricted.	> 20 – 35
D	Fair operation. Cars are sometimes required to wait more than 60 seconds during short peaks. There are no long-standing traffic queues. This level is typically associated with design practice for peak periods.	> 35 – 55
E	Poor operation. Some long-standing vehicular queues develop on critical approaches to intersections. Delays may be up to several minutes.	> 55 – 80
F	Forced flow. Represents jammed conditions. Backups from locations downstream or on the cross street may restrict or prevent movement of vehicles out of the intersection approach lanes; therefore, volumes carried are not predictable. Potential for stop and go type traffic flow.	> 80

Source: *Highway Capacity Manual*, Transportation Research Board, 2000.



LEGEND

- 2.3 ADT Volume (in Thousands)
- Freeway
- Principal Arterial
- Minor Arterial
- Major Collector
- Minor Collector
- City of Murrieta Boundary
- Sphere of Influence
- Future Roadway Alignment

0 1 2 Miles

Source: RBF Consulting.

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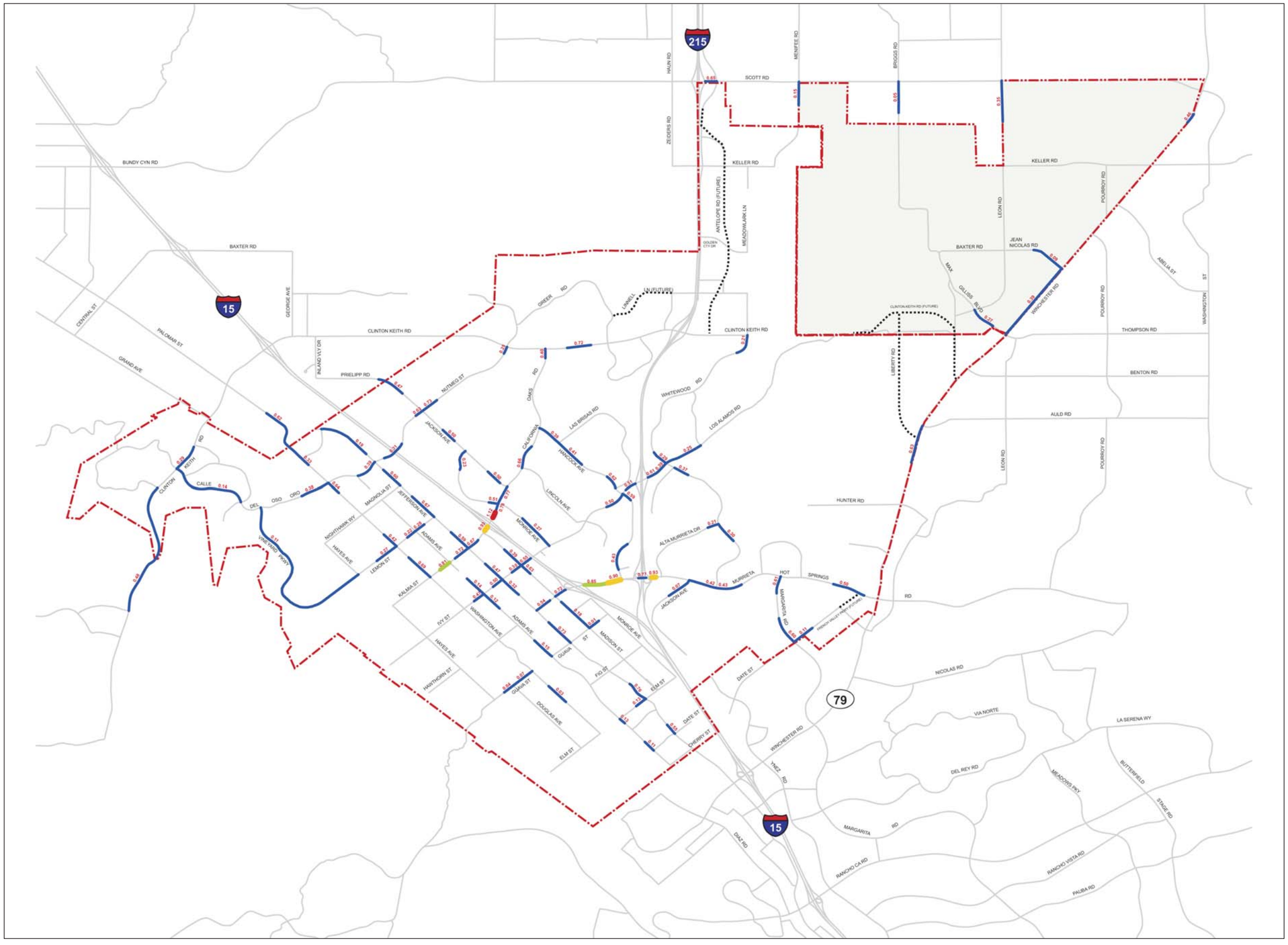
2008 Weekday Average Daily Traffic Volumes

Exhibit 4.1-3

Back of 11 x 17 exhibit page.



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LEGEND

- 0.73 Volume/Capacity Ratio
- LOS A - C
- LOS D
- LOS E
- LOS F
- City of Murrieta Boundary
- Sphere of Influence
- Future Roadway Alignment

0 1 2 Miles

Source: RBF Consulting.

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2008 Roadway Volume-to-Capacity Ratios

Exhibit 4.1-4

Back of 11 x 17 exhibit page.

Table 4.1-5
Unsignalized Intersection Level of Service Criteria

Level of Service	Average Control Delay (sec/veh)
A	0 – 10
B	> 10 – 15
C	> 15 – 25
D	> 25 – 35
E	> 35 – 50
F	> 50
Source: *Highway Capacity Manual*, Transportation Research Board, 2000.	

EXISTING LEVELS OF SERVICE

Roadway Segments

Using the City of Murrieta's 2008 daily traffic volumes (refer to *Exhibit 4.1-3*, *2008 Weekday Average Daily Traffic Volumes*) and the maximum daily roadway capacity values, daily volume-to-capacity ratios have been determined for locations where daily traffic volumes were available. The following roadway segments currently operate at an unacceptable level of service (LOS D, E, or F) per the City of Murrieta's Level of Service standards. A map of the 2008 roadway volume-to-capacity ratios is provided in *Exhibit 4.1-4*, *2008 Roadway Volume-to-Capacity Ratios*.

Level of Service D

- Kalmia Street between Washington Avenue and Adams Avenue
- Murrieta Hot Springs Road immediately east of I-15

Level of Service E

- Kalmia Street between Madison Street and I-15
- Murrieta Hot Springs Road immediately west of Hancock Avenue
- Murrieta Hot Springs Road between I-215 and Alta Murrieta Drive

Level of Service F

- California Oaks Road between I-15 and Monroe Avenue

Intersections

A total of 39 intersections (28 existing intersections, one intersection currently under construction, and 11 future intersections) in the City of Murrieta were identified as study intersections. Of the 28 existing study intersections, 20 study intersections are currently signalized and eight are currently stop controlled. Stop sign controlled intersections include side-street stop sign controlled (two-way stop where the major street operates freely) or all-way stop sign controlled intersections (all approaches must stop for stop signs). A list of the 39 study intersections and a map of their locations are provided in *Table 4.1-6*, *List of Study Intersections*, and *Exhibit 4.1-5*, *Study Intersections*, respectively.

Existing lane configurations and traffic volumes are illustrated in *Exhibit 4.1-6A and B, Existing Lane Configurations*, and *Exhibit 4.1-7A and B, Existing Peak Hour Turning Movement Volumes*, respectively. *Table 4.1-7*, *Existing Levels of Service*, provides the level of service results for the 28 existing study intersections. As shown, all 28 existing study intersections currently operate at an acceptable level of service of LOS D or better.

Table 4.1-6
List of Study Intersections

Int. No.	Intersection	Traffic Control	Status
1	Menifee Road / Scott Road	Signalized	Existing
2	Leon Road / Scott Road	All-Way Stop	Existing
3	Winchester Road – SR-79 / Scott Road	Signalized	Existing
4	Antelope Road / Keller Road	All-Way Stop	Existing
5	Menifee-Meadowlark Road/ Keller Road	All-Way Stop	Existing
6	Briggs Road / Keller Road	Signalized	Future
7	Leon Road / Keller Road	Two-Way Stop	Existing
8	Winchester Road – SR-79 / Keller Road	Two-Way Stop	Existing
9	Antelope Road / Golden City Drive – Baxter Road	Signalized	Future
10	Whitewood-Meadowlark/ Golden City Dr – Baxter Road	Signalized	Future
11	Briggs Road / Baxter Road – Jean Nicholas	Signalized	Future
12	Leon Road / Jean Nicholas	Two-Way Stop	Existing
13	Winchester Road – SR-79 / Nicholas – Skyview	Signalized	Existing
14	Antelope Road / Linnell Lane Extension	Signalized	Future
15	Whitewood-Meadowlark/ Linnell Lane Extension	Signalized	Future
16	Leon Road / Max Gilliss Road	Signalized	Existing
17	Winchester Road – SR-79 / Max Gilliss – Thompson	Signalized	Existing
18	California Oaks Road / Clinton Keith Road	Signalized	Existing
19	I-215 SB Off-Ramp / Clinton Keith Road	Signalized	Existing
20	I-215 NB Off-Ramp / Clinton Keith Road	Signalized	Existing

Table 4.1-6 (continued)
List of Study Intersections

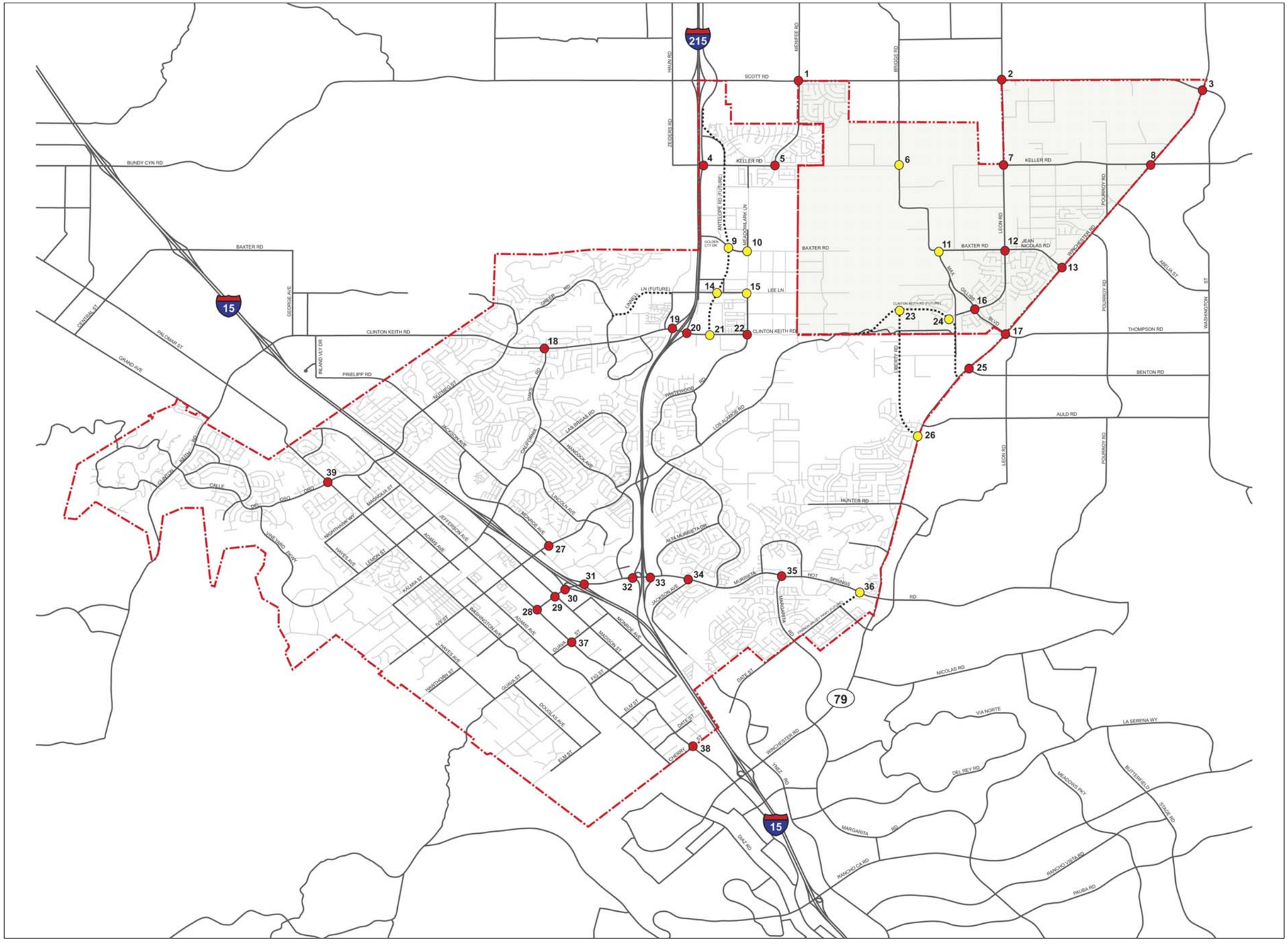
Int. No.	Intersection	Traffic Control	Status
21	Antelope Road / Clinton Keith Road	Two-Way Stop	Under Construction
22	Meadowlark-Whitewood Road / Clinton Keith Road	All-Way Stop	Existing
23	Liberty Road / Clinton Keith Road	Signalized	Future
24	Leon Road / Clinton Keith Road	Signalized	Future
25	Winchester Road - SR-79 / Benton Road	Signalized	Existing
26	Winchester Road - SR-79 / Liberty Road	Signalized	Future
27	Monroe Avenue / Los Alamos	Signalized	Existing
28	Jefferson Avenue / Murrieta Hot Springs Road	Signalized	Existing
29	Madison Avenue / Murrieta Hot Springs Road	Signalized	Existing
30	I-15 SB Off-Ramp / Murrieta Hot Springs Road	Signalized	Existing
31	I-15 NB Off-Ramp / Murrieta Hot Springs Road	Signalized	Existing
32	I-215 SB Off-Ramp / Murrieta Hot Springs Road	Signalized	Existing
33	I-215 NB Off-Ramp / Murrieta Hot Springs Road	Signalized	Existing
34	Jackson Avenue / Murrieta Hot Springs Road	Signalized	Existing
35	Margarita Road/ Murrieta Hot Springs Road	Signalized	Existing
36	French Valley-Date Street / Murrieta Hot Springs Road	Signalized	Future
37	Jefferson Avenue / Guava Street	Signalized	Existing
38	Jefferson Avenue / Cherry Street	Two-Way Stop	Existing
39	Washington Avenue / Calle del Oso Oro - Nutmeg Street	Signalized	Existing

Table 4.1-7
Existing Levels of Service

Int. No.	Intersection	AM Peak Hour		PM Peak Hour	
		LOS	Avg Del/Veh	LOS	Avg Del/Veh
1	Menifee Road / Scott Road	B	19.8	B	18.0
2	Leon Road / Scott Road	B	12.4	B	13.4
3	Winchester Road - SR-79 / Scott Road	C	20.7	B	18.5
4	Antelope Road / Keller Road	B	10.4	B	13.5
5	Menifee-Meadowlark Road/ Keller Road	A	8.1	A	8.2
6	Briggs Road / Keller Road	N/A	N/A	N/A	N/A
7	Leon Road / Keller Road	B	10.2	B	11.6
8	Winchester Road - SR-79 / Keller Road	B	14.2	C	23.0
9	Antelope Road / Golden City Drive – Baxter Road	N/A	N/A	N/A	N/A
10	Whitewood-Meadowlark/Golden City Dr – Baxter Road	N/A	N/A	N/A	N/A

Table 4.1-7 (continued)
Existing Levels of Service

Int. No.	Intersection	AM Peak Hour		PM Peak Hour	
		LOS	Avg Del/Veh	LOS	Avg Del/Veh
11	Briggs Road /Baxter Road – Jean Nicholas	N/A	N/A	N/A	N/A
12	Leon Road / Jean Nicholas	B	10.7	B	10.2
13	Winchester Road - SR-79 / Nicholas - Skyview	A	4.0	A	4.0
14	Antelope Road / Linnell Lane Extension	N/A	N/A	N/A	N/A
15	Whitewood-Meadowlark Linnell Lane Extension	N/A	N/A	N/A	N/A
16	Leon Road / Max Gilliss Road	C	24.6	C	25.4
17	Winchester Road - SR-79 / Max Gilliss - Thompson	D	37.1	C	25.6
18	California Oaks Road / Clinton Keith Road	C	21.7	C	22.4
19	I-215 SB Off-Ramp / Clinton Keith Road	C	23.6	C	25.3
20	I-215 NB Off-Ramp / Clinton Keith Road	C	26.2	C	23.1
21	Antelope Road / Clinton Keith Road	N/A	N/A	N/A	N/A
22	Meadowlark-Whitewood Road / Clinton Keith Road	B	10.5	B	13.4
23	Liberty Road / Clinton Keith Road	N/A	N/A	N/A	N/A
24	Leon Road / Clinton Keith Road	N/A	N/A	N/A	N/A
25	Winchester Road - SR-79 / Benton Road	B	14.6	C	20.6
26	Winchester Road - SR-79 / Liberty Road	N/A	N/A	N/A	N/A
27	Monroe Avenue / Los Alamos	B	18.4	B	14.4
28	Jefferson Avenue / Murrieta Hot Springs Road	C	21.2	C	20.7
29	Madison Avenue / Murrieta Hot Springs Road	C	25.3	C	34.2
30	I-15 SB Off-Ramp / Murrieta Hot Springs Road	B	17.7	B	18.9
31	I-15 NB Off-Ramp / Murrieta Hot Springs Road	B	12.1	B	13.8
32	I-215 SB Off-Ramp / Murrieta Hot Springs Road	B	16.0	B	14.5
33	I-215 NB Off-Ramp / Murrieta Hot Springs Road	A	5.4	A	10.0
34	Jackson Avenue / Murrieta Hot Springs Road	A	4.3	A	6.2
35	Margarita Road/ Murrieta Hot Springs Road	B	19.2	C	23.7
36	French Valley-Date Street / Murrieta Hot Springs Road	N/A	N/A	N/A	N/A
37	Jefferson Avenue / Guava Street	A	2.0	A	1.4
38	Jefferson Avenue / Cherry Street	C	15.2	C	15.0
39	Washington Avenue / Calle del Oso Oro - Nutmeg Street	C	29.2	C	26.8



LEGEND

- Existing Study Intersection
- Future Study Intersection
- City of Murrieta Boundary
- Sphere of Influence
- Future Roadway Alignment

0 1 2 Miles

Source: RBF Consulting.

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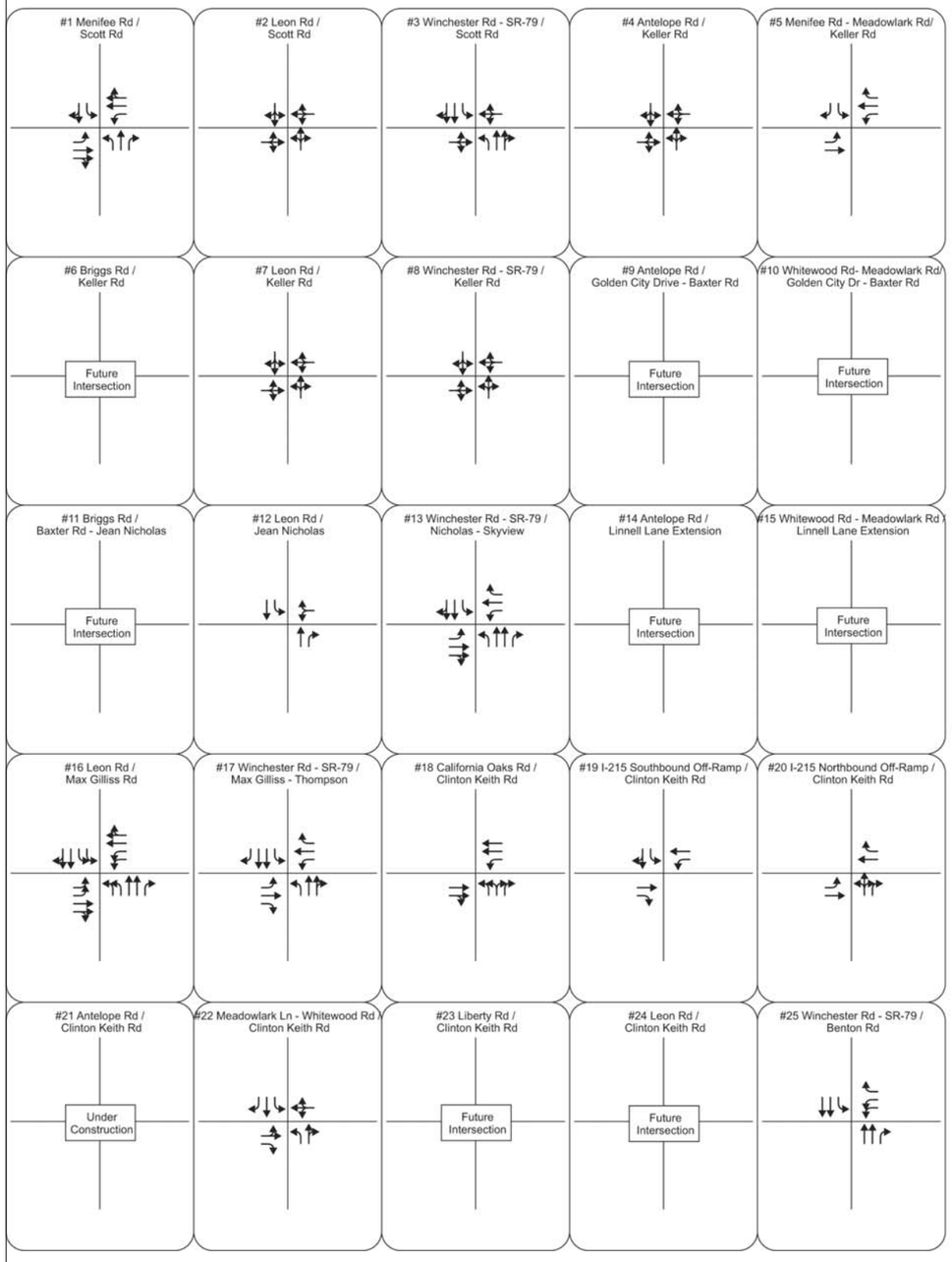
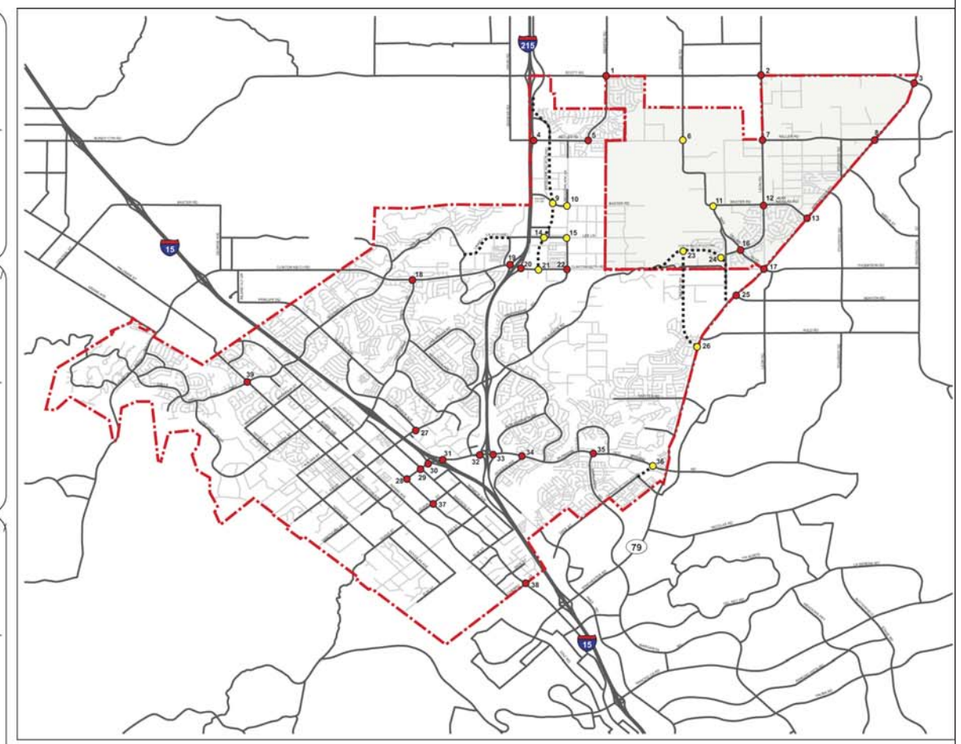
Study Intersections

Exhibit 4.1-5

Back of 11 x 17 exhibit page.





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LEGEND

- Existing Study Intersection
- Future Study Intersection
- City of Murrieta Boundary
- Sphere of Influence
- Future Roadway Alignment
- Signalized Intersection
- Two-Way Stop
- 4-Way/All-Way Stop
- Through Lane
- Turn Lane
- Shared Lane

Source: RBF Consulting.

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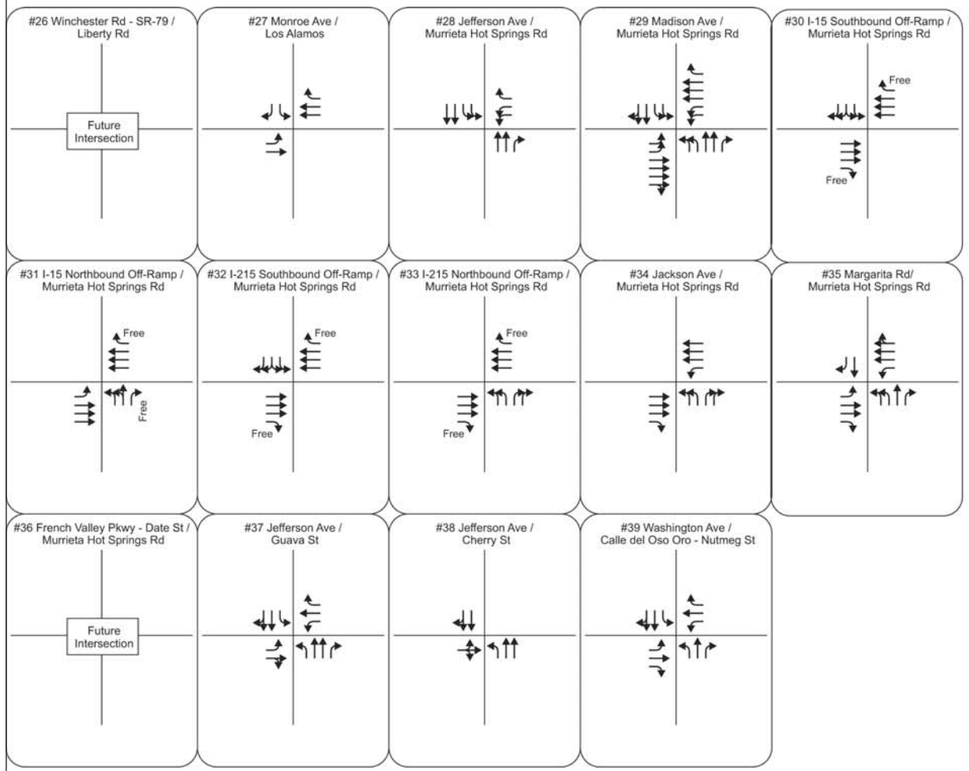
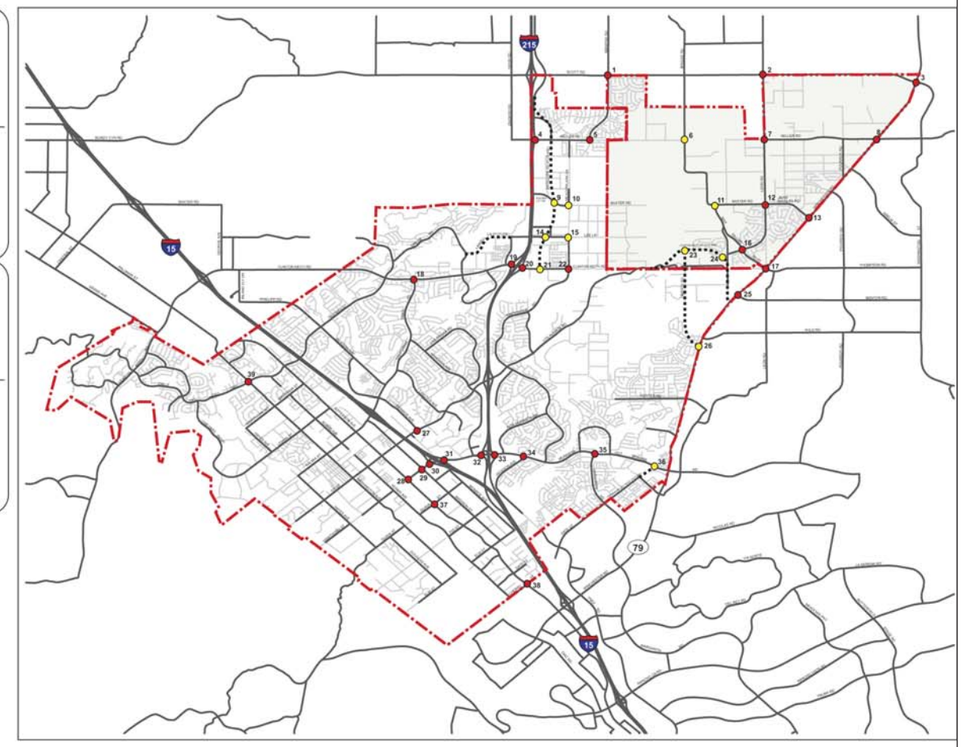
Existing Lane Configurations

Exhibit 4.1-6a

Back of 11 x 17 exhibit page.





LEGEND

- Existing Study Intersection
- Future Study Intersection
- City of Murrieta Boundary
- Sphere of Influence
- Future Roadway Alignment
- Signalized Intersection
- Two-Way Stop
- 4-Way/All-Way Stop
- Through Lane
- Turn Lane
- Shared Lane

Source: RBF Consulting.

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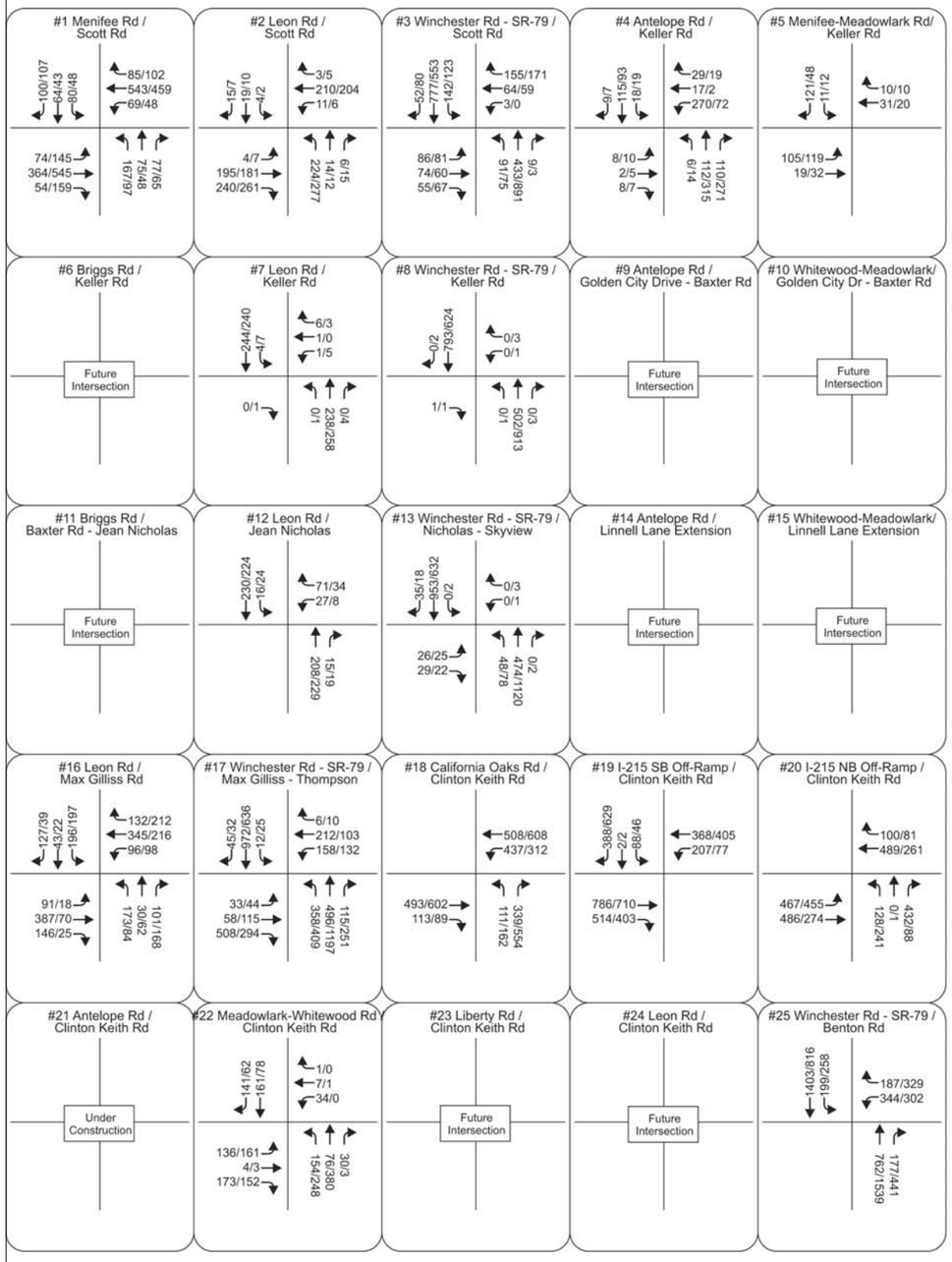
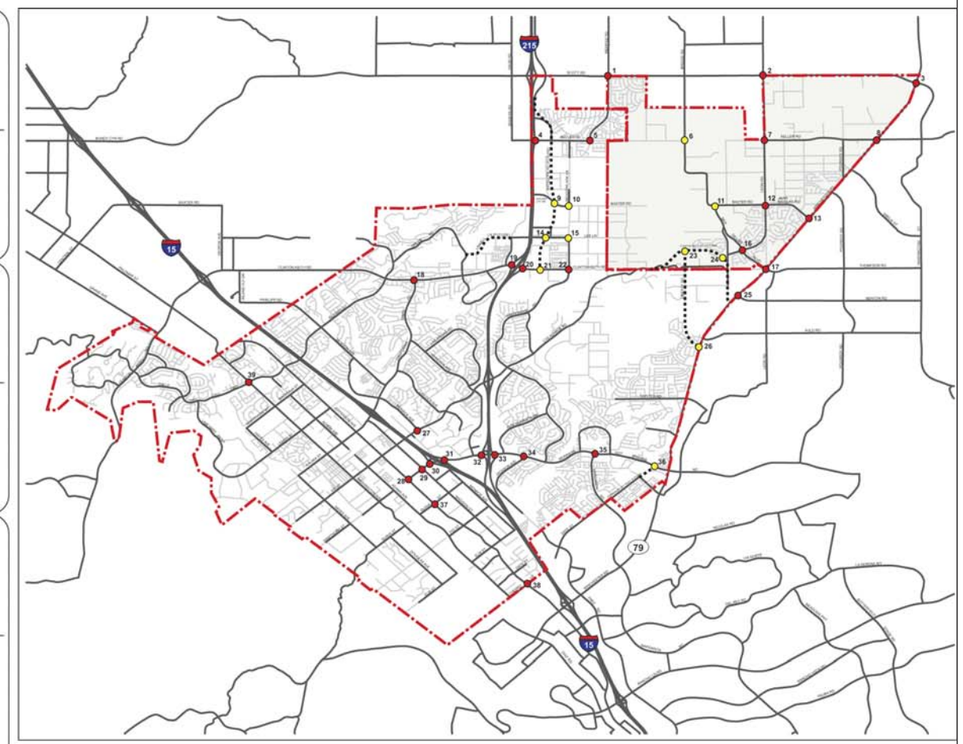
Existing Lane Configurations

Exhibit 4.1-6b

Back of 11 x 17 exhibit page.





LEGEND

- Existing Study Intersection
- Future Study Intersection
- City of Murrieta Boundary
- Sphere of Influence
- Future Roadway Alignment
- 31/20 AM Peak Hr/PM Peak Hr

Source: RBF Consulting.

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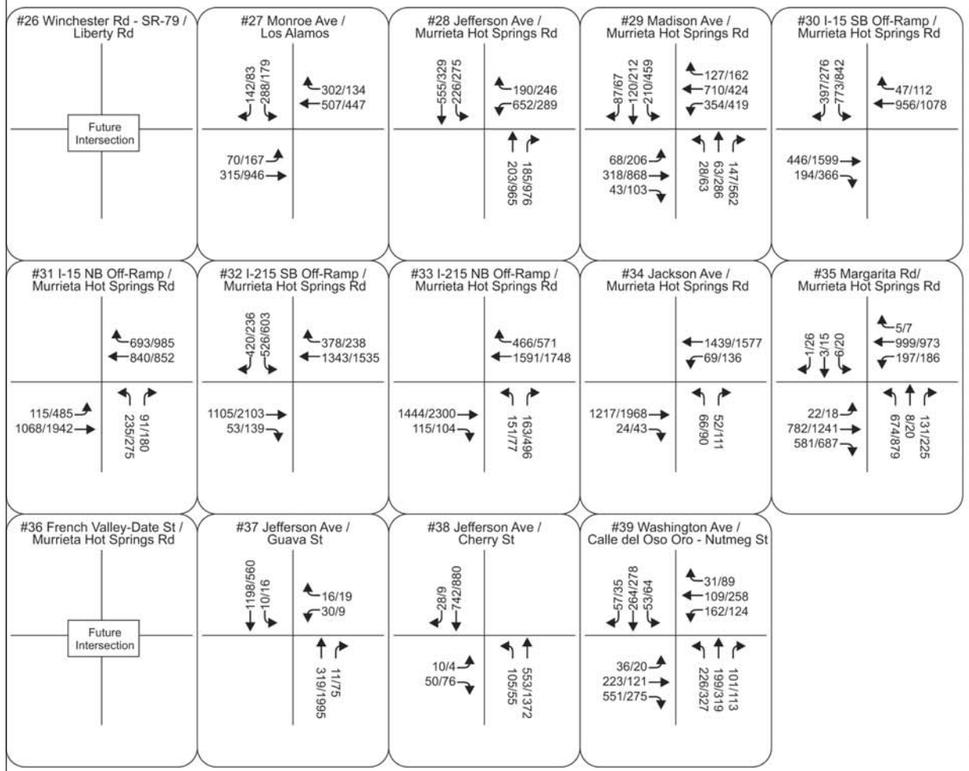
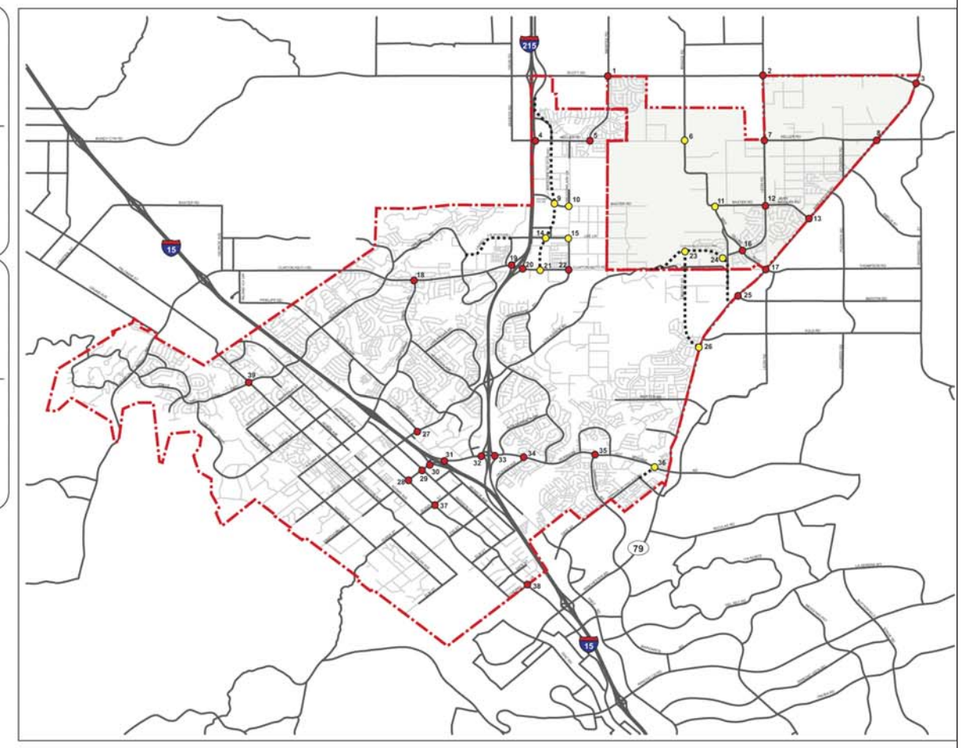
Existing Peak Hour Turning Movement Volumes

Exhibit 4.1-7a

Back of 11 x 17 exhibit page.





LEGEND

- Existing Study Intersection
- Future Study Intersection
- City of Murrieta Boundary
- Sphere of Influence
- Future Roadway Alignment
- 31/20 AM Peak Hr/PM Peak Hr

Source: RBF Consulting.

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Existing Peak Hour Turning Movement Volumes

Exhibit 4.1-7b

Back of 11 x 17 exhibit page.

TRANSIT SERVICES

Public Transit System

Public transit service in and around the City of Murrieta is provided by the Riverside Transit Agency (RTA). The RTA currently offers five fixed bus routes in the City of Murrieta (refer to *Exhibit 4.1-8*, *Existing Transit Routes*), with a variety of fare options for passengers including base fares, day passes, 7-day passes, and 30-day passes. General and youth (grades 1-12) base fares for fixed routes are $1.50, senior/disabled/Medicare card holder base fares are $0.70, and a child's base fare (46" tall or under) is $0.25. RTA routes 202, 204, 206, 208, 210, 212, and 217 are commuter routes with fares of $3.00 for general and youth, and $2.00 for senior/disabled/Medicare card holders and children.

In addition to fixed and commuter bus services, the City of Murrieta also offers a Dial-A-Ride (DAR) service. The Buddy Fare is part of DAR and offers groups of two to 10 people a ride for $3.00 each way for the entire group, provided all passengers can be picked up within one-half mile of each other and all are traveling to the same destination. DAR also operates a Senior/Disabled DAR service for seniors age 60 and above and for anyone carrying an RTA Disabled ID card or an Americans with Disabilities Act (ADA) card. DAR gives priority service to individuals who are certified under the ADA. Dial-A-Ride fares are $3.00 for senior/disabled/Medicare card holders and $0.50 for children (46" tall or under).

A summary of the RTA transit routes that serve the City of Murrieta is provided below.

- RTA Route 23 (Temecula-Murrieta-Wildomar) – RTA Route 23 operates between the Community Center in Temecula and the Inland Valley Regional Medical Center in Wildomar. Key points of interest along Route 23 in the City of Murrieta include Vista Murrieta High School, Rancho Springs Medical Center, Murrieta Springs Plaza, Murrieta Senior Center and City Hall, and Murrieta Valley High School. Weekday AM peak hour headway is approximately one hour and 20 minutes, weekday PM peak hour headway ranges between 40 minutes and an hour and 15 minutes, and weekend mid-day peak hour headway is one hour. Days of operation are Monday through Sunday, with reduced service on New Year's Day, Memorial Day, Independence Day, and Labor Day, and no service on Thanksgiving Day and Christmas Day.

- RTA Route 61 (Sun City – Menifee – Murrieta – Temecula) – RTA Route 61operates between the County Center in Temecula and the Menifee Valley Medical Center in Menifee. A key point of interest along Route 61 in the City of Murrieta is the Rancho Springs Medical Center. Weekday peak hour headway is approximately one hour and 15 minutes. Days of operation are Monday through Friday. Route 61 does not operate on weekends or on New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day.

- RTA Commuter Link Route 202 (Murrieta – Temecula – Oceanside Transit Center) – RTA Route 202 is a commuter route that operates between Oceanside and Murrieta, and provides a direct link to the Oceanside Transit Center. Route 202 operates four morning trips and three evening trips that correspond with the Amtrak departure/arrival schedule. Days of operation are Monday through Friday. Route 202 does not operate on weekends or on New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day.

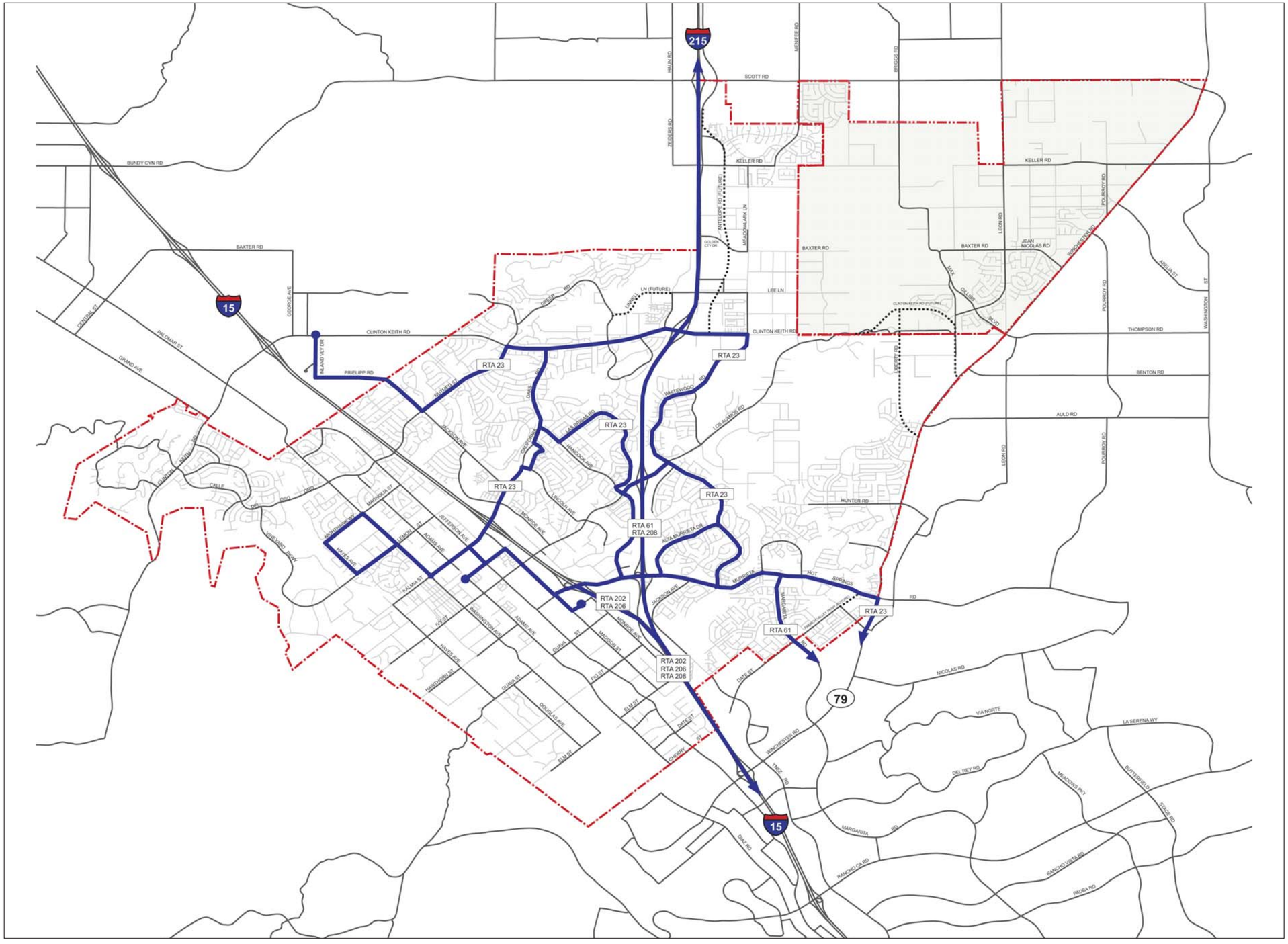
- RTA Commuter Link Route 206 (Temecula – Murrieta – Lake Elsinore – Corona Metrolink) – RTA Route 206 is a commuter route that operates between Temecula and Corona, and provides a direct link to the North Main Corona Metrolink Station. Route 206 operates five northbound trips and four southbound trips during the morning, and two northbound trips and six southbound trips during the evening to correspond with the Metrolink departure/arrival schedule. Days of operation are Monday through Friday. Route 206 does not operate on weekends or on New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day.

- RTA Commuter Link Route 208 (Temecula – Murrieta – Sun City – Perris – Moreno Valley – Downtown Terminal) – RTA Route 208 is a commuter route that operates between Temecula and Riverside, and provides a direct link to the Riverside-Downtown Metrolink station and bus terminal. Route 208 operates five northbound trips and three southbound trips during the morning, and four northbound trips and four southbound trips during the evening to correspond with the Metrolink departure/arrival schedule. Days of operation are Monday through Friday. Route 208 does not operate on weekends or on New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, and Christmas Day.

- RTA Dial-A-Ride Murrieta/Temecula – RTA DAR Murrieta/Temecula is a reservation-based transportation service that travels to and from locations within the Cities of Murrieta and Temecula, and parts of Winchester. Reservation hours are Monday through Friday, 7:00 AM to 6:00 PM, and on weekends from 8:00 AM to 5:00 PM.

BIKEWAYS & PEDESTRIAN FACILITIES

The trail and pedestrian systems are made up of sidewalks, pathways, bicycle lanes, and hiking and equestrian trail corridors. These systems enhance the walkability of the community and provide an alternative means of recreational and other travel opportunities. Although the City does not have an officially adopted bicycle map, Murrieta has bicycle trails and lane corridors, as well as traditional sidewalks and pathways, which provide access to parks, shopping centers, employment areas, and public facilities. Facilities include Class I bikeways, which are dedicated rights-of-way designed to be shared with pedestrians, Class II bike and are located both off-street (Class I) and on-street (Class II and III) (refer to *Exhibit 4.1-9*, *Bikeways and Paths*). The hiking and equestrian corridors provide recreational opportunities through major conservation and open space areas (refer to the Conservation and Open Space Element). Refer to *Table 4.1-8*, *Bikeways and Paths*, for current path and lane segment lengths.



LEGEND

- Bus Transit Line
- City of Murrieta Boundary
- Sphere of Influence
- Future Roadway Alignment

0 1 2 Miles

Source: RBF Consulting.

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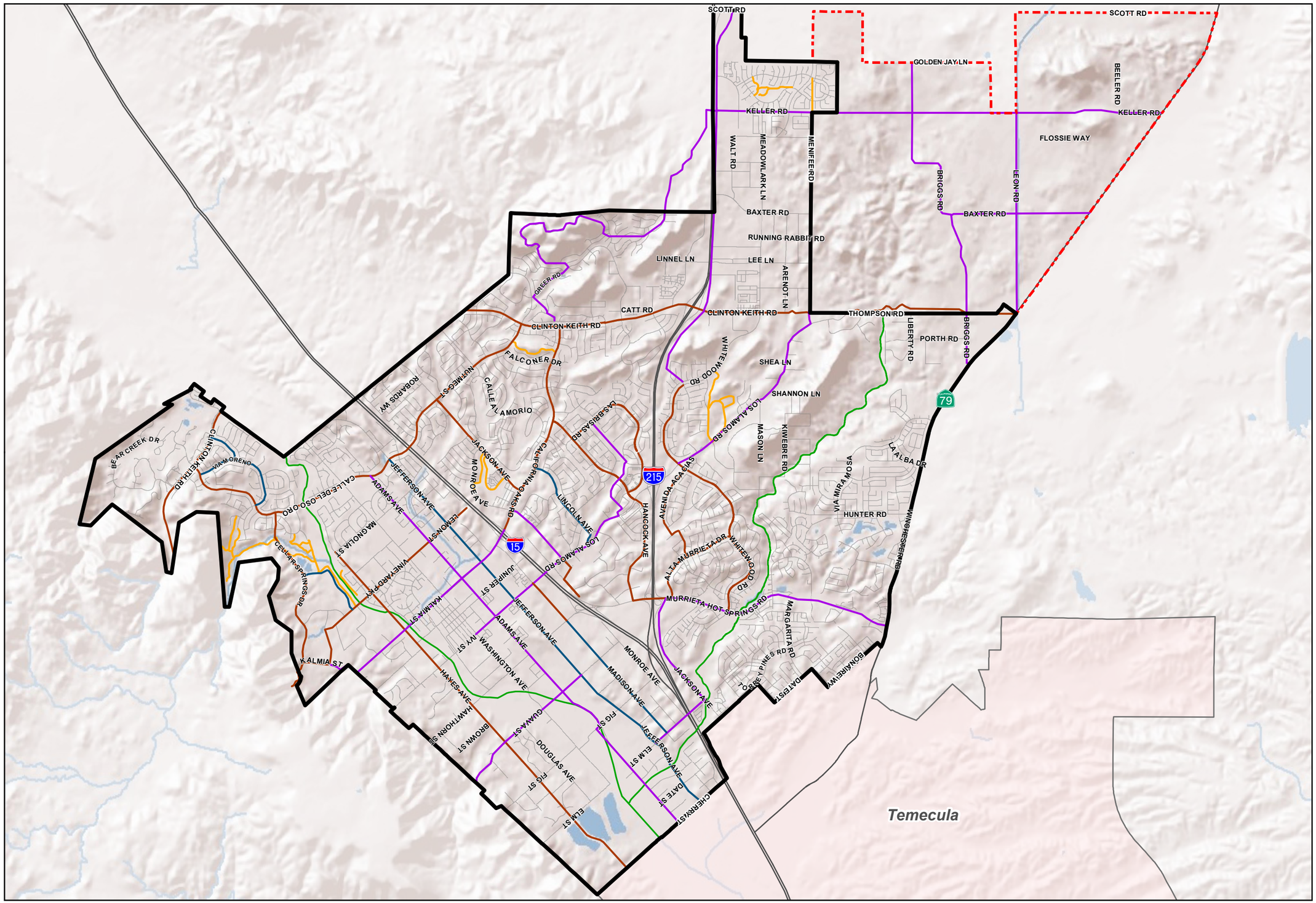
Existing Transit Routes

Exhibit 4.1-8

Back of 11 x 17 exhibit page.



LEGEND

- Class I Bike Lane
- Class II Bike Lane
- Class III Bike Lane

City Trail

- Horse, Bike, Walking
- Creek Segment
- Sphere of Influence
- City Boundary

December 18, 2009

0 0.5 1
Miles

Source:
City of Murrieta
ESRI World Shaded Relief

RBF CONSULTING

12/18 JN 10-106976 BikewaysandPaths.mxd

Bikeways and Paths

Exhibit 4.1-9

Back of 11 x 17 exhibit page.

Table 4.1-8
Bikeways and Paths

Facility Type	Length
Class I Bikeway • Separated right-of-way designed to be shared with pedestrians, typically 8 feet wide.	39 miles
Class II Bikeway • 4' wide on-street right-of-way designated for bicycle use via painted lines. Parking is usually allowed.	34.7 miles
Class III Bikeway • Shared route with motor vehicles, designated only by signs.	9.3 miles
Horse, Biking & Walking Trails	8.3 miles
Creek Segment	12.5 miles
Total Bikeway & Pedestrian Facilities	**103.8 miles**

AVIATION FACILITIES

The French Valley Airport is a county-owned public-use airport located on SR-79 (Winchester Road) in unincorporated Riverside County, adjacent to Murrieta, Temecula and Winchester. The airport covers an area of approximately 261 acres, with a single, 6,000-foot long, 75-foot wide asphalt runway. The airport has an average of 269 aircraft operations per day (for the 12-month period ending March 31, 2006), 60 percent are for local general aviation. The 2007 French Valley Airport Land Use Compatibility Plan establishes policies for determining consistency between development projects within the Airport Influence Area, and the objectives set forth in the State Aeronautics Act (Public Utilities Code Section 21670-21679.5). Those objectives call for the Riverside County Airport Land Use Commission to protect public health, safety, and welfare by ensuring the orderly expansion of airports and the adoption of land use measures that minimize the public's exposure to excessive noise and safety hazards within areas around public airports to the extent that these areas are not already devoted to incompatible land uses. The Airport Influence Area includes land in the City of Murrieta, and extends approximately 2.6 miles beyond the airport property line.

RAILWAYS

While the City experienced a large boom due in part to the installation of Southern California Railroad tracks in 1892, the trains ceased operation in 1935. There are currently no active railways in the City of Murrieta. However, the existing General Plan Circulation Element includes goals, objectives, and policies that support coordination with appropriate agencies and jurisdictions to identify and pursue opportunities for light rail and high-speed rail within the City to help serve regional travel needs.

Findings

LEVEL OF SERVICE

The following roadway segments currently operate at an unacceptable level of service (LOS D, E, or F) per the City of Murrieta's Level of Service standards.

Level of Service D

- Kalmia Street between Washington Avenue and Adams Avenue
- Murrieta Hot Springs Road immediately east of I-15

Level of Service E

- Kalmia Street between Madison Street and I-15
- Murrieta Hot Springs Road immediately west of Hancock Avenue
- Murrieta Hot Springs Road between I-215 and Alta Murrieta Drive

Level of Service F

- California Oaks Road between I-15 and Monroe Avenue

All 28 existing study intersections currently operate at an acceptable level of service of LOS D or better.

Level of service (LOS) is a measure of traffic operating conditions ranging from LOS A (the best) to LOS F (the worst). The City's current goal is LOS C for roadways and LOS D for intersections within the City. While the current LOS goal ensures mobility for vehicles traveling on City roadways, it may not address the needs of bicyclists and pedestrians. To maintain the LOS goal conditions within the City, many roadways may need to be widened, which will create longer crossing distances for pedestrians and wider roadways for bicyclists to traverse. The City will be re-evaluating the LOS policy during the General Plan Update.

TRANSIT SERVICES

Public transit service (bus service) in and around the City of Murrieta is provided by the Riverside Transit Agency (RTA).

The City of Murrieta offers a Dial-A-Ride (DAR) service.

BIKEWAYS AND PEDESTRIAN FACILITIES

The City currently has 103.8 miles of bicycle and pedestrian facilities. The City will consider the expansion and better connection of these facilities in the General Plan Update.

Proposed bicycle facility improvements are contained in the Parks and Recreation Master Plan.

It is unknown how many City residents commute to work either on foot or by bicycle.

The City should consider implementing programs and policies to improve the pedestrian environment, such as a Neighborhood Traffic Management Program, Traffic Calming Guidelines, Pedestrian Safety Guidelines, and Pedestrian Friendly Street Standards.

AVIATION FACILITIES

The City is served by one airport, French Valley Airport, which is located on SR-79 (Winchester Road) in unincorporated Riverside County, east of the City.

RAILWAYS

There are currently no active railways in the City of Murrieta.

There are proposed plans to bring rail and rail stops into the City. These plans will be reviewed and incorporated into the General Plan Update.

Significance Thresholds

The following thresholds for determining the significance of impacts related to traffic and circulation are taken from the environmental checklist form contained in Appendix G of the most recent update of the *California Environmental Quality Act (CEQA) Guidelines,* and will be used in the Environmental Impact Report. Impacts related to traffic and circulation are considered significant if implementation of the General Plan would:

- Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections);

- Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways;
- Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks;
- Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment);
- Result in inadequate emergency access;
- Result in inadequate parking capacity; and/or
- Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks).

Sources Cited

City of Murrieta General Plan, various dates.

Draft Existing Conditions Report, prepared by Iteris, January 2010.

Introduction

WHY ADDRESS HEALTH THROUGH CITY PLANNING?

Legal and Historical Connections

The legal and historical link between city planning and public health is strong. In fact, a city's legal ability to enact planning regulations comes explicitly from its police power, which mandates that the city protect a community's "health, safety, and general welfare." Modern American city planning and zoning grew explicitly in response to the public health crises that arose from the rapid industrialization and urbanization of the late 19th and early 20th centuries. Early planners required sanitary sewers to prevent cholera epidemics and zoned city blocks to buffer residential neighborhoods from polluting industries, often resulting in a strict separation of all uses that is still common today. Some early examples of zoning were also an attempt to reinforce race and class divisions. Many wealthy homeowners sought to prevent the poor and recent immigrants, and the health threats and loss of status they were perceived to represent, from settling in their neighborhoods, and sought to limit certain types of density, commercial development, and workforce housing in order to do this.

In 1926, the U.S. Supreme Court decision *Village of Euclid vs. Ambler Realty Co* cited preservation of public health as one of the basic responsibilities of local government, and interpreted zoning as an extension of the local police power to promote the "health, safety, and general welfare" of a community. The result was the federal Zoning Enabling Act, which enabled modern zoning and is still the legal rationale for land use regulation and planning across the country. Because public health is such a tangible example of the "health, safety, and general welfare," it remains one of the most legally justified reasons for making planning decisions.

The Divergence of Planning and Public Health

Despite its historical connection and legal standing, it became less common through the 20th century to address public health issues through city planning. One reason is that early planning practices successfully resolved many of the public health issues plaguing urban areas during the early 20th century, such as overcrowding and the close proximity of housing to heavy industry. Health professionals began to focus on disease treatment, education, and discouraging unhealthy behaviors, while planning professionals shifted their attention to such issues as economic development and transportation. In particular, planners focused on how to accommodate rapid population growth and the desire for unlimited personal mobility through driving. Zoning and infrastructure projects increasingly became a means to protect property values and bolster the tax base.

New Links Between Health and Planning

In recent years, the planning and public health professions are rediscovering the impact of planning on public health. It is already well-recognized that chronic disease rates in the United States are rapidly on the rise. Since 1980, the number of obese Americans has doubled to more than one-third of the population,[1] and the prevalence of Type 2 diabetes has doubled.[2] The asthma rate among children has more than doubled.[3] Based on current obesity trends, for the first time in American history, children are not predicted to live as long as their parents.[4] There is growing evidence that urban pattern and design have a broad impact on these levels of public health.

Planning decisions underlie people's daily and habitual decisions, and largely dictate levels of public health, such as where to live, work, and travel, what to eat and where and when to play, socialize, and be physically active. As cities and counties begin to re-discover this relationship, addressing health in general plans, and other efforts at the local planning level, are becoming more common.

Late-20th century American development is often characterized by automobile-dominated transportation systems, strictly separated uses accessible only by car, fewer pedestrian-oriented places, and a lack of parks and public space for recreation. One of the primary impacts of this pattern of development is to suppress physical activity. Limited physical activity, in turn is a primary risk factor for heart disease, cancer, stroke, diabetes, and Alzheimer's disease, which represent five of the top ten causes of death in California and the top three killers in the City of Murrieta. It is also a primary risk factor for obesity (fastest-growing disease in California, along with diabetes[5]), which increases the risk of myriad chronic diseases. Only 47 percent of Californians meet the recommended guidelines for physical activity.[6] Walkable urban form,

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1 Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, Physical Activity Prevalence Data: California 2003, *available at* http://apps.nccd.cdc.gov/brfss (last accessed 9/3/07).

2 California Center for Health Statistics, Office of Health Information and Research, Death Data Tables, Cause of Death, *available at* www.dhs.ca.gov/hisp/chs/OHIR/tables/death/causes.htm (last accessed 9/24/07).

3 L. Frank et al., *Linking Objectively Measured Physical Activity with Objectively Measured Urban Form: Findings from SMARTRAQ*, February 2005, Vol. 28, Issue 2, American Journal of Preventative Medicine, pages 117-125.

4 L. Besser and A. Dannenberg, *Walking to Public Transit: Steps to Help Meet Physical Activity Recommendations*, November 2005, Vol. 32, Issue 4, American Journal of Preventative Medicine, pages 273-280.

5 California Center for Health Statistics, Office of Health Information and Research, Death Data Tables, Cause of Death, *available at* www.dhs.ca.gov/hisp/chs/OHIR/tables/death/causes.htm (last accessed 9/24/07).

6 Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, Physical Activity Prevalence Data: California 2003, *available at* http://apps.nccd.cdc.gov/brfss (last accessed 9/3/07).

more compact development, transportation choices, and access to recreation all increase physical activity, which can have positive health impacts.[7]

Land use and planning decisions also impact people's eating habits. Eating habits and nutrition contribute to levels of obesity, which, like lack of physical activity, is a primary risk factor for heart disease, cancer, stroke, diabetes, and Alzheimer's disease. A lack of quality grocery stores in some areas, the proliferation of unhealthy food outlets such as fast food restaurants and convenience stores, and lack of transportation access are all reasons people may have decreased access to nutritious food.[8] In California as a whole, there are 4.18 times as many fast-food restaurants and convenience stores as supermarkets and produce vendors.[9]

There are many other ways land use and planning can affect public health. Emissions from transportation sources are strongly linked with respiratory diseases, and automobile accidents consistently kill over 40,000 Americans each year. The physical presence and distribution of health providers influences how easily people can access health care. Urban design and maintenance can contribute to or decrease levels of crime and feelings of pedestrian comfort and safety. Poor mental health is associated with a number of factors related to planning, including long commute times, exposure to crime, lack of transportation choice and lack of access to public spaces.

SECTION CONTENTS

The purpose of this section is to document existing health conditions in Murrieta. It is also to document important determinants of health that can be addressed and improved on through the General Plan Update. The section includes the following topics:

- Community Health Snapshot
- Land Use
- Transportation
- Pedestrian Environment
- Transportation Safety
- Access to Parks and Open Space
- Access to Healthy Food Sources
- Exposure to Pollutants and Toxics
- Access to Health Care

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7 Frank, L., S. Kavage and T. Litman, 2006, *Promoting Public Health Through Smart Growth*, Prepared for Smart Growth BC, page 6.

8 Feldstein, L.M., 2006, *General Plans and Zoning: A Toolkit on Land Use and Health*, California Department of Health Services, page 3-1.

9 California Center for Public Health Advocacy, 2007, *Searching for Healthy Food, The Food Landscape in Contra Costa County*, January, page 1.

Each topic area begins with a background discussion of how the topic affects health, followed by Murrieta's existing conditions. The sections on land use, mobility, pedestrian environment, and transportation safety also contain a discussion of environmental sustainability when applicable, and are discussed in Section 5.2, Sustainability. This is because many of the issues and relevant data for these topics are the same for both health and sustainability.

Community Health Snapshot

BACKGROUND

Key health issues that relate significantly to city form and design are discussed below.

Physical Activity

Lack of physical activity is a primary risk factor for obesity as well as heart disease, cancer, stroke, diabetes, and Alzheimer's disease – five of the top ten causes of death in California and in Murrieta. According to the *2008 Physical Activity Guidelines for Americans*, produced by the Centers for Disease Control and Prevention (CDC), adults need a minimum amount of moderate or vigorous intensity aerobic activity and muscle-strengthening exercises each week. The U.S. Surgeon General recommends 30 minutes of moderate physical activity per day for adults and 60 minutes per day for children and adolescents.[10] While this level of activity can often be met by people who incorporate walking or movement into their daily routine, Americans' increasingly sedentary lifestyles decrease their chances of being active enough. Currently, only 40 percent of U.S. adults currently meet the Surgeon General's recommendation for physical activity,[11] and only 50 percent of Californians do.[12]

Obesity and Overweight

Obesity is one of the most strongly correlated effects of decreased physical activity. Obesity levels in the United States have reached nearly epidemic proportions, with an estimated 64 percent of U.S. adults aged 20 years and older now classified as overweight or obese. Since 1980, obesity has doubled among U.S. adults, and since the early 1970s, the percentage of children and adolescents who are defined as overweight has more than doubled.[13] Obesity

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[10] Centers for Disease Control and Prevention, "How Much Exercise Do you Need?" *available at* http://www.cdc.gov/physicalactivity/everyone/guidelines/index.html (last accessed 07/08/09).

[11] U.S. Department of Health and Human Services, no date, *A Report of the Surgeon General Physical Activity and Health: Adults* (http://www.cdc.gov/nccdphp/sgr/pdf/adults.pdf).

[12] Centers for Disease Control and Prevention, Behavioral Risk Factor Surveillance System, Physical Activity Prevalence Data: California 2003, *available at* http://apps.nccd.cdc.gov/brfss (last accessed 07/08/09).

[13] National Health and Nutrition Examination Survey results 1999-2000, http://www.cdc.gov/healthyplaces/healthtopics/physactivity.htm (accessed February 27, 2007).

increases a person's risk of illness or death due to diabetes, heart disease, stroke, hypertension, asthma, a number of different cancers, and other illnesses and chronic conditions.[14] [15]

Heart Disease

The American Heart Association has identified several risk factors for coronary heart disease, only some of which can be modified, treated, or controlled. The more risk factors an individual has and the greater the level of each risk factor, the greater the chance of developing coronary heart disease. Risk factors that have been associated with the built environment include high blood cholesterol (as it is affected by diet), physical inactivity, obesity and overweight conditions, diabetes and stress.[16]

Diabetes

Being overweight or obese is a primary risk factor for diabetes, which is the fastest-growing disease in the state and the country. Diabetes has serious and sometimes fatal complications, but can often be managed or prevented through improved diet, physical activity, and weight loss. Unfortunately, many people are not even aware that they have diabetes until they develop complications associated with the disease.[17]

Respiratory Illness

Chronic lower respiratory diseases (CLRD), which include asthma, pneumonia, chronic obstructive pulmonary disease, and emphysema, are key public health problem in the United States. In 2004, CLRD was the fourth leading cause of death in the U.S.,[18] as well as in Murrieta. CLRD often restricts physical activity, which has further negative health impacts. Asthma is the most common chronic childhood disease, occurring in approximately 54 of every 1000 children,[19] and asthma rates are increasing. The percentage of children who had asthma more than doubled between 1980 and 1995, from 3.6 percent to 7.5 percent.[20] Polluted air is a

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14 *Ibid.*

15 http://www.cdc.gov/obesity/causes/health.html and californiabreathing.org.

16 American Heart Association, "Risk Factors and Coronary Heart Disease," available at :www.americanheart.org/presenter.jhtml?identifier=4726 last accessed July 8, 2009.

17 American Diabetes Association webpage (http://www.diabetes.org/about-diabetes.jsp) last accessed 07/08/09.

18 Centers for Disease Control, 2006, "Table B. Deaths and death rates for 2004 and age-adjusted death rates and percentage changes in age-adjusted rates from 2003 to 2004 for the 15 leading causes of death in 2004: United States, final 2003 and preliminary 2004," *National Vital Statistics Reports 2006*, Vol. 54, No. 19, June 28. (http://www.cdc.gov/nchs/data/nvsr/nvsr54/nvsr54_19.pdf)

19 Cummins, S.K. and R.J. Jackson, 2001, "The built environment and children's health," *Pediatric Clinics of North America*, Vol. 48, No. 5, pages 1241 to 1252.

20 Center for Disease Control, 2006, *State of Childhood Asthma, United States: 1980-2005*. Press Release. (http://www.cdc.gov/od/oc/media/pressrel/r061212.htm).

primary trigger for asthma attacks and a major risk factor for asthma, bronchitis, and other respiratory illnesses, as well as lung cancer and leukemia.

MURRIETA EXISTING CONDITIONS

The Riverside County Public Health Department does not publish city-specific data for disease rates and health behaviors. Therefore, existing conditions are often presented at the County and State level only, although for some topics data was available at the City level from other sources.

Demographics

Murrieta is a fast-growing city that was home to 100,714[21] people in 2009. The City has a relatively young population, with a median age of 30.7 years, which is similar to the Riverside County median age of 31.6 but 5 years younger than the national median age of 36.[22] Younger people are at lower risk for many chronic diseases and illnesses than older people. At the same time, some health statistics for younger populations can mask the chronic effects of negative health behaviors, such as unhealthy eating or lack of physical activity, which have an increasing and cumulative effect as a population ages.

Recent research has correlated both higher income and higher educational attainment with positive health outcomes.[23] On average, people in Murrieta earn more than the Riverside County or national average. The household median income between 2006 and 2008 was $79,135, which was significantly higher than the household median for Riverside County ($58,168) or the nation ($52,175). Similarly, while 5.8 percent of the Murrieta population has an annual income below the poverty line, this is much lower than the poverty rate for Riverside County (12.2 percent) and the nation (13.2 percent).[24] Those below the poverty line in Murrieta are concentrated in the southern portion of the City, as shown in *Exhibit 5.1-1*, *Percent of Persons Below Poverty Level in 1999:2000*. In the southern-most group of Census blocks, extending west of I-15 into Temecula and unincorporated Riverside County, 24.6 percent of people are below the poverty line. Educational attainment is also higher in Murrieta than both the national and county averages. Of Murrieta residents, 65.2 percent have attended some college or obtained an advanced degree, compared with 50.8 percent for Riverside County and 54.9 percent nationally.

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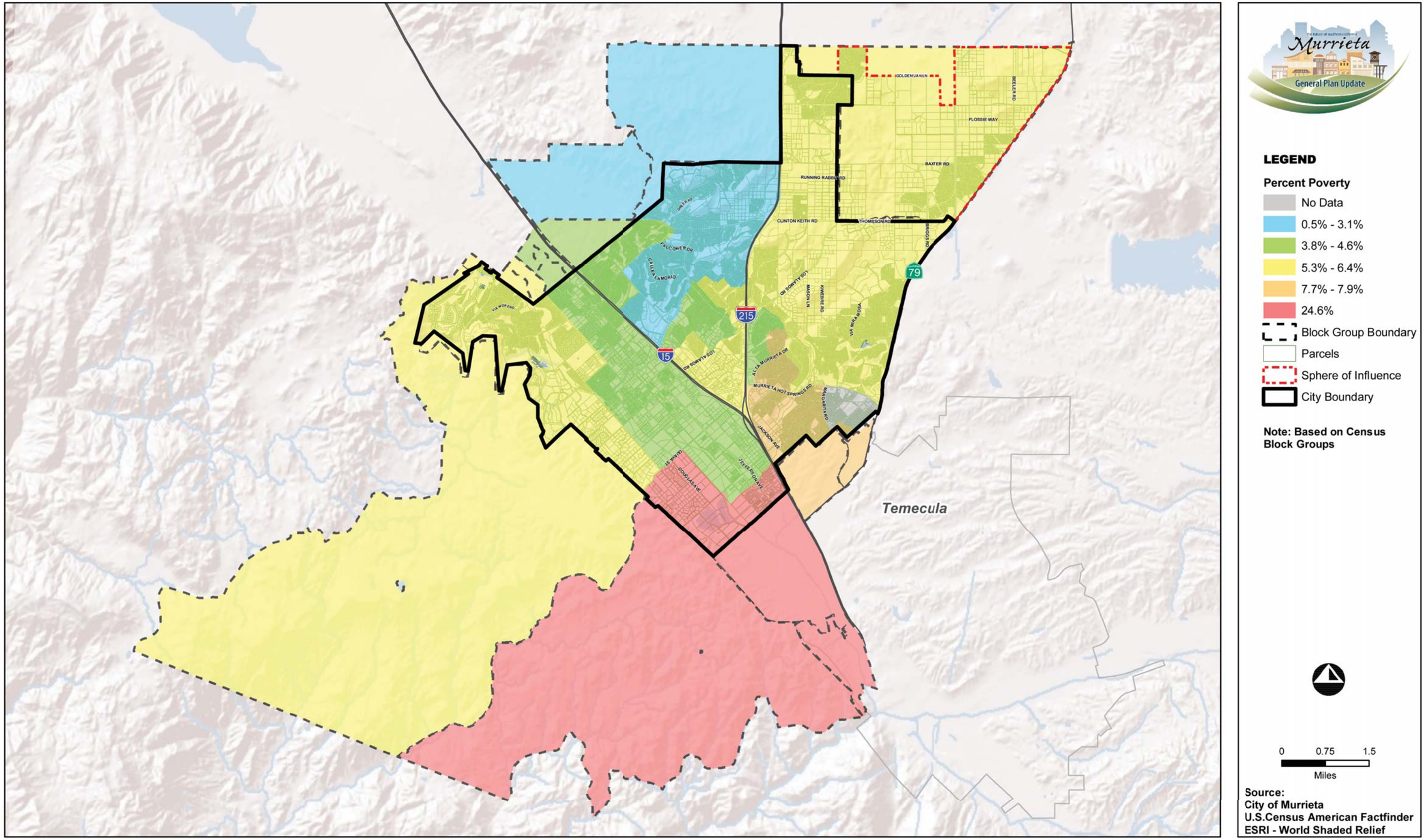
21 Stanley R. Hoffman Associates, *Economic Trends and Conditions Murrieta General Plan Update*, January 7, 2010.

22 *Ibid.*

23 Wirt, J., Choy, S., Rooney, P., Provasnik, S., Sen, A., and Tobin, R. (2004). The Condition of Education 2004 (NCES 2004-077). U.S. Department of Education, National Center for Education Statistics, Washington, DC: U.S. Government Printing Office.

24 U.S. Census, *American Community Survey Selected Economic Characteristics*, 2006-2008, available at www.factfinder.census.gov.



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Percent of Persons Below the Poverty Level in 1999:2000

Exhibit 5.1-1

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Leading Causes of Death

The leading causes of death in Murrieta are similar to those throughout California and Riverside County, as shown in *Table 5.1-1*, *Leading Causes of Death By Percentage, Murrieta, 2003-2007*. The leading causes by a wide margin are cancer and heart disease, followed by stroke, chronic lower respiratory disease, and Alzheimer's. Unintentional injuries, motor vehicle collisions, influenza and pneumonia, and diabetes are also significant causes of death. Deaths from cancer, the leading cause in Murrieta, are more common in Murrieta than California or Riverside County, as are deaths from Alzheimer's. Rates of death from diabetes, chronic liver disease, and heart disease are slightly lower than the state and county average. Risk of cancer, heart disease, stroke, and Alzheimer's (4 of the 5 top leading causes of death in Murrieta), as well as of diabetes, can be decreased by improved physical activity and avoiding being obese or overweight.

Table 5.1-1
Leading Causes of Death by Percentage, Murrieta, 2003-2007

Causes of Death	Murrieta Average Percentage (2003-2007)	Riverside County Percentage (2007)	California Percentage (2003)
Cancer (all types)	34.5	29.6	30.1
Heart Disease	27.5	28.3	28.8
Stroke	7.0	5.9	7.4
Chronic Lower Respiratory Disease	6.6	6.9	5.6
Alzheimer's	5.4	3.9	2.8
Unintentional Injury	4.2	5.3	4.4
Motor Vehicle Collision	2.0	2.2	1.9
Influenza & Pneumonia	2.0	1.9	3.4
Diabetes	1.9	3.1	3.0
Suicide	1.3	1.5	1.4
Chronic Liver Disease & Cirrhosis	1.1	1.4	1.6
Homicide	0.4	0.8	1.0

Notes:
This list does not include death counts from other less frequent causes of death not listed here, so does not add to 100%.

Source: Riverside County Community Health Agency, Department of Public Health, Epidemiology & Program Evaluation Branch, July 2009, with data from State of California, Department of Health Services, Center for Health Statistics, Death Statistical Master File, Riverside County, 2005 (Residence).
Compiled by: Raimi + Associates, 2010.

Hospitalizations for Asthma and Heart Attack

Rates of hospitalizations by cause, as shown in *Table 5.1-2*, *Asthma and Heart Attack Hospitalizations per 10,000 Residents, 2006-2008 Combined*, give an indication of how often certain health episodes are occurring in Murrieta as compared to other places. For both zip codes

in Murrieta, significantly fewer people are hospitalized or visit the emergency room for asthma when compared to State or any other Southern California county numbers. This is an indication that rates of asthma or asthma triggers such as air pollution may be less widespread in Murrieta.

Table 5.1-2
Asthma and Heart Attack Hospitalizations per 10,000 Residents, 2006-2008 Combined

Location	Asthma		Heart Attack
	Hospitalizations	Emergency Room Visits	
Murrieta (areas within 92562 Zip Code)	3.7	26.7	52.7
Murrieta (areas within 92563 Zip Code)	5.1	28.2	60.7
Riverside County	8.1	38.5	56.5
San Diego County	6.8	35.3	36.7
Los Angeles County	10.6	43.0	39.1
California	8.9	43.0	42.7

Notes:
- Data reflects zip code of patient, not hospital
- Rates are an adjusted1-year average based on data from 2006-2008
- Numerator for rates is hospitalizations with a principal diagnosis using ICD-9 code 410. Denominator for rates is the estimated number of residents based on: 1) for zip codes - the ESRI Community Sourcebook of Zip Code Demographics; and 2) for county and California rates – California Department of Finance.
- Heart attack diagnosis includes cardiac infarction; coronary embolism, occlusion, rupture, or thrombosis; infarction of the heart, myocardium, or ventricle; rupture of heart myocardium, or ventricle
- The 2006-2008 totals for Asthma and Heart Attack cases do not include data for post office box addresses in Murrieta (zip code 92564) Data counts for this zip code were fewer than 5 and therefore cannot be released due to data privacy agreements with data providers.

Source: California Office of Statewide Health Planning and Development (OSHPD) Patient Discharge. Database, provided to Raimi + Associates by Meredith Millet, California Department of Public Health, Environmental Health Investigations Branch, March 2010.

For both zip codes in Murrieta, the number of hospitalizations for heart attack is similar to the Riverside County average, which is 32 percent higher than the California average and 54 percent and 45 percent higher than San Diego and Los Angeles Counties, respectively. This means that heart attacks are happening more frequently in Murrieta than most places in the region. Lack of physical activity, being overweight, stress, and age are major risk factors for heart attack.

Land Use

This section addresses land use in Murrieta as it relates to health and sustainability. A further discussion of land use in Murrieta – including existing land uses, zoning, specific plans, master plans, and overlay districts – is found in Section 2.2, Land Use.

BACKGROUND

The way a community's land is used has a significant influence over its transportation patterns, economic success, resource use, and public health. In general, land use patterns that increase time spent driving reduce levels of social engagement[25] and physical activity,[26] [27] [28] which is a risk factor for a variety of chronic health conditions.

Key land use topics discussed below include:

- Jobs/Housing Ratio
- Land Use Mix and Access to Diverse Destinations
- Density
- Housing Unit Mix

Jobs/Housing Ratio

The number of jobs in a community in proportion to the amount of housing available is an important indicator of both the availability of housing for the City's workforce, and the availability of jobs for City residents. The need to travel long distances for work or for housing increases time spent driving, which negatively impacts physical health and decrease levels of social engagement. A lack of jobs can also diminish economic vitality, competitiveness, and sustainability.

Land Use Mix and Access to Diverse Destinations

There is a variety of data showing that mixing land uses tends to reduce vehicle miles traveled, increase rates of walking, bicycling, and public transit, reduce household transportation costs, and improve health. A doubling of the mix of land uses in a neighborhood is associated with a five percent reduction in vehicle miles traveled (as well as a five percent reduction in traffic accident rates).[29]

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[25] Putnam, Robert, *Bowling Alone: The Collapse and Revival of American Community*, Simon and Schuster, New York, 2000.

[26] Ewing, R., T. Schmid, R. Killingsworth, A. Zlot, and S. Raudenbush, 2003, "Relationship between urban sprawl and physical activity, obesity and morbidity," *American Journal of Health Promotion*, September, Vol. 18, No. 1, pages 47 to 57.

[27] Ewing, Reid, Ross C. Brownson and David Berrigan, 2006, "Relationship between urban sprawl and weight of united states youth," *American Journal of Preventive Medicine*, Vol. 31, No. 6, pages 464 to 474.

[28] Frank, L., 2004, "Obesity relationships with community design, physical activity and time spent in cars," *American Journal of Preventive Medicine*, Vol. 27, No. 2, June, pages 87 to 97.

[29] Design, Community & Environment et al., prepared for LEED-ND Core Committee, Congress for the New Urbanism, 2006, *Understanding the Relationship Between Public Health and the Built Environment, supra* note 1, page 117.

People living in highly walkable, mixed-use communities (where residential, commercial and office land use are located near each other and have safe, attractive pedestrian facilities) are more than twice as likely to get the U.S. Surgeon General's recommended 30 minutes or more of daily exercise as those living in auto-oriented, single use areas.[30] Similarly, walking, bicycling, and public transit use increase in places that have a mix of land uses, compact development patterns, and walkable, connected streets.[31] People living in these areas are more likely to be physically active and less likely to be obese.[32]

Density

People are also more likely to walk to their destinations in more dense environments, since a majority of people will not walk further than a quarter mile or five minutes to a destination.[33] Neighborhood density is also positively correlated with the number of minutes of physical activity residents get per day.[34] As density increases, the amount of physical activity that residents get each day tends to increase. Conversely, living in a lower density, automobile-oriented environment decreases the likelihood of physical activity and the risk of obesity.[35] There are also cost savings, material savings, and energy efficiency benefits to increasing density; it reduces the miles of infrastructure needed to service new development, and compact spaces generally require less energy to heat and cool.

Housing Unit Mix

A mix of housing unit types allows a more socially diverse population to live and work in a community, accommodating those of varying ages, income levels, and family status. This allows more people to live, work, and socialize locally without traveling long distances. Many young professionals, singles, couples without children, and seniors may choose to live in multi-family housing because it can be cheaper than single-family housing, it creates more opportunities for social interaction, and the unit requires less maintenance. Families with children may have more

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30 L. Frank et al., 2000, *Linking Land Use with Household Vehicle Emissions in the Central Puget Sound: Methodological Framework and Findings*, Part D, Vol. 5, Transportation Research, *supra* note 11.

31 Ewing, R. and R. Cervero, 2002, "Travel and the built environment – a synthesis," *Transportation Research Record*, 1780; L. Frank, B. Stone Jr., and W. Bachman, 2000, "Linking land use with household vehicle emissions in the central Puget Sound: Methodological framework and findings," *Transportation Research Part D*, Vol. 5, No. 3, pages 173 to 196; Frumkin, H., L. Frank and R. Jackson, 2004, *Urban Sprawl and Public Health*, Island Press.

32 Lopez, R., 2004, "Urban sprawl and risk for being overweight or obese," *American Journal of Public Health*, Vol. 94, pages 1574 to 1579.

33 Interview with Dan Burden, Walkable Communities (March 2007), cited in PHI Toolkit.

34 L. Frank et al., February 2005, *Linking Objectively Measured Physical Activity with Objectively Measured Urban Form: Findings From SMARTRAQ*, American Journal of Preventive Medicine, page 117-1255.

35 Lopez, Russ, 2004, "Urban sprawl and risk for being overweight or obese," *American Journal of Public Health*, Vol. 94, pages 1574 to 1579.

demand for single-family homes. In comparison to single-family units, multi-family units tends to use less energy and water, consume less land per unit, and create the densities necessary to support walkable commercial areas and transit.

MURRIETA EXISTING CONDITIONS

Overall Urban Form

Murrieta currently covers 21,511 acres (33.61 square miles)[36] and had an estimated 2009 population of 100,714.[37] Murrieta is a young city that had one of the fastest growth rates in the state over the past 20 years. Its population was 3,350 in 1987; 19,000 in 1990; and more than 85,000 by 2005. Murrieta's pattern of land use and urban form is consistent with prevailing development patterns in other fast-growing southern California cities over that same time period: low-density residential and automobile-oriented, with large sections of the City devoted to single uses, such as residential subdivisions or commercial shopping centers. Most housing is provided in single-use subdivisions of single-family homes, oriented along a hierarchy of arterial, collector, and neighborhood streets with a curvilinear layout and multiple cul-de-sacs.

The City's spread-out urban pattern and separated land uses strongly support automobile travel over relatively long distances. With the exception of some areas like Old Murrieta, walking or biking is generally an infeasible mode of transportation for most residents who need to get to work, shop, or meet their daily needs. The land use pattern is generally not supportive of transit, as evidenced by the very low level of transit service and ridership in Murrieta (refer to *Table 5.1-3* later in this section).

Density and Housing Unit Mix

The City has a very low density overall: 29.85 percent of land is occupied by single-family homes, while only 1.18 percent is occupied by multi-family residential. Over 40 percent (42.98) is occupied by vacant land, golf courses, and agricultural land, and another 15.60 percent of the land is occupied by streets and infrastructure.38

As shown in Table 2.4-1 in Section 2.4, Population and Housing, 73.1 percent of housing units are single-family, while 21.9 percent are multi-family, which is similar to the Riverside County average. Murrieta has a lower proportion of multi-family housing than the rest of the Southern California Association of Governments (SCAG) region, where approximately 47 percent of housing is estimated to be multi-family.[39]

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36 Introduction, *Murrieta General Plan Update Existing Conditions Background Report*, Page 1-2.

37 Stanley R. Hoffman Associates, *Economic Trends and Conditions Murrieta General Plan Update*, January 7, 2010.

38 All figures cited from *Table 2.2-1, Existing Land Use Summary*, Page 2.2-6.

39 Southern California Association of Governments, "Compass Blueprint Growth Vision Report" (2004).

Land Use Mix

Most of Murrieta is currently zoned for a single use. There may be opportunities for mixed use zoning in some areas that would allow greater synergy and interaction between residential, commercial, or employment uses. This could be provided either through mixed use buildings or adjacent mixed uses with better pedestrian access and connectivity between them.

Jobs/Housing Ratio

The overall jobs/housing ratio within Riverside County is approximately 0.7, which includes all cities within the County.[40] There is currently no calculation of the jobs/housing balance in Murrieta, but there is a widespread belief among City staff and residents that Murrieta lacks sufficient jobs for its residents. There is also widespread interest in creating enough diverse jobs in the City to keep pace with the growing population. In addition to economic drawbacks, a lack of jobs in the City causes many residents to commute longer distances for work, increasing vehicle miles traveled and time spent driving and decreasing physical activity.

Common Trip Destinations for Murrieta Residents

A common strategy for reducing the amount of time spent driving – as well as for promoting economic development, job opportunities, and community cohesion – is to provide more amenities and important destinations locally, so people do not have to drive long distances out of town to get to them. Included below is a summary of common destinations for entertainment, recreation, shopping, or leisure, as reported by some Murrieta residents as part of a General Plan Update outreach survey. It is followed by a summary of new or expanded amenities they would like to see in Murrieta.

Current destinations frequently visited in Murrieta by respondents include the following:[41]

- Restaurants.
- Recreation facilities such as playgrounds, Cal Oaks Sports Park, Los Alamos Sports Park, Santa Rosa Plateau Sports Park, and other active recreation parks, LA Fitness, 24 Hour Fitness, nearby trails, the golf driving range.
- Grocery stores such as Stater Brothers, Plowboys Market in Old Murrieta, Albertsons.
- Big box retail such as Sam's Club, Home Depot, Super Target, Best Buy, Lowe's, Ross.

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[40] Western Riverside Council of Governments "Western Riverside County: A collection of profiles, indicators, and maps" (2006).

[41] The list of frequent destinations within Murrieta is summarized from the General Plan public outreach survey, Question 6 "Please list the top 5 places within Murrieta where you go for entertainment, recreation, shopping or other leisure activities, accessed May 4, 2010.

- Entertainment such as Mulligans, Murrieta High School sports, and movie theatres like The Movie Experience and Temeku Bargain theatre.
- Services such as banks and professional services.
- Thrift stores.
- Shopping such as in Old Town Murrieta, along Cal Oaks Road, along Murrieta Hot Springs Road, at California Oaks shopping center, at the shopping center on Calle Del Oso Oro, and at Orchard Shopping Center.
- Religious institutions, community centers, and the library.

Many residents reported making regular and frequent trips to various destinations in Temecula such as the Temecula Mall off Winchester Road, as well as other destinations within Riverside County.[42] When asked what types of facilities or amenities should be located in Murrieta, responses included the following:[43]

- More high-quality restaurants (frequent request), including upscale dining, potentially creating a "restaurant row" or restaurant district.
- More recreation facilities (frequent request) like parks, tennis courts, a bowling alley, gyms for indoor recreation, swimming pools, a waterpark, dog park, trails, and/or a campground.
- More performance and entertainment venues for things like live theatre, musical theatre, concerts of all types, and music venues for youth.
- More grocery stores or natural markets (frequent request) like Trader Joe's, Sprout's, Von's, Henry's, Fresh and Easy, or affordable grocery stores such as WinCo in Temecula
- Enhanced Downtown.
- Something comparable to Old Town Temecula.
- More neighborhood retail and clothing store shopping options, as well as stores like Costco or Barnes and Noble.
- A university.
- Another Farmer's Market that doesn't compete with Temecula's.
- Quality lodging and conference center, potentially in Golden Triangle.
- Community facilities like a teen center, community theatre or art museum, an additional library.
- A mall like the Promenade in Temecula, though some felt Murrieta shouldn't compete with the Promenade in Temecula.
- More "one-stop shopping" where entertainment, shopping, and food are within walking distance.

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42 *Ibid.*

43 The list of frequent destinations within Murrieta is summarized from the General Plan public outreach survey, Question 7, "What type of facilities or amenities would you like to see in Murrieta, which would keep you from driving to neighboring communities for entertainment, recreation, shopping or other leisure activities?", accessed May 4, 2010.

While the lists above are not comprehensive and come from a limited sample size, they indicate that increasing the number and diversity of attractive facilities and amenities in Murrieta would encourage more trips to remain local. This also has benefits in terms of economic development, sustainability through decreased vehicle miles traveled, and enhancing community character.

Transportation

This section addresses transportation behavior and safety. Section 4.0, Circulation describes circulation and traffic patterns and street infrastructure.

BACKGROUND

Transportation accounts for roughly one-third of energy consumption and greenhouse gas emissions in the United States.[44] It also has a major impact on public health, primarily by influencing levels of physical activity. People drive more and walk less in low density, suburban communities. More time spent driving increases one's chances of being overweight or obese; similarly, low density, suburban communities have higher likelihoods of obesity and some obesity-related conditions such as hypertension.[45] [46] A recent study in Atlanta found that each additional hour per day spent driving was associated with a six percent increase in the likelihood of being obese, while each additional kilometer walked per day was associated with a 4.8 percent reduction in the odds of obesity.[47] Similarly, almost one-third of Americans who use public transit to get to work meet their daily requirements for physical activity by including walking (to and from a transit station) as part of their daily life.[48]

MURRIETA EXISTING CONDITIONS

Trips to Work and School

Commute mode split is an important indicator of transportation behavior and available facilities in the community. Most people in Murrieta and Riverside County drive to work and school. In 2005, 18.7 percent of students in Riverside County reported walking, skating, or biking to school

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[44] Reid Ewing, Keith Bartholomew, Steve Winkelman, Jerry Walters, and Don Chen, *Growing Cooler: The Evidence on Urban Development and Climate Change*, Urban Land Institute, Washington D.C., May 2008.

[45] Ewing, R., T. Schmid, R. Killingsworth, A. Zlot, and S. Raudenbush, 2003, "Relationship between urban sprawl and physical activity, obesity and morbidity," *American Journal of Health Promotion*, September, Vol. 18, No. 1, pages 47 to 57.

[46] Ewing, Reid, Ross C. Brownson and David Berrigan, 2006, "Relationship between urban sprawl and weight of united states youth," *American Journal of Preventive Medicine*, Vol. 31, No. 6, pages 464 to 474.

[47] Frank, L., 2004, "Obesity relationships with community design, physical activity and time spent in cars," *American Journal of Preventive Medicine*, Vol. 27, No. 2, June, pages 87 to 97.

[48] L. Besser and A. Dannenberg, Walking to Public Transit: Steps to Help Meet Physical Activity Recommendations, Vol. 29, No. 4, American Journal of Preventive Medicine, at 273-280 (2005).

in the past week, compared with 29.3 percent of students California-wide.[49] Some students who could walk to work do not; of those in Riverside County that did not walk, 47.9 percent would have been able to walk to school in 30 minutes or less.[50]

Between 2006 and 2008, the average travel time to work (one-way) for a Murrieta resident was 36.5 minutes, around 35 percent longer than the California average of 27.0 minutes and 44 percent longer than the national average of 25.3 minutes.[51] This implies that many people are traveling outside of Murrieta for work. As shown in *Table 5.1-3*, Commuting to *Work – Transportation Mode by Percentage*, slightly more than three-quarters of residents drove to work alone, slightly higher than the County, State, and national averages. Almost no one (0.1 percent) used public transportation. The percentage of people who walked to work was just less than one-half the state and national average. A higher-than-average number of people worked at home and therefore had no commute trip. These people did not receive the health benefits of a physically active commute trip, but reduced their vehicle miles traveled and overall time spent driving.

Table 5.1-3
Commuting to Work – Transportation Mode Used by Percentage

Transportation Mode	Murrieta %	Riverside County %	California %	United States %
Car, Truck of Van - Drove Alone	77.6	75.2	72.9	75.8
Car, Truck, or Van - Carpooled	13.4	15.3	12.0	10.6
Public Transportation (excluding taxi)	0.1	1.4	5.2	4.9
Walked	1.3	1.7	2.8	2.8
Other Means	1.7	1.5	2.3	1.7
Worked at Home	5.9	4.9	4.8	4.0

Source: U.S. Census Bureau, *American Community Survey Selected Economic Characteristics, 2006-2008,* available at www.factfinder.census.gov.

Vehicle Miles Traveled

Overall vehicle miles traveled (VMT) per capita is an important indicator of community mobility, physical activity, and greenhouse gas emissions from transportation. In 2008, average per household VMT from passenger vehicles in the Riverside County area were 66.5 miles per

[49] 2005 California Health Interview Survey, "Walked/Biked/Skated to or from school in past week," Riverside County and State of California, accessed March 23 at www.chis.ucla.edu.

[50] 2005 California Health Interview Survey, "Proximity to school among students who didn't walk/bike," Riverside County and State of California, accessed March 23 at www.chis.ucla.edu.

[51] U.S. Census Bureau, *American Community Survey Selected Economic Characteristics*, 2006-2008, available at www.factfinder.census.gov.

day (and 21.26 miles per day per capita).[52] Vehicle miles traveled decrease with higher density, diversity of land use, pedestrian-oriented design, distance to public transit, and within proximity to regional destinations, among other factors. There is currently no available calculation of VMT per day in Murrieta.

Household Costs of Housing and Transportation

The cost of living in a given community is strongly tied to housing affordability and vehicle miles traveled. The combined cost of housing and transportation within the Riverside County area is 51.2 percent of household income, (24.8 percent for housing and 26.4 percent for transportation). In comparison, it is 45.6 percent of household income for Los Angeles County households (26 percent for housing and 19.6 percent for transportation) and 45.5 percent for Orange County residents (24.7 percent on housing and 20.8 percent on transportation). Similar to Riverside County residents, San Bernardino County residents spend 51.1 percent of household income on housing and transportation (24.9 percent on housing and 26.2 percent on transportation).[53]

Cycling Facilities

Cycling provides an alternative to driving and has numerous health and environmental benefits. Murrieta's cycling facilities are shown on *Exhibit 4.1-9*, *Bikeways and Pathways* and in *Table 4.1-8*, *Bikeways and Pathways in* Section 4.0, Circulation.
The existing bike network consists of:

- 39 miles of Class I Bikeway (off-street),
- 34.7 miles of Class II Bikeway (on-street lanes, recommended along low- and medium-speed streets), and
- 9.3 miles of Class III Bikeway (bike routes without designated lanes, recommended only along low-speed streets).

On a City-wide scale, some of the Class I and Class II facilities are well-connected to each other, providing several route choices for longer cross-city trips and commuting. Other portions of the bike network have gaps and dead ends or poor access across busy roads. At the smaller-scale neighborhood level, many areas of the City lack bikeways, and there is often a long distance between them, making short local trips difficult by bicycle. The area of the City southwest of I-15 has more frequent Class I and II routes than other areas of the City.

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[52] Regional Transportation Plan 2008, Amendment 2 PL data provided by Yongping Zhang and Guoxiong Huang, Transportation Planning Department, Southern California Association of Governments in March 2010 for Raimi + Associates.

[53] Joseph Carreras, "Applying the Housing + Affordability Index in Your Metro Area" (Southern California Association of Governments 2010) (PowerPoint Presentation).

In general, Murrieta's low density and the greater availability of land as compared to more urban areas makes off-street paths more feasible than they are in many more compact built-out cities. For this reason, additional Class I facilities may be the most promising opportunities for improving the City's bike network. There are also opportunities to improve or add Class II bikeways. Providing parking at key destinations is also an important component of a successful bicycle network.

Pedestrian Environment

BACKGROUND

Increased levels of walking increase physical activity and health, and also reduce vehicle miles traveled and the associated environmental impacts. Levels of walking are strongly impacted by the quality of the pedestrian environment and network. The quality of the pedestrian environment is determined by a variety of factors, including block size and connectivity, the quality of sidewalks and pathways, the design of street frontages, the presence of street trees, and roadway widths. The impact of these topics on walkability is discussed below.

Block Size and Connectivity

Smaller block sizes with lengths of approximately 300 to 400 feet encourage walking, while larger blocks detract from the walking environment.[54] Walking along shorter block lengths provides more direct route choices for pedestrians, and is more inviting than walking along long "super-blocks." Shorter blocks also tend to reduce motor vehicle speeds. A rule of thumb for most planning and urban design professionals is that blocks longer than 500 or 600 feet along their longest side (approximately covering 4 acres) discourage walking, with "super-blocks" longer than 1,000 fee especially discouraging for pedestrians. Even if blocks are long or there are multiple cul-de-sacs, pedestrian and bike cut-throughs can increase connectivity and reduce walking and biking distances.

Sidewalks and Pathways

An essential element of a successful pedestrian network is continuous sidewalks along streets, with sufficient width to allow two pedestrians (or more, depending on levels of pedestrian traffic) to pass each other abreast. A common standard among urban designers and pedestrian planners is that the sidewalks along retail and mixed use blocks should be at least 8 to 10 feet wide to accommodate pedestrian traffic, at least 4 to 5 feet wide along residential streets (with street furniture, trees, and utilities outside of the pedestrian path of travel). Sidewalk intrusions such as driveway crossings reduce the quality of the pedestrian network. Many pedestrian

[54] Nozzi, Dom. "The Ingredients of a Walkable Street" (http://www.walkablestreets.com/walkingred.htm); Washington State Department of Transportation, "Walkable Communities" webpage: (www.wsdot.wa.gov/LocalPrograms/Planning/Walkable.htm).

networks also incorporate off-street pathways and cut-throughs, or shared streets with limited vehicle access or very low vehicle speeds (often called "woonerfs").

Urban Forest

The urban forest includes the street trees and landscaping within and along the public right-of-way, especially along sidewalks. An urban forest increases walkability by providing shade and creating a pleasant streetscape, helps clean the air, reduces the heat island effect, helps with storm water management, and can improve building energy performance in adjacent buildings.

Street Frontage

A sidewalk's pedestrian quality is strongly influenced by adjacent building facades and other features along the street that interface with the pedestrian realm. A pedestrian-friendly street frontage has minimal building setbacks, especially for retail and mixed-use buildings; building entries onto the sidewalk and other public spaces; has building facades with high visual permeability (i.e., frequent windows) and interesting contours and details; avoids blank walls and garage entrances; avoids barriers such as fences and walls between buildings and the sidewalk; and provides active uses and businesses on the ground floor.

Street Width and Building Height

Wide roadways and high vehicle speeds tend to reduce pedestrian activity along and across them. A low-speed 2-lane street that is less than 30-feet wide is conducive to a highly pedestrian-friendly (and bicycle-friendly) environment. A moderately pedestrian-friendly environment can occur along a 4-lane roadway that is less than 60-feet wide, with moderate traffic speeds. Encouraging pedestrian activity is very difficult along roadways that have more than four lanes that are wider than 60 feet, or have high traffic speeds.

In addition, the ratio of building height to street width impacts the level of comfort a pedestrian feels. In general, excessive setbacks, wide streets, and low buildings tend to create a feeling of isolation and minimization for pedestrians. Achieving a 1:3 ratio of building height to street width (i.e., 1 foot of building height for every 3 feet of street width) is often considered a minimum for a walkable street.[55] Tall buildings may be more successful along wider streets, but on narrower streets may require some setbacks at the upper floors to provide a light and a sense of openness to the pedestrian.

MURRIETA EXISTING CONDITIONS

Most housing in Murrieta is provided in single-use subdivisions with a hierarchical curvilinear street layout of neighborhood feeder streets and large arterials. Streets that do not connect to

[55] LEED 2009 for Neighborhood Development, Prequisite 1 and Credit 1, "Walkable Streets," component.

adjacent areas, cul-de-sacs without pedestrian cut-throughs, blocks with lengths over 1,000 feet, and a lack of nearby non-residential destinations are very common in nearly all the City's neighborhoods. These factors all reduce the number of route choices and attractive destinations for pedestrians and discourage walking as part of daily life.

Many of Murrieta's residential neighborhoods, as well as Old Murrieta, have consistent and frequent street trees and sidewalks. Mature street trees, such as those found along Washington Avenue, are particularly valuable and pleasant for the pedestrian environment. Most of the residential subdivisions around the City have less mature trees that will grow and continue to improve the pedestrian environment over time.

Most of Murrieta's commercial streets are wider than 60 feet, with high street speeds and low buildings on either side of the streets. Decreasing streets speeds, street widths, and buildings' setbacks from the streets, placing parking lots to the side of or behind buildings, and increasing the building-height-to-street-width ratio could increase walkability in areas where this is desired.

Some of Murrieta's residential neighborhoods have a pleasant building-height-to-street-width ratio, with 1- to 2-story houses along narrower streets. Many also have architectural treatments that engage the street and the pedestrian, such as porches and windows that face the public sidewalk. Other residential neighborhoods have wider streets and large setbacks, or features such as garages prominently facing the public sidewalk, all of which can diminish the pedestrian environment.

Old Murrieta is an exception to Murrieta's overall land use pattern and level of connectivity, with an urban form that encourages walking. It is laid out on a grid, with smaller block sizes than most of the rest of the City, commercial uses in close proximity to residential, and a well-maintained streetscape that provides an interesting pedestrian experience.

Transportation Safety

BACKGROUND

Transportation safety is also a major public health concern. More than 40,000 Americans die in vehicle crashes each year. In 2004, accidents were the fifth leading cause of death in the United States, and 40 percent of those accidents were motor vehicle crashes.[56] Motor vehicle collisions are the leading cause of accidental death in California, and being hit by a car while walking is the third leading cause of death for children under 12.[57] The more people drive, the more likely they

[56] National Center for Health Statistics, Death – Leading Causes website: http://www.cdc.gov/nchs/fastats/lcod.htm (accessed on March 1, 2007).

[57] California Department of Health Services, Epidemiology and Prevention for Injury Control (EPIC) Branch, May 2002, *Pedestrian Injuries to Young Children*, EPICgram.

are to have an accident.[58] In cities where there are more opportunities to walk and use public transit, pedestrian fatalities tend to be lower per mile walked.[59] This is also true for overall per capita traffic fatality rates.[60] A moving vehicle's kinetic energy, and therefore its danger to pedestrians, increases exponentially as its speed increases linearly.[61] For instance, slowing traffic from 40 to 20 miles per hour can reduce a pedestrians' chance of being killed, if hit, from 85 percent to just 5 percent.[62]

A street's design and environment, especially its ability to encourage driver alertness and caution, has a strong impact on the rate and severity of traffic accidents for cars, pedestrians, and cyclists. A simple increase in the number of people walking or bicycling means pedestrians or bicyclists are less likely to be hit by a car.[63] Where roadways are narrower and designed with street trees, on-street parking and landscaping, lower crash rates and fewer crash-related fatalities occur, despite similar traffic volumes and speed limits.[64] [65] On the other hand, drivers move faster on wider roads, which increases the severity of collisions that do happen.[66] Traffic calming measures such as speed humps or chicanes are associated with a reduction in speed and therefore a 50 to 60 percent reduction in the risk of children's injury or death when struck by a car.[67] The presence of sidewalks is important too, and pedestrians are 2.5 times more likely to be in an accident with a car on streets that do not have sidewalks than on streets that do.[68]

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58 Ewing, R., T. Schmid, R. Killingsworth, A. Zlot, and S. Raudenbush, 2003, "Relationship between urban sprawl and physical activity, obesity and morbidity," *American Journal of Health Promotion*, September, Vol. 18, No. 1, pages 47 to 57.

59 Frumkin, H., 2002, "Urban sprawl and public health," *Public Health Reports*, May-June, Vol. 117, page 204.

60 Frank, L., S. Kavage and T. Litman, 2006, *Promoting Public Health Through Smart Growth*, prepared for Smart Growth BC, page 25.

61 Design, Community & Environment et. al., 2006, *Understanding the Relationship Between Public Health and the Built Environment: A Report Prepared for the LEED-ND Core Committee*, page 34.

62 P. Peterson et al., 2002, *supra* note 29; Zegeer, C.V. et al., *Safety Effects of Marked vs. Unmarked Crosswalks at Uncontrolled Locations: Executive Summary and Recommended Guidelines*, Federal Highway Administration, Washington, D.C.

63 Design, Community & Environment et. al., 2006, *Understanding the Relationship Between Public Health and the Built Environment: A Report Prepared for the LEED-ND Core Committee*, page 34.

64 Frank, L., S. Kavage and T. Litman, 2006, *Promoting Public Health Through Smart Growth*, prepared for Smart Growth BC, page 25.

65 Frank, L. and P. Engelke, no date, *How Land Use and Transportation Systems Impact Public Health: A Literature Review of the Relationship Between Physical Activity and Built Form*, ACES: Active Community Environments Initiative #1, page 14.

66 P. Swift et al, June 1997 (updated summer 2006), *Residential Street Typology and Injury Accident Frequency*, originally presented at the Congress for the New Urbanism, Denver.

67 Tester et al., April 2004, *A Matched Case-Control Study Evaluating the Effectiveness of Speed Humps in Reducing Child Pedestrian Injuries*, Vol. 94, No.4, American Journal of Public Health.

68 R. Knoblauch et al., 1988, *Investigation of Exposure Based Pedestrian Accident Areas: Crosswalks, Sidewalks, Local Streets and Major Arterials*, at 126-133, Federal Highway Administration, Washington, D.C.

MURRIETA EXISTING CONDITIONS

Table 5.1-4, *Traffic Collisions in Murrieta by Type and Year, 2006-2008*, shows the type and number of reported traffic collisions within the City of Murrieta from 2006 through 2008. The number of collisions causing injury increased slightly between 2006 and 2008. Most were vehicle-on-vehicle collisions, and some also included bicycles and pedestrians. While roughly one-third of the total reported vehicle-on-vehicle collisions involved injury, nearly all reported pedestrian or bicycle collisions involved injury.[69] This means bicyclists and pedestrians involved in an accident are at higher risk for injury than motorists (though this does not necessarily mean that walking and biking is less safe per mile walked or biked). Of the two fatal accidents in the City, one was a vehicle-only collision, and the other included a pedestrian.

Table 5.1-4
Traffic Collisions in Murrieta by Type and Year, 2006-2008

Type		2006	2007	2008
Property Damage	Vehicle v. bicycle	3	1	7
	Vehicle v. pedestrian	1	2	4
	Vehicle only	473	461	441
	Subtotal	*477*	*464*	*458*
Injury	Vehicle v. bicycle	13	25	14
	Vehicle v. pedestrian	14	21	14
	Vehicle only	189	212	230
	Subtotal	*216*	*258*	*263*
Fatality	Vehicle v. bicycle	0	0	0
	Vehicle v. pedestrian	0	0	1
	Vehicle only	0	1	0
	Subtotal	*0*	*1*	*1*

Source: City of Murrieta, "Police Activity Reports," Murrieta Police Department, John Flavin, Traffic Sargeant, electronic mail on 3-23-10, 3-24-10, 3-25-10, and 4-6-10.

Access to Parks and Open Space

BACKGROUND

People who live within a ¼-mile walking distance of a park are 25 percent more likely to meet the Surgeon General's minimum weekly exercise (more strenuous physical activity versus

[69] Injury was presumably for the cyclist or pedestrian, though this is not specified in the data.

moderate physical activity) recommendation of 30 minutes 3 times a week.[70] Street trees, shrubs, public plazas, trails, community gardens, and green spaces create attractive public spaces that encourage physical activity. Safety, and the perception of safety, is also a determining factor in how much community members will use recreational and park resources. Parks that feel unsafe or have a history of crime are less likely to be used.

Community efforts such as tree planting and community gardens preserve neighborhood green spaces, strengthen a sense of community, and can cultivate connections between residents and their natural environment. Simply being close to trees and green spaces has been shown to decrease levels of stress, blood pressure, and muscle tension.[71]

MURRIETA EXISTING CONDITIONS

In Riverside County as a whole, 65.2 percent of residents report having visited a park, playground or open space in the last week, similar to the California average of 68.8 percent.[72] According to the City of Murrieta Parks and Recreation Plan (Master Plan), adopted in June 2009, the City of Murrieta contains 476 acres of parkland within 48 total parks available for residents to use. This total includes one City-wide park of 45 acres, 95 acres of Community Parks, and 10 Neighborhood Parks that provide over 72 combined acres of parkland. The City also includes seven "Nature Parks" containing 140 acres of parkland, 15 multi-use trails, 2,306.01 acres of Open Space, additional acreage in joint-use school facilities, and private recreation facilities. In the Master Plan, the City has set a standard for itself of 5 acres of parkland per 1,000 residents. However, it will require 34 acres of additional park space to meet this requirement for the current population.

Exhibit 8.3-3, *Underserved Park Areas in the City*, in Section 8.3, Parks, Recreation, and Open Space, shows parks and play areas of various sizes and these are fairly evenly distributed throughout the City. However, there are six locations in the City that are identified as underserved, further than ½-mile from a park. Research shows that residents in these areas are

[70] L. Frank et al., 2000, *Linking Land Use with Household Vehicle Emissions in the Central Puget Sound: Methodological Framework and Findings*, Part D, Vol. 5, Transportation Research, *supra* note 11.

[71] The Center for Disease Control, Designing and Building Healthy Places - Mental Health website: http://www.cdc.gov/healthyplaces/healthtopics/mental.htm (accessed February 27, 2007); Maller, C., M. Townsend, A. Pryor, P. Brown, and L. St. Leger, 2005, "Healthy nature healthy people: 'Contact with nature' as an upstream health promotion intervention for populations," *Health Promotion International*, Vol. 21, No. 1, pages 45 to 54; P. Tabbush and E. O'Brien, 2003, *Health and Well-being: Trees, Woodlands and Natural Spaces*, Forestry Commission, Edinburgh; L. Frank et al., 2000, *Linking Land Use with Household Vehicle Emissions in the Central Puget Sound: Methodological Framework and Findings*, Part D, Vol. 5, Transportation Research, *supra* note 11.

[72] 2007 California Health Interview Survey, "Visited a park, playground, or open space in the last month," Riverside County and State of California, www.chis.ucla.edu.

less likely to meet minimum weekly exercise recommendations.[73] Refer to Section 8.3, for more details on the parks and recreation facilities within the City.

Access to Healthy Food Sources

BACKGROUND

Unhealthy eating habits are a primary risk factor for five of the top ten leading causes of death in Murrieta, as well as in California as a whole. The way cities are laid out and built has a well-studied effect on eating habits and nutrition, and cities can make transportation, land use, and economic development decisions that make healthy eating easier. A lack of quality grocery stores in some areas and the proliferation of unhealthy food outlets, such as fast food restaurants and convenience stores, are reasons that people may have decreased access to nutritious food.[74]

Studies show that in neighborhoods where unhealthy food outlets, such as fast food and liquor stores, are more prevalent than grocery stores and other vendors selling fruits and vegetables, residents have more health problems and higher mortality rates than residents of areas with a higher proportion of grocery stores, even when other factors are held constant.[75] The presence of a grocery store in a neighborhood is linked to higher fruit and vegetable consumption and a reduced prevalence of overweight and obese residents.[76] [77]

When convenience stores, gas stations, and fast food outlets are the only food retailers in neighborhoods, residents often rely on these stores for their food purchases, and may find purchasing healthy foods difficult, inconvenient, and costly.[78] The result can be "food deserts" - neighborhoods that lack opportunities for residents to buy fresh fruits and vegetables and other healthy foods. Low-income and minority communities tend to have even fewer healthy food options than average, with disproportionately more fast-food restaurants and liquor stores and

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[73] L. Frank et al., 2000, *Linking Land Use with Household Vehicle Emissions in the Central Puget Sound: Methodological Framework and Findings*, Part D, Vol. 5, Transportation Research, *supra* note 11.

[74] Feldstein, L.M., 2006, *General Plans and Zoning: A Toolkit on Land Use and Health*, California Department of Health Services, page 3-1.

[75] Mari Gallagher Research and Consulting Group "Examining the impact of food deserts on public health in Chicago," July 2006. *Available at:* http://www.marigallagher.com/site_media/dynamic/project_files/Chicago_Food_Desert_Report.pdf

[76] S. Inagami et al., 2006, *You Are Where You Shop: Grocery Store Locations, Weight, and Neighborhoods*, Vol. 31, No. 1, American Journal of Preventive Medicine, at 10-17 (2006); K. Morland et al., *Supermarkets, Other Food Stores, and Obesity: The Atherosclerosis Risk in Communities Study*, Vol. 30, No. 4, American Journal of Preventive Medicine, pages 333-339.

[77] R. Sturm and A. Datar, September 2, 2005, *Body Mass Index in Elementary School Children, Metropolitan Area Food Prices, and Food Outlet Density*, Public Health.

[78] Shaffer A. "The Persistence of L.A.'s Grocery Gap: The Need for a New Food Policy and Approach to Market Development. Center for Food and Justice." May 2002.

fewer grocery stores and healthy food sources than higher-income neighborhoods.[79] [80] However, in low-income neighborhoods where there are grocery stores, each additional grocery store increases residents' likelihood of meeting nutritional guidelines by one-third.[81]

MURRIETA EXISTING CONDITIONS

Retail Food Environment

Although Murrieta has some areas with higher poverty levels and lower incomes than the City average (refer to *Exhibit 5.1-1*, *Percent of Persons Below the Poverty Level in 1999:2000*), incomes City-wide are higher than County and national averages. Accordingly, Murrieta faces fewer of the nutritious food access challenges, such as a lack of grocery stores, poor quality produce and food in grocery stores, or the proliferation of liquor stores and fast-food restaurants, typical of low-income cities. Most areas of Murrieta are well-served by full-service grocery stores providing fresh produce (refer to *Table 5.1-5*, *Murrieta Retail Food Environment Study*, and *Exhibit 5.1-2*, *Food Outlets*). The City has 14 grocery stores, including large chain vendors as well as locally-owned and small grocery stores. This equals about 1.4 full-service grocery stores per 10,000 residents.[82] As a rule of thumb, more than 1 grocery store per 10,000 residents is considered well-served.[83]

Conversely, there are a relatively low number of liquor stores, convenience stores, and fast food restaurants in Murrieta (4, 10, and 16, respectively). Many other low-income cities in California have much higher totals of these types of outlets.[84] The relatively low number of these types of retail outlets may provide fewer opportunities to purchase foods with lower nutritional value than communities with higher proportions of these stores. However, Murrieta appears to have a relatively high number of food outlets (25) devoted to desserts – such as cakes, doughnuts, and ice cream, which tend to be high in calories and less nutritious. There are 125 restaurants, for which the records are mixed between sit-down restaurants, cafes, delis, and other restaurants. The health impact of these miscellaneous restaurants is not possible to generalize at the city-wide level based on the data provided.

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[79] Block, J. P., R. A. Scribner, and K. B. DeSalvo, 2004, "Fast food, race/ethnicity, and income: A geographical analysis," *American Journal of Preventive Medicine*, Vol. 27, No. 3, pages 211 to 217.

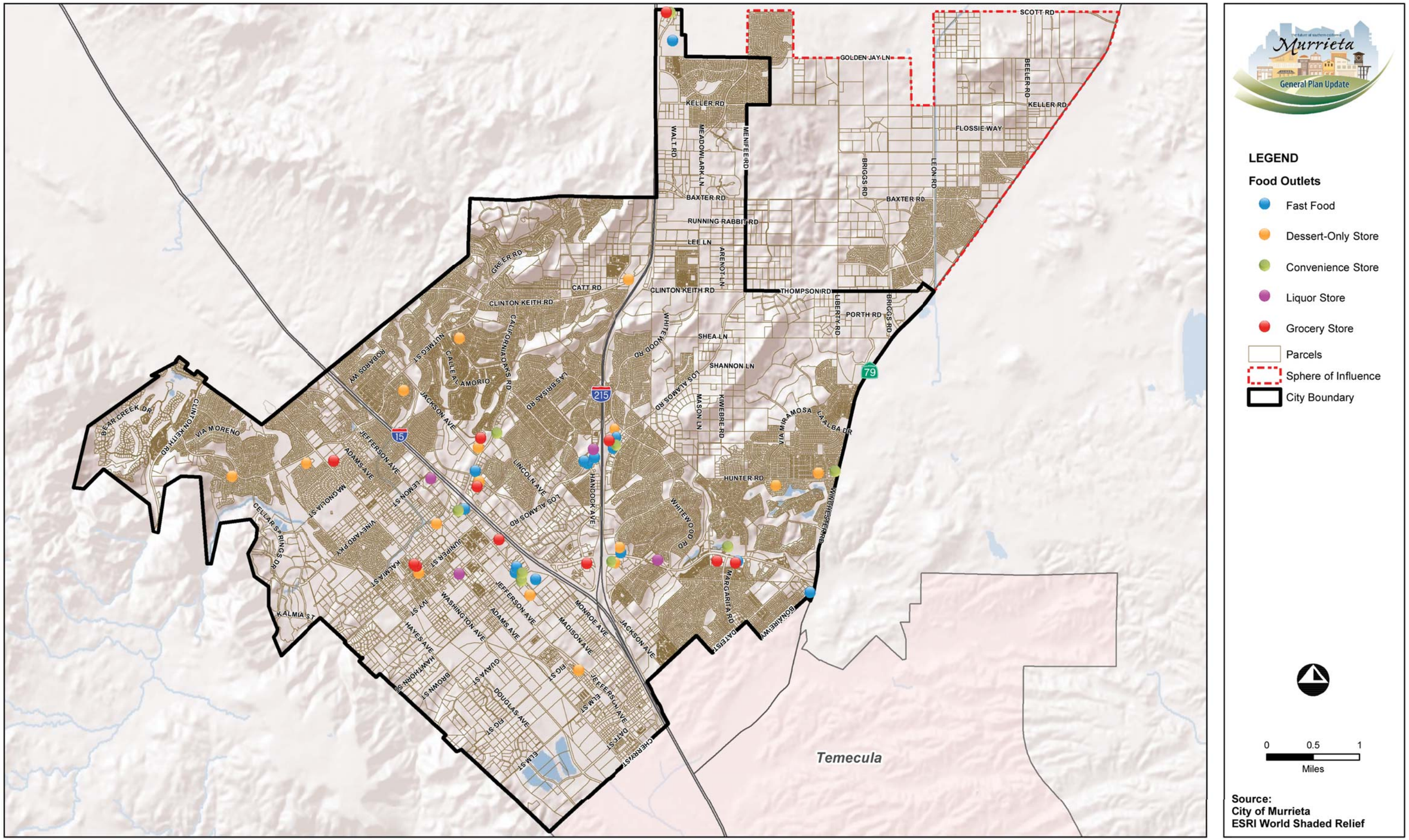
[80] Gottlieb, R., A. Fisher, et. al., 1996, *Homeward Bound: Food-Related Transportation Strategies for Low Income and Transit Dependent Communities*, UC Transportation Center, page 7.

[81] K. Morland et al., November 2002, *The Contextual Effect of the Local Food Environment on Residents' Diet*, American Journal of Public Health.

[82] Based on a Murrieta population estimate of 97,029, U.S. Census, *American Community Survey Demographic Estimates*, 2006-2008, available at www.factfinder.census.gov.

[83] The one grocery store per 10,000 residents rule of thumb is based on service area calculations used by the supermarket industry.

[84] El Monte, for instance, has 19, 26, and 167 liquor, convenience, and fast food outlets, respectively.



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Food Outlets

Exhibit 5.1-2

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Table 5.1-5
Murrieta Retail Food Environment Summary

Store Type	Number
Non-Restaurant Food Vendors	
Grocery stores	14
Convenience stores	10
Liquor stores	4
Farmer's market	0
Restaurants	
Dessert-only vendors	25
Coffee shops	12
Fast food chains	16
Novelty food stores	36
All other restaurants	125

Notes:

General – The City of Murrieta's list of business licenses provides the most complete record of food vendors in the City, and is more complete than existing data available from the Riverside County Assessor. However, a minority of food vendors are missing from the City's list of food outlet business licenses (or are listed by parent-company names that cannot be readily cross-checked with restaurant names) and therefore are missing from Table 5.1-3. The large majority of vendors is on the list of City business licenses and is therefore included on Table 5.1-3.

Grocery store – Includes all vendors with a "Grocery Store" Business Type Description (BTD) in the City Business license list.

Liquor – Includes all vendors with a "Liquor Store" BTD, as well as 2 "Convenience Store" BTDs with Firm Names containing the word "Liquor."

Convenience stores – Includes all vendors with a "Convenience Store" BTD, except those designated here as "Liquor Stores." Convenience Stores include gas stations as well as convenience stores like 7-Elevens.

Dessert-only vendors – Includes all food outlets primarily selling doughnuts, cakes, sweet baked goods, candy, ice cream, or frozen yogurt.

Coffee shops – Includes all restaurants specializing in coffee and associated snacks, not full-service restaurants.

Fast food – Includes the following fast-food chains: McDonalds, Jack in the Box, Arby's, In-N-Out, Del Taco, Popeye's, Sonic, Taco Bell, Pizza Hut, and Little Caesar's. Does not include Subways or non-chain restaurants.

Other restaurants – Includes all other food outlets with a BTD of "Restaurants without Alcohol" or "Restaurants with Alcohol."

Source: City of Murrieta business license data as of 3/30/10, provided by Greg Smith, Associate Planner, City of Murrieta.

Eating Habits

Data on the eating habits of Murrieta residents is not available. However, in Riverside County as a whole, around one-half of adults and children eat five or more servings daily of fruits and vegetables.[85] This is similar to the State average. Fast food consumption is higher in Riverside County than the rest of California, as shown in *Table 5.1-6*, *Fast Food Eaten How Many Times in Past Week in Riverside County*.

Table 5.1-6
Fast Food Eaten How Many Times in Past Week in Riverside County

Number of Times	Riverside County	California
No times	27.4	35.8
One time	30.2	29
Two times	19.2	16.5
Three times	9.8	8.5
Four or more times	13.3	10.3
Source: 2007 California Health Interview Survey, "Fast food eaten how many times in past week," Riverside County and State of California, www.chis.ucla.edu.		

Local Food and Agriculture

Farmer's markets provide the opportunity for residents to purchase fresh, local produce at affordable rates. During 2009, a farmer's market operated at the Murrieta Senior Center, offering fresh produce and crafts, but it is no longer in operation. The City is searching for a new, permanent market operator for the same location. The Saturday morning farmer's market in Old Town Temecula, which is located six miles to the south of the Murrieta Senior Center, has operated for 19 years and averages 75 to 80 vendors and about 4,000 customers per Saturday.[86] There are many other successful models that cities have used to increase access to fresh produce, including community gardening programs, harvest-sharing programs, and community-supported agriculture systems where customers buy into shares of a local farm's harvest. There may be opportunities to encourage programs like these through the General Plan Update.

[85] 2005 California Health Interview Survey, "Eat five or more servings of fruits and vegetables," Riverside County and State of California, www.chis.ucla.edu.

[86] John F. Hill, "Murrieta Farmers Market Falls Short of Surviving First Year," The Press-Enterprise, Sunday, February 14, 2010.

Exposure to Pollutants and Toxics

BACKGROUND

Protection of residents from toxic, industrial, and air pollution was one of the early rationales for zoning laws. Despite an increasing realization of the benefits of mixing certain land uses, the evidence remains strong that toxic sites and sources of pollution should be isolated from land uses where people live, work, and play.

Contaminated Sites

Unremediated or uncontrolled contaminated sites can expose humans and other living things to toxics and health risks. The major types of contaminated sites designated by the State of California are Leaking Underground Fuel Tank (LUFTs) sites and Spills, Leaks, Investigations and Cleanups (SLIC) sites, which can include heavy industrial sites, dry cleaners, landfills, or sites of past toxic spills, among other things. Leaking tanks can contaminate drinking water and soil, and other types of contaminated sites can expose people to toxic substances. Exposure to toxic substances in turn, can cause cancer, breathing difficulties, reduced school performance, and other negative health impacts.[87]

Air Pollution

Between 2001 and 2005, the adult asthma rate increased by 12 percent in California, and the childhood asthma rate increased by 15 percent.[88] Polluted air is a primary trigger for asthma attacks, as well a major cause of asthma, bronchitis, lung cancer, leukemia, and other illnesses. Transportation-related pollutants, such as ozone, sulfur dioxide, and particulate matter (PM_{10} and $PM_{2.5}$), represent one of the largest contributors to air pollution in most cities.[89] Air pollution is generally worse in regions with large amounts of vehicle miles traveled, as well as near energy-intensive industrial areas, diesel truck routes, rail yards, ports, and highly-trafficked roads.[90] [91]

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87 Pastor, M. Jr., Sadd J L, Morello-Frosch R, 2004, "Reading, writing, and toxics: children's health, academic performance, and environmental justice in Los Angeles" Environment and Planning C: Government and Policy 22(2), pages 271 – 290.

88 *How to Create and Implement Healthy General Plans,* Published by Public Health Law & Policy and Raimi + Associates, 2008. Page A2.

89 Centers for Disease Control, 2007, Respiratory and Health and Air Pollution website, http://www.cdc.gov/healthyplaces/healthtopics/airpollution.htm, accessed on February 27, 2007.

90 Frumkin, H. et al, *MacArthur BART Transit Village Health Impact Assessment*, Draft, 2007, page 3; 2002, "Study of ultrafine particles near a major highway with heavy-duty diesel traffic," *Atmospheric Environment,* Vol. 36, pages 4323 to 4335; Zhu, Y. et al., 2002, "Concentrations and size distribution of ultrafine particles near a major highway," *Journal of the Air and Waste Management Association*, Vol. 52, pages 1032 to1042; and Rijnders, E., et al., 2001, "Personal and outdoor nitrogen dioxide concentrations in relation to degree of urbanization and traffic density," *Environmental Health Perspectives,* Vol. 109 (suppl 3), pages 411 to 417.

As a result, residents of homes within 300 meters (just under 1,000 feet) of busy streets are at an increased risk of exposure to particulate matter, nitrogen oxide, hydrocarbon, and carbon monoxide pollution.[92] This poses a particular risk to respiratory health in children.[93]

For these reasons, the California Air Resources Board (CARB) recommends that "sensitive land uses" such as residences, schools, daycare centers, playgrounds, or medical facilities not be located within 500 feet of a freeway or urban road with more than 100,000 vehicles/day, within 1,000 feet of distribution centers, ports and rail yards,[94] or within 300 feet of large gas stations or dry cleaners using perchloroethylene. CARB does not list rail corridors as a land use that should be avoided near sensitive receptors.[95]

MURRIETA EXISTING CONDITIONS

Contaminated Sites

Exhibit 5.1-3, *Identified Hazardous Materials Sites*, shows the geographical distribution in Murrieta of different types of sites that contain hazardous materials. There are not any strong geographical concentrations in the City of sites containing hazardous materials, though there are generally more in the central and southwestern areas of the City. These include State Department of Toxic Substances Control (DTSC) cleanup sites, leaking underground storage tank facilities, and other currently or previously contaminated sites. There are no EPA-designated "Superfund" cleanup sites in the City. Some sites in Murrieta are recorded by the State as cleaned up. However, there are also sites of all types throughout the City where clean up is ongoing or needed in the future, and therefore which may pose a greater health and environmental risk to surrounding sites and occupants. Gas stations are the most common location for underground leaking storage tanks.

Exhibit 5.1-3 also shows the location of Permitted Underground Storage Tank Facilities. The majority of these types of sites are gas stations. These sites are permitted to store hazardous material but are not known to have on-site contamination requiring clean-up. However, for as long as they exist, they will require special monitoring and maintenance to avoid any future site contamination. If they are ever decommissioned or redeveloped, they will require special treatment to avoid causing contamination and to protect the health of residents.

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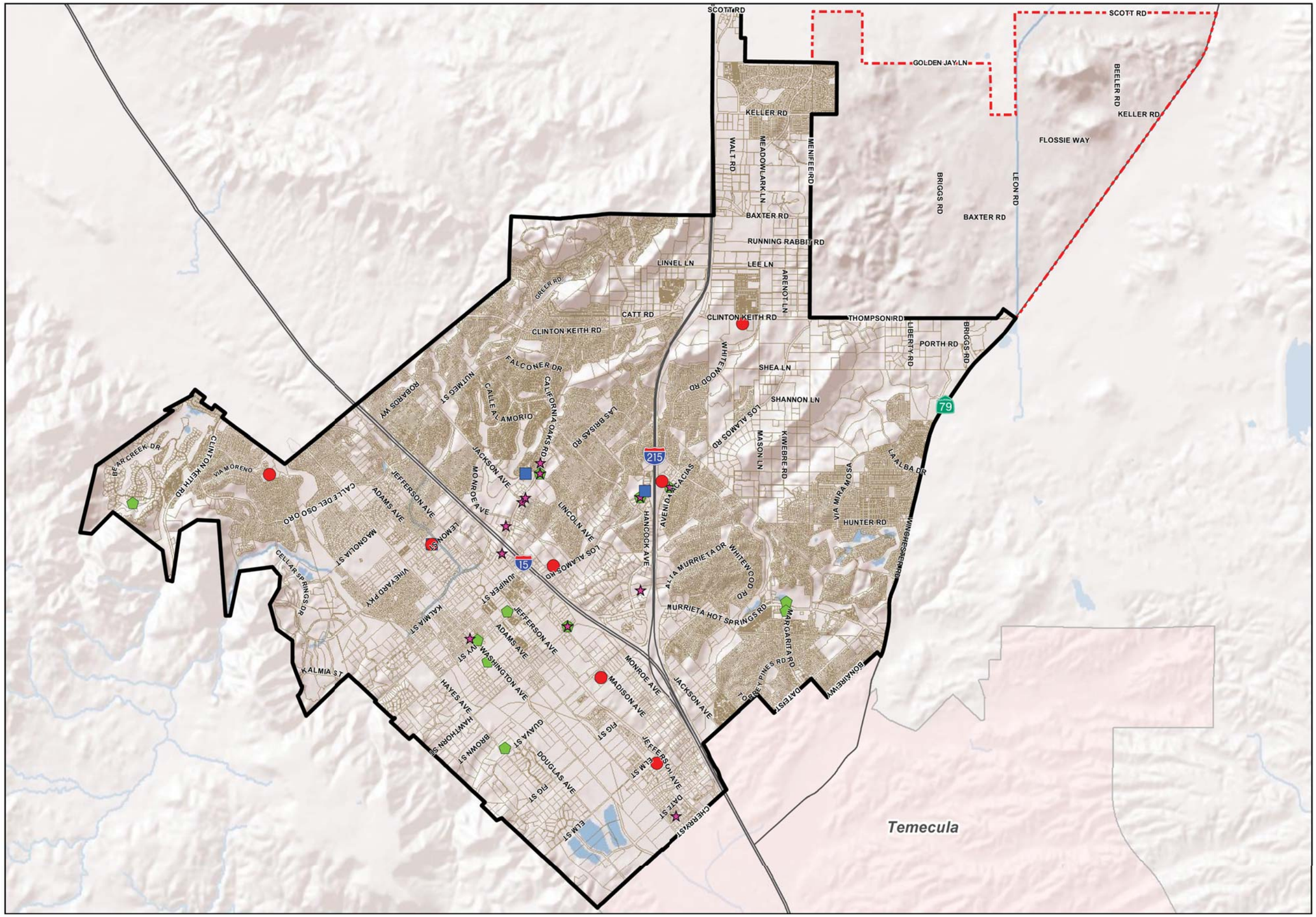
91 California Air Resources Board, (updated 2006), Health Affects of Diesel Exhaust, available at www.arb.ca.gov/research/diesel/diesel-health.htm, accessed 8/30/07.

92 Sierra Club Foundation, *Highway Health Hazards*, at 10, 2004.

93 W. Gauderman et al., *Effect of Exposure to Traffic on Lung Development from 10 to 18 Years of Age: A Cohort Study*, Vol. 369, Issue 9561, Lancet, pages 571-577.

94 California Air Resources Board, California Environmental Protection Agency, 2005, *Air Quality and Land Use Handbook: A Community Health Perspective*, page 4.

95 Ibid.



Murrieta
General Plan Update

LEGEND

- DTSC (Department of Toxic Substances Control) Cleanup Sites
- Leaking Underground Tank Cleanup Site
- Permitted Underground Storage Tank Facilities
- Other Cleanup Sites
- Parcels
- Sphere of Influence
- City Boundary

Note: For Other Clean up sites see table 6.5-1 - DTSC & GEO TRACKER Identified Regulatory Sites Within Murrieta

0 0.5 1
Miles

Source:
City of Murrieta,
ESRI, GeoTracker
Department of Toxic Substances Control, EnviroStor Database

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Identified Hazardous Materials Sites

Exhibit 5.1-3

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Different types of sites have different associated health risks, best practices for remediation and containment, and guidelines or requirements for appropriate uses from agencies such as the California Air Resources Board (CARB) or DTSC. See Section 6.5, Hazardous Materials for a description of regulatory processes, prevailing plans, site information about identified regulatory sites (*Table 6.5-1*, *DTSC & GEO TRACKER Identified Regulatory Sites Within Murrieta*), and relevant City policy for dealing with contaminated sites and hazardous materials.

Air Quality

Of the air pollution sources that CARB recommends be kept away from "sensitive land uses," such as residential uses, health care or child care facilities, and recreation facilities, freeways and other busy roadways are the most prevalent in Murrieta. As shown in *Exhibit 5.1-4*, *Residential Parcels within 500 Feet of a Freeway*, most existing residential uses are not within 500 feet of freeways. There are a limited number of residential uses within 500 feet of I-15 as it enters the City from the northwest, in the center of the City along I-215, and along the City's eastern border along SR-79. Portions of the new Loma Linda University Medical Center also appear to be within 500 feet of I-215.

Access to Health Care

Access to health care and mental health services is an important determinant of health and disease prevention, and increased access is very likely to improve public health. Preventive measures, such as screening for common health problems like diabetes and respiratory illnesses, dental care, and vaccinations, have been shown to reduce the incidence and severity of illnesses,[96] and are often less expensive than care once someone has become sick.

The level of access to health care services in a community is determined by three major factors:

1) The presence or absence of medical service providers;
2) The affordability of those services to community members; and
3) Proximity and transportation service to health care facilities.

At the same time, the positive effects of being close to a health care facility are limited if residents cannot afford services or insurance, or if they do not receive appropriate preventive care. For this reason, overcoming socio-economic barriers by providing affordable primary clinics or preventive clinics; providing affordable Emergency Medical Services; assisting residents in accessing programs and services offered by non-profits or other government entities; providing insurance or subsidy programs; attracting high quality health care professionals; or attracting other programs or resources to the City are an important companion to better physical

[96] U.S. Department of Health and Human Services Agency for Healthcare Research and Quality, *National Healthcare Disparities Report*, pg. 112, Rockville, Maryland July 2003.

distribution of health care facilities. This is particularly true in communities with a lower-than-average level of income.

MURRIETA EXISTING CONDITIONS

Over the past few decades, Riverside County's population has increased at a more rapid rate than have the various services – such as physicians and hospitals – necessary to support the population. As a result, Riverside County, in particular its Southern Area,[97] has a general shortage of hospitals, physicians and nurses compared to the rest of California. This is shown in *Table 5.1-7, Licensed Bed, Physician, and Nursing Ratios, 2005*. The Southern Area of Riverside County has less than one-half as many hospital beds per 1,000 people as the State of California. Riverside County has 45 percent fewer practicing physicians than average for California, one of the lowest rates in the state. There is also a general nurse shortage in California, which has the lowest number of registered nurses per capita of any state in the country.[98]

While Murrieta's surrounding region has a shortage of health care providers, two of the four existing hospitals in the Southern Area of Riverside County – Rancho Springs Medical Center and Inland Valley Regional Medical Center – are located in or very near Murrieta. In addition, Loma Linda University Medical Center, a 106-bed hospital and medical center, is under construction and set to open at the beginning of 2011. As a result, the City of Murrieta itself has more healthcare providers located within it than other cities in the surrounding region.

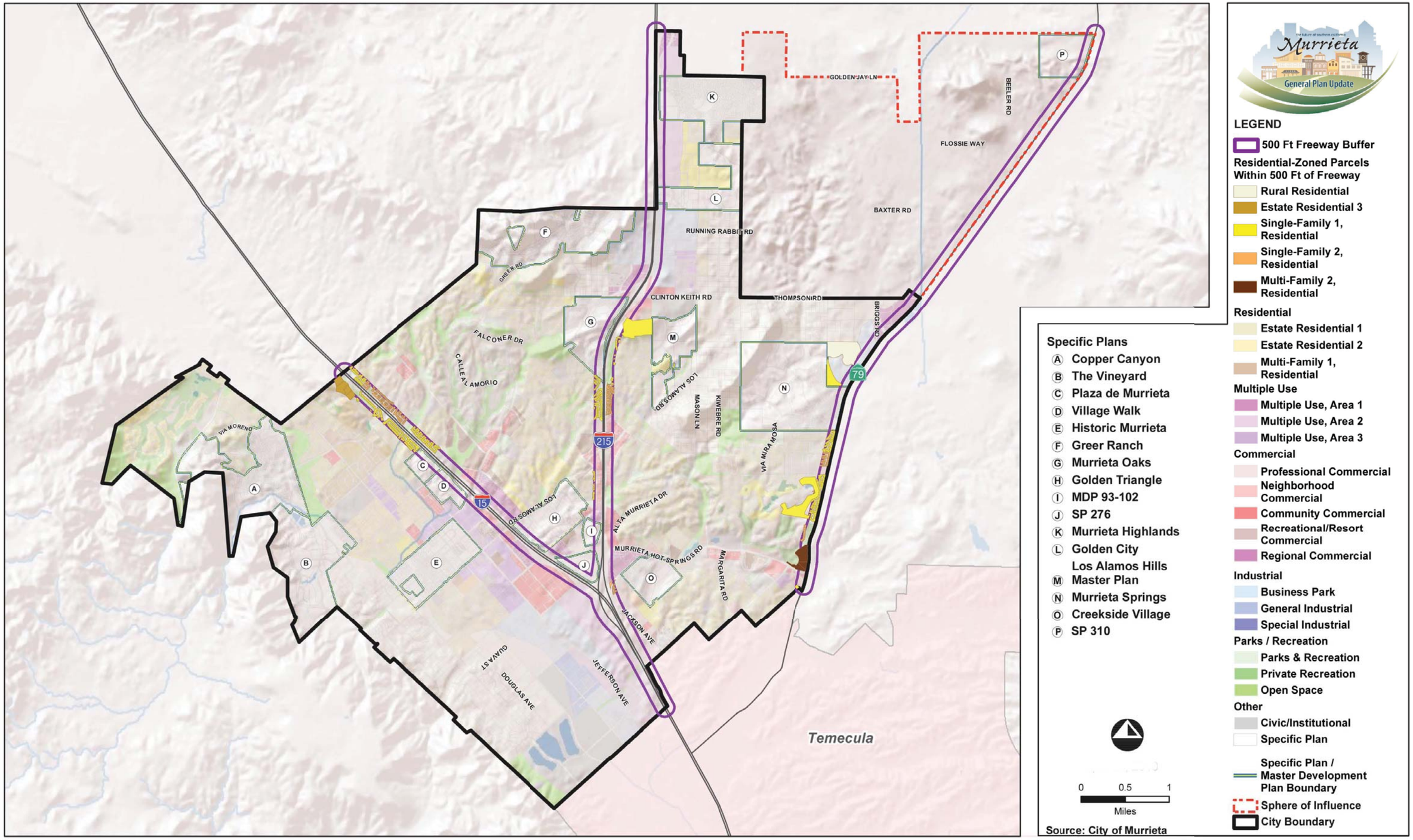
Table 5.1-7
Licensed Bed, Physician, and Nursing Ratios, 2005

Location	Licensed Beds (per 1,000)	Physician Ratio (per 100,000)	Nurse Ratio (per 100,000)
United States	N/A	198	780
California	2.2	231	542
Riverside County	1.47	125.8	N/A
Southern Area of Riverside County	1.05	N/A	N/A

Source: Riverside County Community Health Agency, Department of Public Health, *Regional Medical Facility Profile: A Summary Report,* December 2008, page 8.

[97] The Southern Area of Riverside County, as identified by Riverside County, includes Murrieta, Temecula, Canyon Lake, Lake Elsinore, Perris, San Jacinto, Hemet, and areas of unincorporated Riverside County between and surrounding these cities.

[98] Center for Health Workforce Studies University at Albany, SUNY (2004). California Physician Workforce Supply and Demand through 2015. Rensselaer, NY, University at Albany, State University of New York, cited in Riverside County Community Health Agency, Department of Public Health, *Regional Medical Facility Profile: A Summary Report*, December 2008, page 7.



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Residential Parcels Within 500 Feet of Freeway

Exhibit 5.1-4

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Levels of income in Murrieta are higher than the national and county average,[99] and poverty rates are lower. This is reflected in *Table 5.1-8*, *Hospitalization Payer Source by City and County, 2005*, which shows an indicator of ability to pay for health care in general. Similar to Temecula, around two-thirds of Murrieta residents were able to pay for hospitalization through private insurance, almost twice the rate for Riverside County. Conversely, only 23 percent paid with Medicare, 8 percent paid with Medi-Cal, and 2 percent paid by themselves, compared with 42 percent, 15 percent, and 3 percent, respectively, for the Southern Area of Riverside County. The rate of people who have health insurance in Riverside County is similar to the State average.[100] This suggests that fewer people in Murrieta need or qualify for financial assistance to receive health care, and that the economic barriers to health care are not as great in Murrieta as in many other cities in Riverside County and California.

Table 5.1-8
Hospitalization Payer Source by City and County, 2005

Payer Source	Medicare	Medi-Cal	Private Insurance	Other Government Programs	Self Pay/Other
Riverside County	32%	22%	36%	5%	5%
Southern Area of Riverside County	42%	15%	39%	N/A	3%
Murrieta	23%	8%	64%	3%	2%
Temecula	19%	8%	67%	3%	3%
Canyon Lake	35%	11%	47%	3%	4%
Hemet	51%	18%	23%	4%	4%
Lake Elsinore	19%	23%	49%	4%	5%
Perris	20%	34%	33%	6%	7%
San Jacinto	38%	28%	25%	4%	5%

Source: Riverside County Community Health Agency, Department of Public Health, *Regional Medical Facility Profile: A Summary Report*, December 2008, page 7.

[99] U.S. Census, *American Community Survey Selected Economic Characteristics*, 2006-2008, available at www.factfinder.census.gov.

[100] 2005 California Health Interview Survey, "Currently Insured" question for Riverside County and the State of California, accessed March 23, 2010 at www.chis.ucla.edu.

Findings

HEALTH SNAPSHOT

Murrieta is younger, has higher educational attainment, has lower poverty, and has higher incomes than the national and county average, with lower incomes concentrated in the south of the City.

Murrieta's two leading causes of death are cancer and heart disease, followed by stroke, chronic lower respiratory disease, and Alzheimer's.

Rates of hospitalization for asthma are lower than regional and state averages, while rates of hospitalization for heart attacks are higher than regional and state averages.

LAND USE AND TRANSPORTATION

Murrieta's urban form and street layout is primarily low-density and automobile-oriented with most uses separated from each other.

Most residential neighborhoods have multiple cul-de-sacs and dead ends without pedestrian access to adjacent uses.

Most residential neighborhoods are not within easy walking distance of retail areas or other non-residential uses.

The average commute time for Murrieta residents is 35 percent longer than the California average and 44 percent longer than the national average.

Many Murrieta residents travel outside the City for services, recreation, and amenities that could be provided more broadly within the City, reducing the amount of time residents spend driving.

Most traffic collisions in the City that cause injury involved only vehicles.

When pedestrians or bicyclists are involved in a collision in Murrieta, their chances of injury or death are higher than motorists. Increased vehicle speed has been directly correlated in multiple studies to increased severity of injury for bicyclists or pedestrians.

ACCESS TO PARKS AND OPEN SPACE

There are six areas in the City that are underserved by parks (further than ½-mile from a park).

The City contains 476 acres of parkland within 48 total parks.

At current population levels, the city requires 34 acres of additional park space to meet its internal standard of 5 acres of parkland per 10,000 residents.

ACCESS TO HEALTHY FOOD SOURCES

Murrieta is relatively well-served by grocery stores as compared to other cities, with approximately 1.4 grocery stores per 10,000 residents.

Murrieta has a relatively low proportion of liquor, convenience and fast food stores, but has 25 outlets specializing in selling desserts.

Compared to the State average, more people in Riverside County eat fast food, but a similar number (about one-half of the population) eat the recommended five or more daily servings of fruits and vegetables.

EXPOSURE TO POLLUTANTS AND TOXICS

There are various types of site containing hazardous materials distributed throughout the City. Some have been cleaned up, while others have not.

With the exception of a few, most residential areas of the City are not within 500 feet of I-15, I-215 and SR-79.

Portions of the Loma Linda University Medical Center may be closer to I-215 than recommended by CARB guidelines.

ACCESS TO HEALTHCARE

Fewer Murrieta residents require financial assistance to afford health care than average in California.

While the Southern Area of Riverside County's rates of practicing physicians and licensed hospital beds are some of the lowest in the State, Murrieta itself has two medical centers within or very near its borders, as well as one under construction. This provides better physical access than average for the region.

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Introduction

The purpose of this section is to document baseline sustainability issues and existing conditions in the City of Murrieta, and identify priorities for enhancing the City's long-term sustainability.

WHAT IS SUSTAINABILITY?

Sustainability is commonly defined as the ability to meet current needs without compromising the ability of future generations to meet their own needs. In other words, it involves balancing current demands with future ones and allowing natural and human resources to maintain their productivity and abundance. The concept of sustainability can encompass a wide range of topics related to the environment, the economy, and social equity (often referred to as "the triple bottom line"). This section is primarily focused on topics that impact environmental sustainability, though many of these have economic and social co-benefits.

WHY DOES SUSTAINABILITY MATTER?

Humans are using natural resources at an increasingly unsustainable rate, where demand for resources is outpacing the world's supply. This underlies many of today's major environmental issues: climate change, species extinctions, soil depletion, low air and water quality, increasing waste production, and shortages of food, fuel, minerals, and water. At the same time, there is a growing awareness that resources are finite, only able to support the human economy and the global ecosystem if they are used at a sustainable rate and allowed to replenish.

Local governments, such as the City of Murrieta, are the entity best positioned to enhance sustainability at a tangible level. Local governments have partial or full regulatory control over key sources of environmental impacts, including land use, transportation, the construction and operation of buildings, and some industrial processes. In addition, local governments often manage natural resources, such as creeks, parks, open space, and areas for agriculture, forestry, or habitat preservation, found within their borders. For this reason, the policies of local governments have an enormous global impact.

SUSTAINABILITY IN MURRIETA

The General Plan is a long-term policy document required by State law to set policy for many of the most important components of sustainability, including land use, transportation, resource conservation, and open space. It also provides the opportunity to address non-mandated topics, such as air quality, energy, green building, public infrastructure, urban design, and walkability. Therefore, updating the General Plan provides a chance for the City to both assess its level of sustainability and enact policies to enhance it. This section discusses Murrieta's sustainability performance for the following topics:

- Energy
- Solid Waste Management
- Green Building
- Ecology
- Water

Health and global climate change are addressed in Section 5.1 and Section 5.3, respectively.

Sustainability Topics

ENERGY

Human demand for energy has broad local and global environmental implications, and the burning of fossil fuels for energy, whether for transportation, in buildings, or in industrial processes, is the main cause of global climate change. Sustainable levels of consumption and methods of production are both important aspects of a sustainable energy economy. Energy conservation and improvements in efficiency reduce demand for energy, while production of energy from renewable sources such as wind and solar has far fewer negative impacts than energy produced from fossil fuels. Buildings account for 72 percent of all electricity consumption, 39 percent of total energy use, and 38 percent of greenhouse gas emissions in the United States.[1] Transportation, on the other hand, accounts for about one-third of energy consumption and greenhouse gas emissions.[2] Therefore, in addition to efforts to reduce building energy consumption, land use decisions and transportation behavior that decrease vehicle miles traveled, as described in the Transportation and Land Use portion of this section, can play an important role in reducing the energy consumed and emissions produced from transportation.

Precedents in Other Cities

Efficiency and Renewables Requirements and Incentives

The State of California already requires new buildings to meet certain energy efficiency levels. However, many cities in California and the rest of the United States have building ordinances in place to encourage or require additional energy conservation and efficiency in building operations and construction. In addition, some cities incentivize buildings to employ renewable energy, such as installation of solar panels, or require that they be built "solar-ready" for future installation. Cities can also expedite the planning and approvals process for small-scale production or larger commercial producers of renewable energy. Green building ordinances and programs are discussed in the green building portion of this section.

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[1] U.S. Green Building Council, "Green Building Research," http://www.usgbc.org/DisplayPage.aspx?CMSPageID=1718, accessed March 21, 2010.

[2] Reid Ewing, Keith Bartholomew, Steve Winkelman, Jerry Walters, and Don Chen, *Growing Cooler: The Evidence on Urban Development and Climate Change*, Urban Land Institute, Washington D.C., May 2008.

Existing Buildings and Retrofit Financing

A city's ability to influence currently existing buildings – which for many years will continue to make up the majority of the building stock – is critical to sustainability. Some cities address existing buildings in their green building ordinances. Others, enabled by the passage of AB 811 in September 2008, have taken an active role in financing renewable energy installation and energy efficiency retrofits to existing buildings. AB 811 allows the establishment of a tax benefit assessment district by a local government, allowing upfront financing for sustainability retrofits on private property, to be paid back into a revolving fund through an amortized tax assessment. This system was pioneered by the City of Palm Desert in 2008.[3] In 2009, Sonoma County made loan funds available to any county property owner seeking to make sustainability improvements – including renewable energy installation, energy efficiency and conservation retrofits, or water conservation infrastructure. The larger Sonoma County program has shown the importance of establishing a large enough loan fund to reduce transaction costs and secure better financing rates, both challenges faced by early AB 811 adopters like the City of Berkeley.

Murrieta Existing Conditions

Murrieta has taken some steps to promote renewable energy in the City. On June 17, 2008, the City Council adopted Ordinance No. 408-08, which established rules for installing energy-producing wind turbines within the City. The ordinance permits non-commercial wind turbines on parcels of at least 2.5 acres in the Rural Residential zoning district, upon issuance of a conditional use permit. It states that turbines should not exceed 40 feet (the established height limit for the Rural Residential Zone), which limits the size of wind turbines that could be installed in compliance with the Ordinance. As of June 2010, only one wind turbine on a residential parcel has been installed and is operational in the southwest portion of the City.

Murrieta's sunny climate is conducive to solar energy production. There is no ordinance guiding installation of solar power generation, but there are rooftop passive solar and photovoltaic panels on some houses within the City. There is currently no data available regarding the total wattage of solar and wind power production installed in the City, but based on anecdotal evidence and statistics for other cities throughout California, it represents a very small percentage of total energy consumed.

The following information will be available as part of the Climate Action Plan being produced in association with the General Plan Update:

- Total electricity and natural gas consumed within the City
- Source mix of the City's energy supply (i.e., coal, hydro, nuclear, solar, wind)
- Inventory of the City's greenhouse gas emissions by sector, including transportation, buildings, waste, and municipal operations.

[3] City of Palm Desert, *Resolution 08-75* (July 21, 2008) and *Resolution 08-89* (August 28, 2008).

SOLID WASTE MANAGEMENT

Discarded waste uses up finite landfill space and often releases toxic material or produces toxic concentrations of material. Landfill waste also creates greenhouse gas emissions and contributes to climate change. Organic waste decomposes anaerobically (without access to oxygen) in a landfill, which produces methane gas, a GHG that has approximately 23 times greater greenhouse gas effect than carbon dioxide. In addition, sending materials to a landfill creates a wasted opportunity to re-use the "embedded" energy and resources in cans, bottles, plastics, metals and other items that could be recycled. Waste reduction and recycling efforts are proven tools to reduce greenhouse gas emissions and material waste, and also to raise awareness about environmental sustainability and the importance of changing behaviors.

Precedents in other Cities

Compliance with State Disposal Rate Requirements

Nearly all cities in California provide or contract for solid waste services, and most provide some level of recycling or composting. This is partially as a result of AB 939, the 1989 California law that calls for at least 50 percent of a city's waste to be diverted from landfill.[4] AB 939 was clarified by SB 1016 in 2007 so that compliance is now tracked by CalRecycle (The California Department of Resources Recycling and Recovery) according to Annual Per Capita Disposal Rate instead of diversion rate percentage. CalRecycle has some latitude in determining if a city's efforts to comply with AB 939 are sufficient. It also tracks programs they have implemented to reduce waste. Common waste-reduction programs employed by California cities, as reported to CalRecycle,[5] include the following:

- Residential and commercial recycling, including collection, buy-back programs, special seasonal collection, and school and government recycling programs.
- Residential and commercial composting, including yard and food waste collection.
- Policy incentives such as product bans or economic incentives.
- Public education through schools and media.
- Source reduction, including xeriscaping, backyard composting, material exchanges and thrift shops, procurement of low-waste products, and business or institutional waste reduction programs.

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[4] Diversion rates are measured in pounds per person per day since the passage of SB 1016 in 2007, and CalRecycle has some latitude in enforcing AB 939 based on the level of effort being made by a city.

[5] State of California, CalRecycle, "Jurisdiction Diversion/Disposal Rate Summary," accessed March 22, 2010 at http://www.calrecycle.ca.gov/lgcentral/Tools/MARS/DRMCMain.asp.

- Collection and processing of special waste materials such as tires, scrap metal, and construction debris.
- Providing transfer centers or permanent facilities for drop-off and processing of recycling or green waste.
- Transformation of biomass and other waste into energy.

Zero-Waste

Many cities in the United States, California and other countries have pursued "zero-waste," an effort to transform the life cycle of resources and avoid landfilling through reuse, recycling, source reductions of waste, and transformation of waste into usable energy. Many California cities, such as Irvine,[6] El Cerrito[7], Oakland,[8] Berkeley[9], San Francisco,[10] and multiple cities in San Bernardino County[11] have established commissions or passed ordinances committing to a goal of zero waste. Similarly, some national governments such as Scotland[12] and Great Britain[13] have adopted national policies of achieving zero waste by a future target date. The experiences of these jurisdictions offer guidance and precedents for Murrieta to pursue more sustainable patterns of waste management.

Murrieta Existing Conditions

As shown in *Table 5.2-1*, *Annual Per Capita Diversion Rate for Murrieta*, the rate of diversion from landfill disposal of Murrieta waste increased from 28 percent in 1995 to 49 percent in 2006, falling just short of the 50 percent waste diversion rate called for in AB 939. In the two years since AB 939 compliance has been measured according to Annual Per Capita Disposal Rate, Murrieta has succeeded in meeting the AB 939 target set by CalRecycle. The amount of waste it disposed of, both per resident and per employee, decreased from 2007 to 2008 (refer to *Table 5.2-2*, *Annual Per Capita Disposal Rate for Murrieta, 2007-2008*). When Murrieta does produce waste, 99 percent of it (65,215 tons out of 65,874 tons in 2008) is disposed of in Waste

6 City of Irvine, *Resolution of Support for Zero Waste Principles*, July 10, 2007.

7 City of El Cerrito, Zero Waste Commission.

8 City of Oakland, *Zero Waste Resolution*, March 2006.

9 City of Berkeley, Zero Waste Commission.

10 City of San Francisco, *Resolution No. 007-02-COE, No. 679-02, and No. 002-03-COE.*

11 Zero Waste Communities of San Bernardino County, described at http://www.zerowastecommunities.org, accessed March 23, 2010.

12 Scotland Sustainable Development Commission, January 31, 2008 New Release, accessed March 23, 2010 at http://www.sd-commission.org.uk/news.php/197/scotland/zero-waste-for-scotland.

13 U.K. Department for Environment and Rural Affairs, October 29, 2009 News Release, accessed March 23, 2010 at http://www.defra.gov.uk/news/2009/091013a.htm.

Management's El Sobrante landfill, southeast of the City of Corona in unincorporated Riverside County. CalRecycle estimates that 64.1 percent of the El Sobrante landfill's capacity remains to be used, and that it will be open till 2045.[14]

Table 5.2-1
Annual Per Capita Diversion Rate for Murrieta, 1995-2006

Reporting Year	Diversion Rate Percent
1995	28
1996	28
1997	27
1998	29
1999	39
2000	49
2001	N/A
2002	N/A
2003	44
2004	41
2005	45
2006	49
Note: Since the passage of SB 1016 in 2007, compliance with AB 939 is tracked by CalRecycle according to Annual Per Capita Disposal Rate and no longer according to diversion rate percentage.	
Source: State of California, CalRecycle, Murrieta Jurisdiction Diversion/Disposal Rate Summary, accessed March 22, 2010 at http://www.calrecycle.ca.gov/ lgcentral/Tools/MARS/DRMCMain.asp.	

Table 5.2-2
Annual Per Capita Disposal Rate for Murrieta, 2007-2008

Reporting Year	Number of Programs Implemented	Annual Per Capita Disposal Rate (PPD)			
		Per Resident		Per Employee	
		CalRecycle AB 939 target	Murrieta Rate	CalRecycle AB 939 target	Murrieta Rate
2007	41	4.6	4.1	23.0	19.8
2008	41	4.6	3.6	23.0	17.9
PPD = Pounds Per Day					
Note: The "CalRecycle AB 939 target" reflects the Annual Per Capita Disposal Rate set by CalRecycle for compliance with AB 939, which requires diversion of 50 percent of waste from landfill. Per Capita Disposal Rates are based on reported waste tonnage and population					
Source: State of California, CalRecycle, Murrieta Jurisdiction Diversion/Disposal Rate Summary, accessed March 22, 2010 at http://www.calrecycle.ca.gov/lgcentral/Tools/MARS/DRMCMain.asp.					

[14] CalRecycle, "Active Landfills Profile for El Sobrante Landfill (33-AA-0217)," accessed March 23, 2010 at www.calrecycle.ca.gov/Profiles/Facility/Landfill/LFProfile1.asp?COID=33&FACID=33-AA-0217.

The City of Murrieta has established a number of programs that promote recycling, composting, and waste reduction, as summarized in *Table 5.2-3*, *Summary of Waste Reduction Programs in Murrieta*. These efforts have contributed to the City's increasing diversion rate and decreasing disposal rate in recent years.

As in most California cities, Murrieta has automated household collection service for green waste, recyclable materials, and waste, as well as curbside electronic waste recycling and curbside used oil recycling. The City is also launching a new battery recycling pilot program in partnership with Waste Management. The City mandates that all businesses and residential households within the City have service through its contracted provider, Waste Management. This reduces illegal waste dumping and increases use of recycling services.

The City's contract requires Waste Management to manage a variety of recycling programs for businesses in Murrieta. These include management of source-separated material at construction sites, free consultation to improve recycling rates, and adding recycling bins to reduce waste service and costs. The City also coordinates outreach and service efforts with other organizations. This includes access from Riverside County to its Antifreeze, Battery, Oil, and Paint (ABOP) disposal facility in the City, regular hazardous waste collection events by the County, and educational outreach at local schools by Waste Management and the Western Riverside Council of Governments.

The City has recently begun several composting efforts, including creating mulch from 31 tons of Christmas trees following Christmas 2009, and hosting a composting workshop at the Murrieta Public Library, planned for summer 2010. Internally, the City uses funding from the Department of Conservation's CA Redemption Value (bottles and can) to purchase recyclable products for municipal operations, as well as recycling clusters for many of its parks, allowing for the separation of trash, paper waste and recycling of bottles and cans.

GREEN BUILDING

Green building, either for new construction or retrofits for existing buildings, can greatly reduce the impacts associated with conventional building practices. Green buildings are shown to save energy and water, reduce waste, and minimize air pollution (including greenhouse gas emissions). Green buildings also contribute to reduced impacts to the site vicinity, by reducing development footprint impacts and encouraging native plantings that contribute to local ecosystems. Municipalities are in the position to effect significant change in the rate and success of green building practices, either by creating green building standards, or removing the barriers within City codes or review process to incentivize green buildings. This section describes Murrieta's efforts to promote green building practices within the City.

Table 5.2-3
Summary of Waste Reduction Programs in Murrieta

Waste Reduction Program
Mandatory trash service: Mandatory recycling Source separation of construction materials
Curbside used oil pickup
Curbside bulky item pickup (twice a year)
Curbside electronic waste pickup/recycling
Annual community clean up
Battery recycling pilot program
Recycling clusters in local parks
Composting Christmas trees into mulch for Parks Department
Annual clean-up
Code enforcement officer paid by WM to supervise an illegal dumping program
Programs with County ABOP Center Temporary events Composting workshop
Grasscycling at local parks
Purchase recycling products/content code
Concrete recycling
Recycling outreach/educational programs Both WRCOG and WM Curiosity Quest series School educational outreach Business consultation to increase recycling
Recycling at City Hall Blue paper containers Bottle/can recycling by employees All City events have recycling
Source: City of Murrieta, Brian Ambrose, Senior Management Analyst, electronic mail, March 17, 2010.

Precedents Throughout California

Green building requirements and the use of green building techniques is becoming increasingly common and mainstream, especially in California. As of September 2009, approximately 34 cities and two counties across the state had adopted green building ordinances.[15] Many of these ordinances reference the non-profit U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) family of green building rating systems. The most widely-used green building rating system in the country, LEED has specific and unique requirements for New Construction (mostly larger mixed use, multi-family and non-residential), Existing Buildings Operations and Maintenance, Schools, Retail, Healthcare, Homes (mostly single-family homes), Commercial Interiors, Core and Shell, and Neighborhood Development.

Some ordinances, especially those addressing residential development, also reference the GreenPoint Rated program administered by the non-profit Build It Green. GreenPoint Rated has two systems, one for New Homes (for single and multi-family homes) and one for Existing Homes, which provide third party verification that a home meets a unique array of green practices chosen by the builder or owner from the GreenPoint Rated checklist. With a point-based system and few mandatory measures, the GreenPoint Rated label provides a numerical score which allows the buyers to evaluate and compare the environmental performance of different homes. GreenPoint Rated is fully compatible with LEED for Homes certification, and has lower registration costs than LEED so can be more appropriate for smaller residential buildings.

Other ordinances reference the California Green Builder (CGB) program, administered by the California Building Industry Institute (BII), the non-profit research arm of the California Building Industry Association (BIA). The CGB program combines prescriptive and performance-based requirements on a pass/fail basis to achieve verifiable resource savings while minimizing the impact on a builder's budget and timeline. CGB homes are third party verified, and the certification costs are less than GPR and LEED.

Many cities with green building ordinances require official LEED certification by USGBC (or GreenPoint Rated certification). Some cities require compliance with LEED requirements, but they do not require certification with USGBC and instead monitor compliance internally. A number of cities, in an effort to promote consistent regional standards and streamline the efforts of practitioners, have adopted LEED-based requirements in a coordinated effort with other nearby cities. For instance, on January 19, 2010 the City of San Rafael adopted a very comprehensive green building ordinance that applies to nearly all buildings in the City, including new construction and rehabilitations. The San Rafael ordinance is based on a model ordinance developed for all of Marin County, and several neighboring cities and the County plan to adopt

[15] Office of the California Attorney General Edmund G. Brown Jr., "Local Government Green Building Ordinances in California," updated on September 22, 2009 (http://ag.ca.gov/globalwarming/pdf/green_building.pdf).

standards equivalent to San Rafael's. Similar efforts are underway in Santa Clara County. Some cities, such as Santa Monica, have developed customized green building rating systems, checklists, or requirements of their own. This allows them to target requirements towards the City's particular issues and priorities, which could include water efficiency, solar panels, project location and connectivity, energy efficiency, indoor air quality, or another aspect of green building. Still other jurisdictions have endorsed the CGB program, thereby encouraging green building practices on a voluntary basis.

Requiring official registration and certification through an organization like USGBC can reduce the administrative burden of a green building program, but requires additional registration costs on the part of the project. This can be a burden, especially for smaller projects. On the other hand, internally monitoring compliance with green building requirements allows for more flexibility and lower costs for project applicants, but requires administrative commitment and resources on the part of the City. In addition to, or instead of, mandatory requirements, many local governments offer a range of incentives for implementing green building techniques. These can include expedited permit review and inspections, waiving of fees, density bonuses, tax credits, or other contributions of city resources.

Most cities also prescribe different green building requirements for different sizes and types of development. Examples of different potential categories include large multi-family buildings, non-residential buildings, single-family home subdivisions of a certain size, large or small retail, condominium conversions, or existing building retrofits. Understanding the type of development that is likely to occur in a city is an important step in choosing appropriate green building requirements.

It is very common for local governments to require green building certification (often LEED Silver or higher) for their own buildings. This can be a way to publicize and create demand for green building, and it is also an easy requirement to administer since the City has control over its own buildings. In addition, public institutions, which are often more stable and long-standing than some private property owners, can be well-positioned to capitalize on the long-term benefits of green buildings, including financial savings, increased worker performance and health, the beautification of public space, and resource efficiency.

Local Precedents

The City of Temecula has a voluntary green building program for residential development, based on the California Building Industry Association's (BIA) California Green Builder (CGB) program. Temecula has also recently adopted standards that require all new municipally-owned buildings or major additions to be LEED Certified. The City of Riverside has a voluntary green building program intended primarily for production builders, called Riverside Green Builder, also based on the CGB program. Riverside offers incentives for participation, including priority field inspections, guaranteed timelines and priority electrical design and pre-release of electrical meters. The City of Corona, approximately 30 miles north of Murrieta, also has a voluntary

green building program, based on the CGB for residential, and LEED for non-residential and municipal buildings. Corona also provides expedited permitting as an incentive for the green building program. The Western Riverside Council of Governments (WRCOG) has endorsed the CGB Program, and created a voluntary incentive list for consideration by member jurisdictions (including Murrieta). WRCOG also adopted a model green building policy for municipal buildings that could be used as a foundation document by individual jurisdictions.

State of California Green Building Standards Code

The State of California recently adopted the first-in-the-nation mandatory Green Building Standards Code (CALGREEN), which applies to all new buildings in the state. CALGREEN will take effect on January 1, 2011, and it is expected that the comprehensive regulations will achieve major reductions in greenhouse gas emissions, energy consumption and water use throughout California. CALGREEN will require that every new building constructed in California reduce water consumption by 20 percent over a calculated baseline, divert 50 percent of construction waste from landfills and install low pollutant-emitting materials. It also requires separate water meters for non-residential buildings' indoor and outdoor water use, with a requirement for moisture-sensing irrigation systems for larger landscape projects and mandatory inspections of energy systems for non-residential buildings over 10,000 square feet to ensure that all are working at maximum capacity and according to design efficiencies.[16] According to an estimate from the California Air Resources Board, the mandatory provisions are expected to reduce greenhouse gas emissions by three million metric tons by 2020.[17] CALGREEN requirements may be stricter than some local green building requirements and therefore supersede them. Other local green building ordinances will continue to require measures over and above CALGREEN.

Murrieta Existing Conditions

The City of Murrieta currently does not have a green building ordinance in place, although the City has made preliminary efforts to develop an ordinance based on the CGB program. The City has currently placed ordinance development on hold due to the development of the State Green Building Standards Code. There is currently one certified green building in Murrieta, a public utility building that is LEED Certified under the LEED for New Construction v2.1 rating system.[18] There is also one single-family residence that is registered for LEED for Homes v1.0.[19]

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16 http://www.documents.dgs.ca.gov/bsc/documents/2010/Draft-2010-CALGreenCode.pdf, accessed on March 31, 2010.

17 http://gov.ca.gov/index.php?/press-release/14186/ accessed on March 31, 2010.

18 http://www.usgbc.org/LEED/Project/CertifiedProjectList.aspx, accessed on March 31, 2010.

19 http://www.usgbc.org/LEED/Project/RegisteredProjectList.aspx, accessed on March 31, 2010.

URBAN ECOLOGY

In urban areas where the majority of land is given over to pavement, buildings, or other kinds of development, ecologically functioning land is a unique and valuable asset with widespread positive impacts. Creeks, wetlands, parks, trees, gardens, storm water management areas, habitat areas, and preserved open space can serve as interconnecting islands of bio-diversity, providing valuable ecological services.

Many ecological areas can protect against natural disasters and negative environmental impacts elsewhere. For example, wetlands can protect urban areas from flooding and provide centers of habitat for ecological restoration work. Trees and landscaping provide a wide array of ecological benefits, including absorbing storm water, reducing "heat islands" (microclimates with higher temperatures than surrounding areas, caused by heat-absorbing surfaces like asphalt and concrete), removing air pollutants, filtering polluted water, sequestering carbon dioxide, and providing animal habitat. Permeable areas that can treat and retain storm water, instead of releasing it immediately during a storm, protect downstream waterways, wetlands, and water bodies from pollution, sedimentation, and flooding.

Community and backyard gardening increases food security in an era of food shortages and high food prices, but also increase awareness of ecology and natural systems, encourages community cohesion, promotes concepts of reuse and recycling, and encourages physical activity and good nutrition.

Murrieta Existing Conditions

Greenscapes and Water Conservation

The City of Murrieta contains 476.24 acres of parkland within 48 City Parks, as well as additional acreage in joint-use school facilities, private recreation facilities and some natural areas in nature parks. The City also has one City-wide park of 45 acres, 95 acres of Community Parks, and 10 Neighborhood Parks which provide over 72 combined acres of parkland. The City also has seven "Nature Parks", with 140 acres of parkland, and 15 multi-use trails, and 2,306.01 acres of Open Space. The City has set a standard for itself of 5 acres of parkland per 1,000 residents, but requires 34 acres of additional park space to meet this requirement.

Refer to Section 8.3, Parks, Recreation and Open Space, for more details on the parks and recreation facilities within the City.

There is currently no data regarding the number of street trees planted per year. The City's *Development Code* (Section 16.42, Tree Preservation) prohibits the removal of or damage to protected trees. Parks and trees can also require high amounts of water, though native or drought-tolerant species can reduce this demand. The use of recycled water for irrigation (which is provided by all four water agencies; refer to Section 9.1, Water) can also reduce demand for

potable water, provided the parks and trees for which it is used are compatible with recycled water's higher salinity.

Wildlife Species, Habitat and Pest Management

Preserving native species is a basic requirement for a sustainable ecological system, and can also enhance the quality of life of a community, when residents are provided opportunities to connect with nature and natural systems. Murrieta is a Permittee under the Western Riverside Multiple Species Habitat Conservation Plan (MSHCP), and as such, has existing conservation agreements and also sets aside land parcels within the City as Conservation Land to meet the land acquisition goals of the MSHCP. There are approximately 26,852 acres of wildlife habitat in the General Plan area, ranging from annual grassland and coastal oak woodland to urban and orchard/vineyard/cropland. Sensitive biological resources, habitat areas and wildlife corridors are described in Section 7.2, Biological Resources.

A sustainable ecological system must also be protected from the negative impacts of invasive species and pesticides and herbicides. Pesticides and herbicides can contaminate water, air and food, breed resistance in pests, and have widespread negative health effects on plants, animals and humans. The City of Murrieta currently does not have programs in place to encourage alternatives to pesticides and herbicides, such as an integrated pest management plan. However, one of the Best Management Practices (BMPs) implemented by the City in compliance with its MS4 Permit involves implementing landscape maintenance measures that minimize the use of fertilizers and pesticides.

Wetlands and Water Bodies

Murrieta Creek and Warm Springs Creek are the main tributaries within the City of Murrieta that feed into the Santa Margarita River. Both creeks remain in a semi-natural state, with areas of significant native vegetation occurring along portions of each. There are other minor tributaries and intermittent stream courses that occur within the General Plan area. The City also has a numerous vernal pools and seasonal wetlands

Storm Water

Implementing a comprehensive storm water management program can reduce pollution and erosion, prevent flooding, and recharge underground aquifers with clean water. Unmanaged urban storm water runoff can cause polluted and excessive storm water flows that diminish water quality in the Santa Margarita River Basin. Most storm water Best Management Practices – including on-site retention and infiltration, harvesting and reuse, evapotranspiration using vegetation, reducing hardscapes, planting trees and landscaping, and amending soils with compost to improve their moisture retention – seek to slow, filter and retain runoff. This is in contrast to many previously conventional approaches to storm water, such as storm channels, that seek to remove it as quickly as possible.

The City requires implementation of urban runoff management programs and activities as part of its Storm Water Management Plan, which ensures compliance with the requirements of the municipal separate storm sewer system (MS4) Permit by the San Diego RWQCB in 2004. The Permit regulates the discharge of all wet and dry weather urban storm water runoff and requires the City to implement BMPs to reduce pollutants in storm water. The City requires storm water treatment for certain projects, in accordance with its municipal NPDES (National Pollution Discharge Elimination System) storm water permit issued by the State Regional Water Quality Control Board. There are currently no examples of "green streets," such as swales and bio-retention areas, in the City. Additional information about storm water treatment in Murrieta can be found in Section 7.7, Water Resources and Quality.

WATER

Potable water is a limited and dwindling natural resource, both locally and globally. Water conservation and efficiency efforts in Murrieta are occurring against a statewide backdrop of increased demand for water and decreased supply due to many seasons of drought, which will likely be exacerbated in the future by climate change. In addition, the southern California water supply is also exacerbated by severe restrictions in water diversions from the Sacramento-San Joaquin River Delta for the State Water Project, which has historically supplemented water supply along with water from the Colorado River.

Murrieta Existing Conditions

Water resources and quality in Murrieta are described in Section 7.7, Water Resources and Quality and Section 9.1, Water. Topics addressed include applicable State, Federal and local water quality regulations, precipitation patterns, existing surface groundwater resources, and the source of potable drinking water in the City.

The Findings of Section 7.7, Water Resources and Quality state that the availability of water will be an increasing challenge as the City and region grow. However, the long-term sustainability of Murrieta's water system will depend on both ensuring a sufficient supply and keeping demand from exceeding that supply. This means efforts at water efficiency and conservation are as important as efforts to increase supply.

Water use in buildings is an important component of overall water use, and there are certain areas of the City – such as the northeastern portion – where there may not be a sufficient water supply to support new development.[20] The availability of a sufficient water supply should be a prerequisite to future development in the City, as is required by Senate Bills 221 and 610 (passed in 2001), which added additional stringency to Senate Bill 901 (passed in 1995). SB 221 requires any creation of a subdivision to be conditioned on verifying that the water supplier has

[20] Section 9.1, Water, p. 9.1-14.

"sufficient water supply," while SB 610 requires detailed analysis by a water provider to determine if it has sufficient water supply for proposed new development.

Groundwater is a major current and future source of water for Murrieta, both for buildings and for outside areas. Therefore, efforts to recharge groundwater through rainwater retention and infiltration, pervious surfaces, and water-efficient planting that reduces irrigation demand and allows surface water to infiltrate will be important for the long-term sustainability of the City's water supply. An effective strategy for reducing overall water use can be to target large landscape projects such as parks, golf courses, homeowner associations sites, and institutional. These users are often good candidates for recycled water use as well.

Findings

A limited number of Murrieta's residential parcels produce small-scale wind or solar power.

The installation of new wind power is allowed according to certain criteria under Ordinance No. 408-08.

The City's landfill diversion rate increased from 28 percent in 1995 to 49 percent in 2006, but still fell short of the 50 percent diversion rate called for by AB 939. However, in 2007 and 2008, when compliance with AB 939 was measured by Annual Per Capita Disposal Rate, the City met the State's AB 939 target by disposing of less than 4.6 pounds per day per resident.

The City has an increasingly broad offering of programs and services for composting, recycling, and reducing waste, through both its contract with Waste Management and internal efforts of its own.

The City of Murrieta does not have a green building program, and development of an ordinance is on hold until the state adopts its Green Building Standards Code in 2011.

The City requires 34 acres of additional park space to meet the standard it has set of 5 acres of parkland per 1,000 residents.

There is community interest in more diverse and widespread amenities and facilities such as restaurants, recreation facilities, shopping and entertainment, which would encourage fewer long vehicle trips to destinations outside the City.

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5.3 Global Climate Change

Introduction

This section summarizes the existing conditions related to global climate change within the City of Murrieta. Information in this section is based primarily on the California Air Resources Board, *Climate Change Proposed Scoping Plan*, October 2008, and the preliminary proposed amendments to the State *CEQA Guidelines* regarding greenhouse gas emissions proposed by the Governor's Office of Planning and Research (OPR), January 8, 2009.

Global Climate Change

Global climate change refers to the changes in the average global weather patterns and the concentration of greenhouse gases (GHGs) over periods of time. Atmospheric GHGs and clouds within the earth's atmosphere influence the earth's temperature by absorbing most of the infrared radiation rising from the earth's sunwarmed surface that would otherwise escape into space. This process is commonly known as the Greenhouse Effect. The GHGs and clouds, in turn, radiate some heat back to the earth's surface and some out to space. The balance between incoming solar radiation and outgoing radiation from both the earth's surface and atmosphere keeps the planet habitable. Anthropogenic (i.e., caused by humans) emissions of GHGs enhance the Greenhouse Effect by absorbing the radiation from other atmospheric GHGs that would otherwise escape to space, thereby trapping more radiation in the atmosphere and causing the temperature to increase.

Regulatory Context

FEDERAL REGULATIONS

The Federal government is extensively engaged in international climate change activities in areas such as science, mitigation, and environmental monitoring. The U.S. Environmental Protection Agency (EPA) actively participates in multilateral and bilateral activities by establishing partnerships and providing leadership and technical expertise. Multilaterally, the United States is a strong supporter of activities under the United Nations Framework Convention on Climate Change (UNFCCC) and the Intergovernmental Panel on Climate Change (IPCC).

The EPA is moving forward with two key climate change regulatory proposals: 1) establish a mandatory GHG reporting system, and 2) address the 2007 Supreme Court decision in *Massachusetts v. EPA* (Supreme Court Case 05-1120) regarding the EPA's obligation to make an endangerment finding under Section 202(a) of the Clean Air Act (CAA) with respect to GHGs. *Massachusetts v. EPA* was argued before the United States Supreme Court on November 29, 2006. A coalition of 12 U.S. states and cities (including New York and California), in conjunction with several environmental organizations, challenged the EPA's refusal to regulate GHGs as a pollutant under the CAA. The plaintiffs contended that the CAA gives the EPA the necessary authority, and the mandate, to address GHGs in light of the scientific evidence on

global climate change. The EPA had concluded that it had no authority under existing law to regulate GHGs, and that, for a variety of policy reasons, it would not use that authority even if it possessed it. The U.S. Supreme Court held that the EPA has statutory authority to regulate GHG emissions from new motor vehicles. Under the Clean Air Act, the EPA is now obligated to issue rules regulating global warming pollution from all major sources. In April 2009, the EPA concluded that GHGs are a danger to public health and welfare, establishing the basis for GHG regulation. Reduction targets for GHGs are anticipated after the April to June 2009 60-day comment period and subsequent rule-making.

On December 7, 2009, the EPA Administrator signed two distinct findings regarding GHGs under Section 202(a) of the CAA: the Endangerment Finding and the Cause or Contribute Finding. The EPA finds that the current and projected concentrations of the six key well-mixed GHGs in the atmosphere threaten the public health and welfare of current and future generations. The EPA also finds that the combined emissions of these well-mixed GHGs from new motor vehicles and engines contribute to the GHG pollution which threatens public health and welfare. These findings do not in and of themselves impose any emissions reduction requirements but rather allow the EPA to finalize the GHG standards proposed earlier in 2009 for new light-duty vehicles.

STATE OF CALIFORNIA

To respond to the challenge of climate change, Governor Schwarzenegger and the State Legislature have established policies aimed at reducing GHG emissions. By committing the State to reduce GHG emissions, the Governor and California Legislature have put California at the forefront of global action. Achieving these ambitious goals for reducing GHG emissions requires significant collaboration and support from all public entities and private stakeholders representing all sectors of California's diverse economy.

Addressing wide-ranging impacts of climate change requires a state-wide and coordinated multi-agency response. As such, Governor Schwarzenegger established the California Environmental Protection Agency as the lead for coordinating all state agency actions for reducing GHG emissions in 2005. A Climate Action Team was established with representatives from key state agencies responsible for implementing strategies and programs to reduce GHG emissions.

The Climate Action Team subgroups, made up of agency staff grouped around sectors such as agriculture, forestry, and energy, have been formed to identify and analyze measures for reducing GHG emissions. Each agency and major department is contributing to the development of strategies for both mitigating the impacts of climate change and adapting to the impacts California is already experiencing. The following describes the various climate change policies implemented by the State legislature.

Executive Order S-3-05. In June 2005, Governor Schwarzenegger established California's GHG emissions reduction targets in Executive Order S-3-05. The Executive Order established the

following goals: GHG emissions should be reduced to 2000 levels by 2010; GHG emissions should be reduced to 1990 levels by 2020; and GHG emissions should be reduced to 80 percent below 1990 levels by 2050. The Secretary of the California Environmental Protection Agency (the Secretary) is required to coordinate efforts of various agencies in order to collectively and efficiently reduce GHGs. Some of the agencies involved in the GHG reduction plan include Secretary of Business, Transportation, and Housing Agency, Secretary of Department of Food and Agriculture, Secretary of Resources Agency, Chairperson of CARB, Chairperson of the Energy Commission, and the President of the Public Utilities Commission. The Secretary is required to submit a biannual progress report to the Governor and State Legislature disclosing the progress made toward GHG emission reduction targets. In addition, another biannual report must be submitted illustrating the impacts of global warming on California's water supply, public health, agriculture, and the coastline and forestry, and reporting possible mitigation and adaptation plans to combat these impacts.

Executive Order S-1-07. On January 18, 2007, California further solidified its dedication to reducing GHGs by setting a new Low Carbon Fuel Standard for transportation fuels sold within the State. Executive Order S-1-07 sets a declining standard for GHG emissions measured in carbon dioxide equivalent gram per unit of fuel energy sold in California. The target of the Low Carbon Fuel Standard is to reduce the carbon intensity of California passenger vehicle fuels by at least ten percent by 2020. The Low Carbon Fuel Standard applies to refiners, blenders, producers, and importers of transportation fuels and would use market-based mechanisms to allow these providers to choose how they reduce emissions during the "fuel cycle" using the most economically feasible methods. The Executive Order requires the Secretary of the California Environmental Protection Agency to coordinate with actions of the California Energy Commission, CARB, the University of California, and other agencies to develop a protocol to measure the "life cycle carbon intensity" of transportation fuels. CARB is anticipated to complete its review of the Low Carbon Fuel Standard protocols, with a regulation to be adopted in 2010.

Assembly Bill 1493. In response to the transportation sector accounting for more than half of California's carbon dioxide (CO_2) emissions, Assembly Bill (AB) 1493 (AB 1493, Pavley) was enacted on July 22, 2002. AB 1493 required CARB to set GHG emission standards for passenger vehicles, light duty trucks, and other vehicles whose primary use is noncommercial personal transportation in the State. The bill required that CARB set the GHG emission standards for motor vehicles manufactured in 2009 and all subsequent model years. In setting these standards, CARB must consider cost effectiveness, technological feasibility, economic impacts, and provide maximum flexibility to manufacturers. CARB adopted the standards in September 2004. These standards are intended to reduce emissions of carbon dioxide and other GHGs (e.g., nitrous oxide and methane). Some currently used technologies that achieve GHG reductions include small engines with superchargers, continuously variable transmissions, and hybrid electric drive.

Assembly Bill 32. The Legislature enacted AB 32 (AB 32, Nuñez), the California Global Warming Solutions Act of 2006, which Governor Schwarzenegger signed on September 27, 2006 to further the goals of Executive Order S-3-05. AB 32 represents the first enforceable statewide program to limit GHG emissions from all major industries, with penalties for noncompliance. CARB has been assigned to carry out and develop the programs and requirements necessary to achieve the goals of AB 32. The foremost objective of CARB is to adopt regulations that require the reporting and verification of statewide GHG emissions. This program would be used to monitor and enforce compliance with the established standards. The first GHG emissions limit is equivalent to the 1990 levels, which are to be achieved by 2020. CARB is also required to adopt rules and regulations to achieve the maximum technologically feasible and cost-effective GHG emission reductions. AB 32 allows CARB to adopt market-based compliance mechanisms to meet the specified requirements. Finally, CARB is ultimately responsible for monitoring compliance and enforcing any rule, regulation, order, emission limitation, emission reduction measure, or market-based compliance mechanism adopted. In order to advise CARB, it must convene an Environmental Justice Advisory Committee and an Economic and Technology Advancement Advisory Committee. In December 2008, CARB adopted a scoping plan to achieve reductions in GHG emissions in California. The plan indicates how reductions in significant GHG sources would be achieved through regulations, market mechanisms, and other actions.

Senate Bill 97. Senate Bill (SB) 97 of 2007 requires the California Office of Planning and Research to develop CEQA guidelines for analysis and, if necessary, the mitigation or effects of GHG emissions to the Resources Agency. These guidelines for analysis and mitigation must address, but are not limited to, GHG emissions effects associated with transportation or energy demand. Following receipt of these guidelines, the Resources Agency must certify and adopt the guidelines prepared by the Office of Planning and Research. In his signing statement, Governor Arnold Schwarzenegger noted:

> *Current uncertainty as to what type of analysis of greenhouse gas emissions is required under the California Environmental Quality Act has led to legal claims being asserted, which would stop these important infrastructure projects. Litigation under CEQA is not the best approach to reduce greenhouse gas emissions and maintain a sound and vibrant economy. To achieve these goals, we need a coordinated policy, not a piecemeal approach dictated by litigation.*

The Office of Planning and Research has begun the process of formulating the guidelines called for in SB 97. Part of that effort includes a survey of existing climate change analyses performed by various lead agencies under CEQA.

Senate Bill 375. SB 375 requires metropolitan planning organizations to include sustainable community strategies in their regional transportation plans. The purpose of SB 375 is to reduce GHG emissions from automobiles and light trucks, require CARB to provide GHG emission reduction targets from the automobile and light truck sector for 2020 and 2035, and update the

regional targets until 2050. SB 375 requires certain transportation planning and programming activities to be consistent with the sustainable communities strategies contained in the regional transportation plan. The bill also requires affected regional agencies to prepare an alternative planning strategy to the sustainable community strategies if it is unable to achieve the GHG emissions reduction targets. Governor Schwarzenegger signed and approved SB 375 on September 30, 2008.

Senator Steinberg, author of SB 375, is also making efforts to clean up the bill. The clean up efforts include CEQA streamlining changes for projects that are consistent with the Sustainable Community Strategy (SCS). Currently, SB 375 applies those streamlining provisions to residential and mixed-use projects. The Governor and many interest groups are also lobbying to extend those provisions to Proposition 1B Transportation projects, state highway projects, and infrastructure, retail, and commercial development. A timetable to eliminate schedule conflicts with the new eight-year housing element and the four-year Regional Transportation Plans is also being considered. In addition to a clean up bill, there will continue to be ongoing discussions with CARB to coordinate AB 32 local land use implementation strategies with SB 375, including a new proposed CARB CEQA threshold of significance proposal to determine which projects will be subject to AB 32 requirements.

CALIFORNIA AIR RESOURCES BOARD

As stated above, CARB adopted a *Climate Change Scoping Plan* (*Scoping Plan*) in December 2008. The *Scoping Plan* contains the main strategies California will use to reduce the GHGs that cause climate change. Additionally, it identifies a range of GHG reduction actions, which include direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, market-based mechanisms such as a cap-and-trade system, and an AB 32 cost of implementation fee regulation to fund the program. These measures have been introduced through four workshops between November 30, 2007 and April 17, 2008.

CARB has also released a Preliminary Draft Staff Proposal entitled *Recommended Approaches for Setting Interim Significance Thresholds for Greenhouse Gases under the California Environmental Quality Act*. With this Staff Proposal, CARB staff is taking the first step toward developing recommended state-wide interim thresholds of significance for GHGs that may be adopted by local agencies for their own use.

The *Local Government Operations Protocol for the Quantification and Reporting of Greenhouse Gas Emissions Inventories Version 1.0* (*Protocol*) was adopted by CARB at the September 25, 2008 board meeting, and is designed to provide a standardized set of guidelines to assist local governments in quantifying and reporting GHG emissions associated with their government operations. The *Protocol* provides the principles, approach, methodology, and procedures needed to develop a local government operations GHG emissions inventory. It is designed to support the complete, transparent, and accurate reporting of a local government's GHG emissions.

SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS

The Southern California Association of Governments (SCAG) is the regional planning agency for Los Angeles, Orange, Ventura, Riverside, San Bernardino, and Imperial Counties, and serves as a forum for regional issues relating to transportation, the economy, community development, and the environment. SCAG serves as the federally designated metropolitan planning organization (MPO) for the Southern California region and is the largest metropolitan planning organization in the United States. With respect to air quality planning, SCAG has prepared the *Regional Comprehensive Plan: Helping Communities Achieve a Sustainable Future* for the region, which focuses on transportation and growth management and forms the basis for the land use and transportation control portions of the *2007 Air Quality Management Plan for the South Coast Air Basin*. SCAG is responsible under the CAA for determining conformity of projects, plans, and programs with the SCAQMD.

As stated above, SB 375 requires metropolitan planning organizations, such as SCAG, to include an SCS in their regional transportation plans. Therefore, it is the responsibility of SCAG to direct the development of the SCS for the region. There are two mutually important facets to the SB 375 legislation: reducing vehicle miles traveled (VMT) and encouraging more compact, complete, and efficient communities for the future. The SCS, as defined in SB 375, is a newly required element of the Regional Transportation Plan: Making the Connections. After receiving regional targets in 2010, SCAG will begin to develop the SCS and create a plan for meeting the emissions reduction targets by 2020 and 2035, respectively. The new SCS will integrate planning elements of transportation, land use, and housing with GHG reduction targets. This process will require meaningful collaboration and negotiation with local governments and other stakeholders in the region to ensure a well-balanced SCS is developed and that all aspects of transportation alternatives have been considered and properly vetted. Development of the SCS is subject to an extensive public review process. Outreach and public participation will play a major part in the creation of the final SCS document; input and suggestions will be considered. Additionally, SCAG has established the Compass Blueprint program, which encourages sustainable strategies that fit local needs and support shared regional values to accommodate regional growth.

CALIFORNIA OFFICE OF PLANNING AND RESEARCH

The Governor's Office of Planning and Research (OPR) has posted a technical advisory on CEQA and Climate Change. This technical advisory provides OPR's perspective on the issue and precedes the development of draft implementing regulations for CEQA, in accordance with SB 97 (Chapter 185, Statutes of 2007).

On January 8, 2009, OPR released preliminary proposed amendments to the *CEQA Guidelines* regarding GHG emissions as required by SB 97. No significance threshold is included in the draft, and the guidelines afford the customary deference provided to lead agencies in their analysis and methodologies. The introductory preface to the amendments recommends that

CARB set state-wide thresholds of significance. CARB recently released draft thresholds discussed below, however those draft thresholds are not finalized. OPR emphasized the necessity of having a consistent threshold available to analyze projects, and the analyses should be performed based on the best available information. For example, if a lead agency determines that GHGs may be generated by a proposed project, the agency is responsible for quantifying estimated GHG emissions by type and source.

The preliminary amendments to Appendix G of the *CEQA Guidelines* provide recommendations to lead agencies for determining the significance of GHG emissions in the initial study. These include whether the project would generate GHGs that could impact the environment, and whether the project would conflict with any applicable plan, policy, or regulation adopted by an agency. The proposed amendments to the *CEQA Guidelines* Section 15064.4 (Determining the Significance of Impacts from GHG Emissions) include provisions for the determination of the significance of GHGs based on a calculation or estimation of GHGs from a project. The proposed amendments also identify several considerations (i.e., comparisons to ambient conditions, threshold exceedance, and compliance with regulations) for lead agencies when assessing the significance of impacts from GHG emissions. The draft amendments to the *CEQA Guidelines* are not scheduled to be adopted until 2010 and are prospective in application.

CALIFORNIA CLIMATE ADAPTATION STRATEGY

The *2009 California Climate Adaptation Strategy* (*Climate Adaptation Strategy*) was prepared by the Resources Agency, and summarizes the best known science on climate change impacts in seven specific sectors and provides recommendations on how to manage against those threats. The *Climate Adaptation Strategy* takes into account the long-term, complex, and uncertain nature of climate change and establishes a proactive foundation for an ongoing adaptation process. The *Climate Adaptation Strategy* is in direct response to Executive Order S-13-08 that specifically requested the Resources Agency to identify how state agencies can respond to rising temperatures, changing precipitation patterns, sea level rise, and extreme natural events. The *Climate Adaptation Strategy* proposes a comprehensive set of recommendations designed to inform and guide California decision makers as they begin to develop policies that will protect the State, its residents, and its resources from a range of climate change impacts. The *Climate Adaptation Strategy* has been revised to incorporate public stakeholder input following the 45-day public comment period of the *Climate Adaptation Strategy Discussion Draft*, and was adopted on December 2, 2009. The *Climate Adaptation Strategy* will be updated approximately every two years to incorporate progress in strategies and changing climate science.

LOCAL

Climate Action Plan

The City of Murrieta, as part of the *General Plan Update*, will prepare a *Climate Action Plan*. The purpose of the *Climate Action Plan* is to address the main sources of emissions that contribute to global climate change. The *Climate Action Plan* will consist of the following:

- A city-wide existing GHG emissions inventory;
- Quantification of General Plan horizon year emissions;
- Development of measures aimed at reducing GHG emissions generated within the City;
- Development of thresholds of significance and a methodology for CEQA review of GHG and climate change impacts for subsequent projects within the City;
- A mechanism for monitoring and reporting of the GHG compliance program; and
- An implementation plan for future action.

As part of the *Climate Action Plan*, the City will be joining the International Council for local Environmental Initiatives (ICLEI)-Local Governments for Sustainability. ICLEI is an association of over 1,100 local governments from 67 countries who are committed to sustainable development. ICLEI provides technical consulting, training, and information services to build capacity, share knowledge, and support local governments in the implementation of sustainable development at the local level. Future GHG analyses for projects proposed in the City will be tiered off of the *Climate Action Plan*.

1994 General Plan Conservation Element

The existing Conservation Element of the existing *Murrieta General Plan* addresses energy resources within the City. Radiation, wind, and geothermal energy are renewable energy sources which are readily available in the area. However, these resources are not being utilized to their fullest potential because technology was not well developed at the time of the preparation of the existing *Murrieta General Plan*. The main sources of nonrenewable energy used in the City are electricity, natural gas, and fuels. It has been identified that the availability of these nonrenewable energy sources will become of increasing concern and cause the atmospheric release of carbon dioxide pollution.

Population increases fuel the increased demands on energy resources. The Conservation Element has identified three basic concepts of energy conservation: to use energy resources more efficiently through improved technology; to reduce unnecessary use; to replace dependence

on nonrenewable sources with renewable sources; and to conserve the use of related resources. Energy conservation concepts will be expanded in the *General Plan Update* based on new opportunities and innovative technology.

Existing Conditions

GLOBAL CLIMATE CHANGE GASES

The natural process through which heat is retained in the troposphere is called the "greenhouse effect."[1] The greenhouse effect traps heat in the troposphere through a three-fold process, summarized as follows: short wave radiation emitted by the Sun is absorbed by the Earth; the Earth emits a portion of this energy in the form of long wave radiation; and GHGs in the upper atmosphere absorb this long wave radiation and emit this long wave radiation into space and toward the Earth. This 'trapping" of the long wave (thermal) radiation emitted back toward the Earth is the underlying process of the greenhouse effect. This process is illustrated in *Exhibit 5.3-1*, *The Greenhouse Effect*.

The most abundant GHGs are water vapor and carbon dioxide. Many other trace gases have greater ability to absorb and re-radiate long wave radiation; however, these gases are not as plentiful. For this reason, and to gauge the potency of GHGs, scientists have established a Global Warming Potential for each GHG based on its ability to absorb and re-radiate long wave radiation. The Global Warming Potential of a gas is determined using carbon dioxide as the reference gas with a Global Warming Potential of one (1).

GHGs include, but are not limited to, the following:[2]

- *Water Vapor (H_2O)*. Although water vapor has not received the scrutiny of other GHGs, it is the primary contributor to the greenhouse effect. Natural processes, such as evaporation from oceans and rivers, and transpiration from plants, contribute 90 percent and 10 percent of the water vapor in our atmosphere, respectively.

  The primary human-related source of water vapor comes from fuel combustion in motor vehicles; however, this is not believed to contribute a significant amount (less than one percent) to atmospheric concentrations of water vapor. The Intergovernmental Panel on Climate Change has not determined a Global Warming Potential for water vapor.

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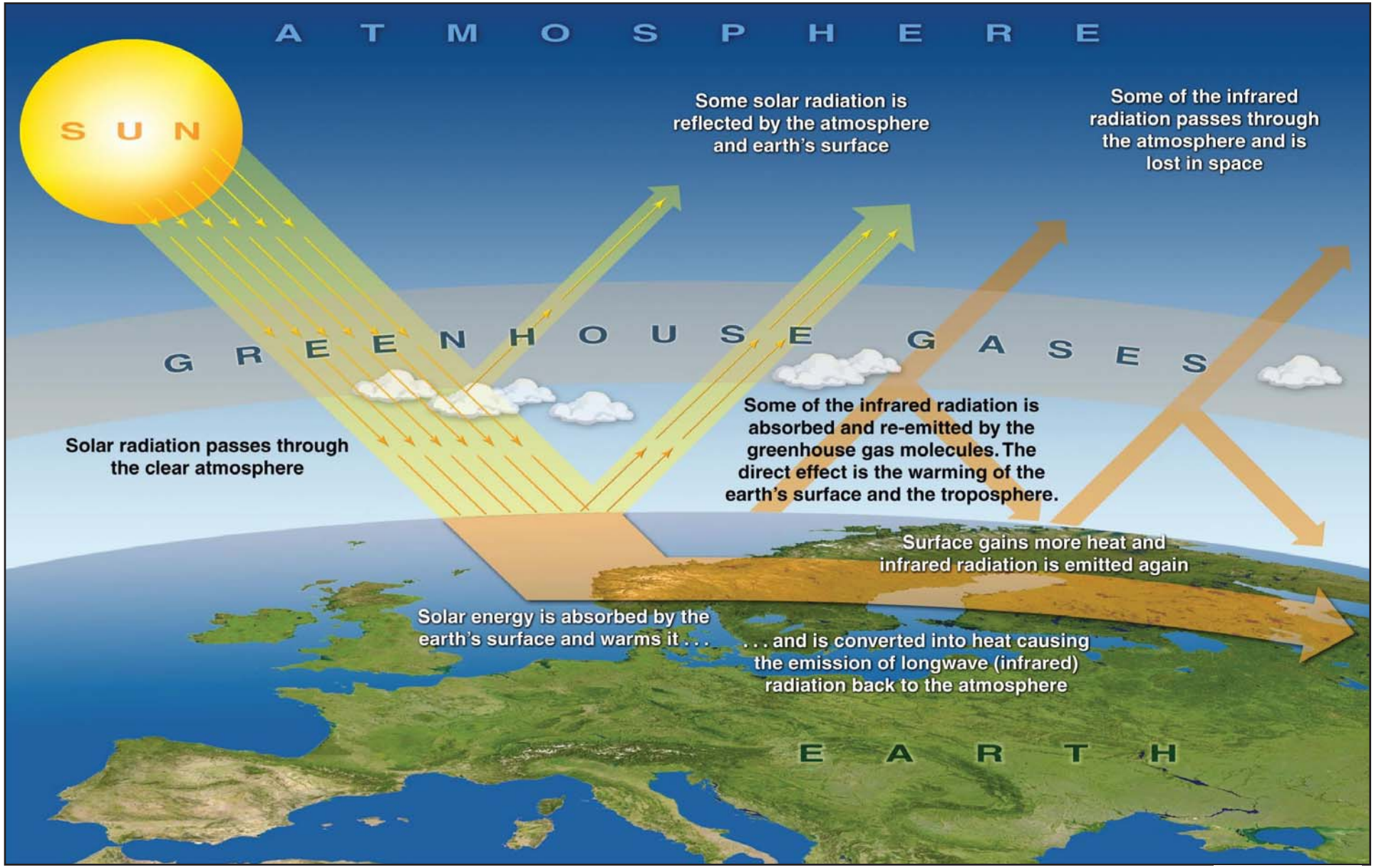
1 The troposphere is the bottom layer of the atmosphere, which varies in height from the Earth's surface to 10 to 12 kilometers.

2 All Global Warming Potentials are given as 100-year Global Warming Potential. Unless noted otherwise, all Global Warming Potentials were obtained from the Intergovernmental Panel on Climate Change. (Intergovernmental Panel on Climate Change, *Climate Change, The Science of Climate Change – Contribution of Working Group I to the Second Assessment Report of the IPCC*, 1996).



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Murrieta General Plan Update

Greenhouse Effect

Exhibit 5.3-1

- *Carbon Dioxide (CO_2)*. Carbon dioxide is primarily generated by fossil fuel combustion in stationary and mobile sources. Due to the emergence of industrial facilities and mobile sources in the past 250 years, the concentration of carbon dioxide in the atmosphere has increased 35 percent.[3] Carbon dioxide is the most widely emitted GHG and is the reference gas (Global Warming Potential of 1) for determining Global Warming Potentials for other GHGs.
- *Methane (CH_4)*. Methane is emitted from biogenic sources, incomplete combustion in forest fires, landfills, manure management, and leaks in natural gas pipelines. In the United States, the top three sources of methane are landfills, natural gas systems, and enteric fermentation. Methane is the primary component of natural gas, which is used for space and water heating, steam production, and power generation. The Global Warming Potential of methane is 21.
- *Nitrous Oxide (N_2O)*. Nitrous oxide is produced by both natural and human-related sources. Primary human-related sources include agricultural soil management, animal manure management, sewage treatment, mobile and stationary combustion of fossil fuel, adipic acid production, and nitric acid production. The Global Warming Potential of nitrous oxide is 310.
- *Hydrofluorocarbons (HFCs)*. HFCs are typically used as refrigerants for both stationary refrigeration and mobile air conditioning. The use of HFCs for cooling and foam blowing is growing, as the continued phase out of chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HCFCs) gains momentum. The Global Warming Potential of HFCs range from 140 for HFC-152a to 6,300 for HFC-236fa.
- *Perfluorocarbons (PFCs)*. Perfluorocarbons are compounds consisting of carbon and fluorine. They are primarily created as a by-product of aluminum production and semi-conductor manufacturing. Perfluorocarbons are potent GHGs with a Global Warming Potential several thousand times that of carbon dioxide, depending on the specific PFC. Another area of concern regarding PFCs is their long atmospheric lifetime (up to 50,000 years).[4] The Global Warming Potential of PFCs range from 5,700 to 11,900.
- *Sulfur hexafluoride (SF_6)*. Sulfur hexafluoride is a colorless, odorless, nontoxic, nonflammable gas. It is most commonly used as an electrical insulator in high voltage equipment that transmits and distributes electricity. Sulfur hexafluoride is the most potent GHG that has been evaluated by the Intergovernmental Panel on Climate Change with a Global Warming Potential of 23,900. However, its global warming contribution is not as high as the Global Warming Potential would indicate due to its low mixing ratio

[3] United States Environmental Protection Agency, *Inventory of U.S. Greenhouse Gas Emissions and Sinks 1990 to 2004*, April 2006, http://www.epa.gov/climatechange/emissions/usinventoryreport.html.

[4] Energy Information Administration, *Other Gases: Hydrofluorocarbons, Perfluorocarbons, and Sulfur Hexafluoride*, October 29, 2001, http://www.eia.doe.gov/oiaf/1605/gg00rpt/other_gases.html.

compared to carbon dioxide (4 parts per trillion [ppt] in 1990 versus 365 parts per million [ppm]).[5]

In addition to the six major GHGs discussed above (excluding water vapor), many other compounds have the potential to contribute to the greenhouse effect. Some of these substances were previously identified as stratospheric ozone (O_3) depletors; therefore, their gradual phase out is currently in effect. The following is a listing of these compounds:

- *Hydrochlorofluorocarbons (HCFCs)*. HCFCs are solvents, similar in use and chemical composition to CFCs. The main uses of HCFCs are for refrigerant products and air conditioning systems. As part of the Montreal Protocol, all developed countries that adhere to the Montreal Protocol are subject to a consumption cap and gradual phase out of HCFCs. The United States is scheduled to achieve a 100 percent reduction to the cap by 2030. The Global Warming Potentials of HCFCs range from 93 for HCFC-123 to 2,000 for HCFC-142b.[6]
- *1,1,1 trichloroethane*. 1,1,1 trichloroethane, or methyl chloroform, is a solvent and degreasing agent commonly used by manufacturers. The Global Warming Potential of methyl chloroform is 110 times that of carbon dioxide.[7]
- *Chlorofluorocarbons (CFCs)*. CFCs are used as refrigerants, cleaning solvents, and aerosol spray propellants. CFCs were also part of the EPA's Final Rule (57 FR 3374) for the phase out of O_3 depleting substances. Currently, CFCs have been replaced by HFCs in cooling systems and a variety of alternatives for cleaning solvents. Nevertheless, CFCs remain suspended in the atmosphere, contributing to the greenhouse effect. CFCs are potent GHGs with Global Warming Potentials ranging from 4,600 for CFC 11 to 14,000 for CFC 13.[8]

GREENHOUSE GAS SOURCES

GHGs are generated from both direct and indirect sources. Direct project-related GHG emissions include emissions from construction activities, area sources, and mobile sources. Construction GHG emissions include those from construction equipment and construction vehicles. Area source emissions include those from natural gas consumption. Mobile source

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5 United States Environmental Protection Agency, *High GWP Gases and Climate Change*, October 19, 2006, http://www.epa.gov/highgwp/scientific.html#sf6.

6 United States Environmental Protection Agency, *Protection of Stratospheric Ozone: Listing of Global Warming Potential for Ozone Depleting Substances*, November 7, 2006, http://www.epa.gov/fedrgstr/EPA AIR/1996/January/Day 19/pr 372.html.

7 United States Environmental Protection Agency, *Protection of Stratospheric Ozone: Listing of Global Warming Potential for Ozone Depleting Substances*, November 7, 2006, http://www.epa.gov/fedrgstr/EPA AIR/1996/January/Day 19/pr 372.html.

8 United States Environmental Protection Agency, *Class I Ozone Depleting Substances*, March 7, 2006, http://www.epa.gov/ozone/ods.html.

emissions are generated from vehicle fuel consumption. Indirect sources of GHGs associated with projects consist of electricity consumption and water supply.

ENERGY EFFICIENCY MEASURES

California Code of Regulations, Title 24, Part 6, is California's Energy Efficiency Standards for Residential and Non-residential Buildings. Title 24 was established by the CEC in 1978 in response to a legislative mandate to create uniform building codes to reduce California's energy consumption, and provide energy efficiency standards for residential and non-residential buildings. In 2005, the CEC updated Title 24 standards with more stringent requirements. All projects that are pursuing building permits after October 2005 must adhere to the new 2005 Standards. The 2005 Standards are expected to reduce the growth in electricity use by 478 gigawatt-hours per year (GWh/yr) and reduce the growth in natural gas use by 8.8 million therms per year. The savings attributable to new non-residential buildings are 163.2 GWh/yr of electricity savings and 0.5 million therms. Additional savings result from the application of the Standards on building alterations. In particular, requirements for cool roofs, lighting, and air distribution ducts are expected to save about 175 GWh/yr of electricity. These savings are cumulative, doubling as years go by. The California Building Standards Commission will receive proposed code changes from the Department of Housing and Community Development, the Division of the State Architect, the Office of the State Fire Marshal, and the Office of Statewide Health Planning and Development for code change consideration in the 2009 Annual Code Adoption Cycle, which began on July 1, 2009.

New Title 24 standards will become effective January 1, 2010. These updates to Title 24 have been established in response to AB 32's goal of reducing GHG emissions. Any project proposed on or after January 1, 2010 would be required to comply with the updated energy efficiency standards.

Findings

- Availability of energy resources is of increasing concern with the growing population and rapid development. Renewable energy sources such as radiation, wind, and geothermal should be considered by the City in the future.

- Construction, area, and mobile sources contribute to direct GHG emissions. Mobile sources are anticipated to be the most significant contributors of direct sources in the City. Reduction measures to lower future GHG emissions generated by construction, area, and mobile sources should be considered. Measures can include transportation demand, green building/efficiency, water use, and recycling and waste management.

- Indirect source emissions from electricity consumption and water supply also contribute considerable amounts of GHGs. Reduction measures to lower future GHG emissions generated by indirect sources should be considered.

Significance Thresholds

OPR's technical advisory regarding analysis of GHGs in CEQA documents provides the considerations used to evaluate whether the project emissions could conflict with the state's AB 32 goals for reducing GHG emissions, as set forth by OPR and proposed in *CEQA Guidelines* Section 15064.4 (Determining the Significance of Impacts from GHG Emissions).[9] This will be assessed by determining whether the General Plan Update is consistent with or obstructs the 39 Recommended Actions identified by CARB in its Climate Change Scoping Plan which includes nine Early Action Measures (qualitative approach). The *2006 Climate Action Team Report* (*CAT Report*) was prepared in response to Executive Order S-3-05, which was a precursor to AB 32. As a result, it provides strategies to implement the goals of Executive Order S-3-05 that would reduce the potential for climate change from GHG emissions.

The proposed *CEQA Guidelines* amendments include provisions for the determination of the significance of GHGs based on the quantification of GHGs from a project, as well as comparisons to ambient conditions, thresholds, applicable regulations. Lead agencies would utilize these techniques when assessing the significance of project impacts from GHG emissions. The draft amendments to the *CEQA Guidelines* are not scheduled to be adopted until 2010 and are prospective in application. In the absence of any other adopted guideline by any other governmental entity having jurisdiction over the project, it is appropriate to analyze the *General Plan Update*'s GHG impact following the methodology set forth in the draft amendments, which are outlined below:

- Greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; and
- Conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases.

Sources Cited

California Air Resources Board, *Climate Change Proposed Scoping Plan*, October 2008.

California Energy Commission, *Inventory of California Greenhouse Gas Emissions and Sinks 1990 to 2004*, December 2006.

California Energy Commission, Water Energy Use in California, last modified June 18, 2008, www.energy.ca.gov/research/iaw/industry/water.html.

[9] California Governors Office of Planning and Research, *Proposed Amendments to 14 Sections of the CEQA Guidelines*, January 2009.

California Energy Commission, Water *Energy Use in California*, website: www.energy.ca.gov/research/iaw/industry/water.html, modified June 2008.

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United States Environmental Protection Agency, *Protection of Stratospheric Ozone: Listing of Global Warming Potential for Ozone Depleting Substances*, November 7, 2006.

United States Environmental Protection Agency, *Class I Ozone Depleting Substances*, March 7, 2006.

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The purpose of this section is to summarize the existing noise conditions within the City of Murrieta. Information in this section was obtained from the *General Plan* and the *City of Murrieta Development Code* (*Development Code*).

Introduction

Noise, defined as unwanted sound, is principally caused by the operation of machinery for transportation (automobiles, trucks, trains, and aircraft) and machinery for production (industry and construction). Noise affects the quality of the environment, both at home and work, as well as enjoyment of recreational activity. Excessive amounts of noise may have adverse affects on physical activity and psychological stability. The effect of noise on the individual and the community varies with its duration, intensity, and the tolerance level of the individual.

Numerous methods have been developed to measure sound over a period of time. These methods include (1) the community noise equivalent level (CNEL); (2) equivalent sound level (Leq); (3) day/night average sound level (Ldn); and (4) single event noise exposure level (SENEL). These methods are described in *Table 6.1-1*, *Noise Descriptors*.

Table 6.1-1
Noise Descriptors

Term	Definition
Decibel (dB)	The unit for measuring the volume of sound equal to 10 times the logarithm (base 10) of the ratio of the pressure of a measured sound to a reference pressure (20 micropascals).
A-Weighted Decibel (dBA)	A sound measurement scale that adjusts the pressure of individual frequencies according to human sensitivities. The scale accounts for the fact that the region of highest sensitivity for the human ear is between 2,000 and 4,000 cycles per second (hertz).
Equivalent Sound Level (L_{eq})	The sound level containing the same total energy as a time varying signal over a given time period. The L_{eq} is the value that expresses the time averaged total energy of a fluctuating sound level.
Maximum Sound Level (L_{max})	The highest individual sound level (dBA) occurring over a given time period.
Minimum Sound Level (L_{min})	The lowest individual sound level (dBA) occurring over a given time period.
Community Noise Equivalent Level (CNEL)	A rating of community noise exposure to all sources of sound that differentiates between daytime, evening, and nighttime noise exposure. These adjustments are +5 dBA for the evening, 7:00 PM to 10:00 PM, and +10 dBA for the night, 10:00 PM to 7:00 AM.
Day/Night Average (L_{dn})	The L_{dn} is a measure of the 24-hour average noise level at a given location. It was adopted by the U.S. Environmental Protection Agency (EPA) for developing criteria for the evaluation of community noise exposure. It is based on a measure of the average noise level over a given time period called the L_{eq}. The L_{dn} is calculated by averaging the Leq's for each hour of the day at a given location after penalizing the "sleeping hours" (defined as 10:00 PM to 7:00 AM), by 10 dBA to account for the increased sensitivity of people to noises that occur at night.

Table 6.1-1 (Continued)
Noise Descriptors

Term	Definition
Single Event Noise Exposure Level (SENEL)	The Single Event Noise Exposure Level (SENEL) is the most appropriate noise level duration rating scale for a single noise occurrence. The SENEL, given in decibels, is the noise exposure level of a single event measured over the time interval between the initial and final times for which it exceeds the threshold noise level.
Exceedance Level (L_n)	The A-weighted noise levels that are exceeded 1%, 10%, 50%, and 90% (L_{01}, L_{10}, L_{50}, L_{90}, respectively) of the time during the measurement period.
Source: Cyril M. Harris, *Handbook of Noise Control*, 1979.	

Regulatory Context

It is difficult to specify noise levels that are generally acceptable to everyone; what is annoying to one person may be unnoticed by another. Standards may be based on studies of the ability of people to sleep, talk, or work under various noise conditions. However, all such studies recognize that individual responses vary considerably. Standards usually address the needs of most of the general population.

This section describes the laws, ordinances, regulations and standards that are applicable to the City. Regulatory requirements related to environmental noise are typically promulgated at the local level. However, Federal and State agencies provide standards and guidelines to local jurisdictions.

FEDERAL

The Federal Highway Administration (FHWA) has developed a series of maximum design noise levels for various activity categories that are expressed in terms of equivalent sound levels (Leq) and L_{10} values. These design noise levels are commonly used on Federally-funded road projects or projects for which Federal or California Department of Transportation (Caltrans) review is anticipated. The FHWA design noise levels represent maximum values and incorporate tradeoffs between desirable and feasible noise levels (recognizing that in many cases lower noise exposures would result in even greater community benefits). The design levels appear in *Table 6.1-2*, *Design Noise Level/Activity Relationship*, and are to be applied to:

- Undeveloped lands for which development is planned, designed, and programmed on the highway or other Federally funded construction project is publicly noticed;

- Activities and land uses in existence when the project is publicly noticed; and
- Those areas which have regular human use and in which a lowered noise level would be of benefit.

The FHWA noise abatement criteria establishes an exterior noise goal for residential areas of 67 Leq and an interior goal of 52 Leq. These criteria apply to private yard areas and assume that typical wood frame homes provide 10 dB (outdoor to indoor) noise reduction with windows open, and a 20 dB reduction with windows closed. Windows are assumed to be open, unless there is firm knowledge that they are, in fact, kept closed almost every day of the year (i.e., non-opening windows).

Table 6.1-2
Design Noise Level/Activity Relationship

Activity Category	Design Noise Leq(h)	Levels L_{10}(h)	Description of Activity Category
A	57 dBA (Exterior)	60 dBA (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 dBA (Exterior)	70 dBA (Exterior)	Picnic areas, recreation areas, playgrounds, active sports areas, parks, residences, motels, hotels, schools, churches, libraries, and hospitals.
C	72 dBA (Exterior)	75 dBA (exterior)	Developed lands, properties, or activities not included in Categories A or B above.
D	-	-	Undeveloped lands.
E	52 dBA (Interior)	55 dBA (Interior)	Residences, motels, hotels, public meeting rooms, schools, churches, libraries, hospitals, and auditoriums.
Note: Either L_{10} or Leq (but not both) design noise levels may be used on a project.			
Source: U.S. Department of Transportation, *Federal Highway Administration Planning, Environment, & Realty (HEP) Manual FHWA-HEP06-020*, April 2006.			

Table 6.1-3, *Federal Exterior Noise Acceptability Criteria for Housing*, and *Table 6.1-4*, *HUD External Noise Exposure Standards for New Residential Construction*, indicate the Department of Housing and Urban Development (HUD) policies used to determine eligibility for financial backing for new or rehabilitative residential construction in noise impacted areas. If the noise environment is determined to be normally unacceptable using *Table 6.1-4*, financial assistance from HUD would still be possible if noise insulation provides adequate exterior to interior noise reduction. Measures that reduce the external noise at a site are preferred, when feasible, over measures that only provide attenuation for interior spaces. HUD generally prohibits construction of new noise sensitive land uses in areas that exceed 75 Ldn.

Table 6.1-3
Federal Exterior Noise Acceptability Criteria for Housing

Degree of Acceptability	Exterior Noise Exposure Ldn (dB)					
	55	60	65	70	75	80
Acceptable[1]						
Normally Unacceptable[2]						
Unacceptable[3]						

1. The noise exposure may be of some concern, but common building construction will make the indoor environment acceptable and the outdoor environment reasonably pleasant for recreation and play.
2. The noise exposure is significantly more severe; barriers may be necessary between the site and prominent noise sources to make the outdoor environment acceptable; special building constructions may be necessary to ensure that people indoors are sufficiently protected from outdoor noise.
3. The noise exposure at the site is so severe that the construction cost to make the indoor noise environment acceptable may be prohibitive, and the outdoor environment would still be unacceptable.

Source: Federal Register V.44 n.135, Thursday, July 12, 1979.

Table 6.1-4
HUD External Noise Exposure Standards for New Residential Construction

HUD Approval	Site Noise Exposure	Noise Level (Ldn)	Special Approval/Requirements
Standard	Acceptable	Not Exceeding 65 dB	None
Discouraged	Normally Acceptable	65 dB to 75 dB	Building sound attenuation of 5 dB for 65-70 dB noise level and 10 dB for 70-75 noise level. Special Environmental Clearance Approval of Regional Administration
Prohibited	Unacceptable	75 + dB	Approval of Assistant Secretary of Community Planning EIS required

Source: Federal Register v.44n.135, Thursday, July 12, 1979. Subsequent to original publication, it has been learned that a later Federal Register listing deleted HUD noise exposure standards for residential rehabilitation.

STATE

California Government Code

California Government Code Section 65302(f) mandates that the legislative body of each county and city adopt a noise element as part of its comprehensive general plan. The local noise element must recognize the land use compatibility guidelines established by the State Department of Health Services, as shown in *Table 6.1-5*, *Land Use Compatibility For Community Noise Environments*.

The guidelines rank noise land use compatibility in terms of "normally acceptable," "conditionally acceptable," "normally unacceptable", and "clearly unacceptable" noise levels for various land use types. Single-family homes are "normally acceptable" in exterior noise environments up to 60 CNEL and "conditionally acceptable" up to 70 CNEL. Multiple-family residential uses are "normally acceptable" up to 65 CNEL and "conditionally acceptable" up to 70 CNEL. Schools, libraries, and churches are "normally acceptable" up to 70 CNEL, as are office buildings and businesses, commercial, and professional uses.

Table 6.1-5
Land Use Compatibility For Community Noise Environments

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

CNEL = community noise equivalent level; NA = not applicable

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

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

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

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

Source: Office of Planning and Research, California, *General Plan Guidelines,* October 2003.

State Guidelines and Standards

Section 1092 of Title 25, Chapter 1, Subchapter 1, Article 4, of the California Administrative Code includes noise insulation standards which detail specific requirements for new multi-family structures (hotels, motels, apartments, condominiums, and other attached dwellings) located within the 60 CNEL contour adjacent to roads, railroads, rapid transit lines, airports or industrial areas. An acoustical analysis is required showing that these multi-family units have been designed to limit interior noise levels, with doors and windows closed, to 45 CNEL in any habitable room. Title 21 of the California Administration Code (Subchapter 6, Article 2, Section 5014) also specifies that noise levels in all habitable rooms shall not exceed 45 CNEL. A community's sensitivity to noise may be evaluated by starting with the general guidelines developed by the State of California, and then applying adjustment factors. These allow acceptability standards to be set which reflect the desires of the community and its assessment of the relative importance of noise pollution, and are below the known levels of health impairment.

LOCAL

City of Murrieta Noise Element

The State of California has mandated that local governments prepare a noise element as part of their general plans. The Noise Element of the existing *Murrieta General Plan* is the guiding document for the City's noise policy and contains various goals and accompanying policies and objectives designed to protect residents and businesses from excessive and persistent noise intrusions. The Noise Element describes the existing noise environment, goals, policies, and objectives, as well as State noise regulations and airport land use guidelines for noise compatibility.

City of Murrieta Development Code

The City of Murrieta's regulations with respect to noise are included in Chapter 16.30 of the *Development Code*, also known as the *Noise Ordinance*. Construction-related and operational noise restrictions are discussed below:

- Construction Noise. Section 16.30.130 of the City of Murrieta *Noise Ordinance* regulates construction noise. The *Noise Ordinance* prohibits noise generated by construction activities between the hours of 7:00 PM and 7:00 AM and on Sundays and holidays. Construction activities shall not be conducted in a manner that the maximum noise levels at the affected structures will not exceed those listed in *Table 6.1-6*, *City of Murrieta Construction Noise Standards*.

Table 6.1-6
City of Murrieta Construction Noise Standards

	Single-Family Residential	Multi-Family Residential	Commercial
Mobile Equipment			
Daily, except Sundays and holidays, 7:00 AM to 8:00 PM	75 dBA	80 dBA	85 dBA
Daily, except Sundays and holidays, 8:00 PM to 7:00 AM	60 dBA	64 dBA	70 dBA
Stationary Equipment			
Daily, except Sundays and holidays, 7:00 AM to 8:00 PM	60 dBA	65 dBA	70 dBA
Daily, except Sundays and holidays, 8:00 PM to 7:00 AM	50 dBA	55 dBA	60 dBA
Source: City of Murrieta, *City of Murrieta Development Code Section 16.30.130*.			

- Operational Noise. Within the City of Murrieta, the *Noise Ordinance* governs operational noise generated between two properties and does not regulate noise from transportation sources, such as traffic, aircraft, and railways. Section 16.30.090 of the *Noise Ordinance* establishes the exterior noise standards for all receptor properties within a designated noise zone. The City's exterior noise level limits between properties are presented in *Table 6.1-7*, *City of Murrieta Exterior and Interior Noise Limits*.

Table 6.1-7
City of Murrieta Exterior and Interior Noise Limits

Noise Zone	Land Use (Receptor Property)	Time Period	Allowed Exterior Noise Level (dBA)
Exterior Noise Limits			
I	Noise-sensitive area	Anytime	45
II	Residential properties	10:00 PM to 7:00 AM	45
		7:00 AM to 10:00 PM	50
	Residential properties within 500 feet of a kennel(s)	7:00 AM to 10:00 PM	70
III	Commercial properties	10:00 PM to 7:00 AM	55
		7:00 AM to 10:00 PM	60
IV	Industrial properties	Anytime	70
Interior Noise Limits			
All noise zones	Multi-family residential	10:00 PM to 7:00 AM	40
		7:00 AM to 10:00 PM	45

Source: City of Murrieta, *City of Murrieta Development Code Section 16.30.090*.

Section 16.30.090(B) of the *Development Code* further restricts noise levels. Section 16.30.090(B) states, in part:

> *No person shall operate or cause to be operated. any source of sound at any location within the city or allow the creation of any noise on property owned, leased, occupied or otherwise controlled by a person that causes the noise level, when measured on any other property to exceed the following exterior noise standards:*
>
> *1. Standard No. 1. Standard No. 1 shall be the exterior noise level which shall not be exceeded for a cumulative period of more than thirty (30) minutes in any hour. Standard No. 1 may be the applicable noise level from Table 3-6 above.*
>
> *2. Standard No. 2. Standard No. 2 shall be the exterior noise level which shall not be exceeded for a cumulative period of more than fifteen (15) minutes in any hour. Standard No. 2 shall be the applicable noise level from Table 3-6 above, plus five dB.*
>
> *3. Standard No. 3. Standard No. 3 shall be the exterior noise level which shall not be exceeded for a cumulative period of more than five minutes in any hour. Standard No. 3 shall be the applicable noise level from Table 3-6 above plus ten dB.*

4. Standard No. 4. Standard No. 4 shall be the exterior noise level which shall not be exceeded for a cumulative period of more than one minute in any hour. Standard No. 4 shall be the applicable noise level from Table 3-6 above plus fifteen (15) dB.

5. Standard No. 5. Standard No. 5 shall be the exterior noise level which shall not be exceeded for any period of time. Standard No. 5 shall be the applicable noise level from Table 3-6 above plus twenty (20) dB.

Section 16.30.100 sets forth interior noise levels limits for multi-family residential properties, as stated in *Table 6.1-7*. Section 16.30.100 states, in part:

No person shall operate or cause to be operated within a residential unit. any source of sound, or allow the creation of any noise, that causes the noise level when measured inside a neighboring receiving residential unit to exceed the following standards:

1. Standard No. 1. The applicable interior noise level for cumulative period of more than five minutes in any hour;

2. Standard No. 2. The applicable interior noise level plus five dB for a cumulative period of more than one minute in any hour; or

3. Standard No. 3. The applicable interior noise level plus ten dB for any period of time.

VIBRATION STANDARDS

The existing vibration environment, similar to that of the noise environment, is dominated by transportation-related vibration from roadways and rail lines in the City. Heavy truck traffic on local and regional roadway networks can generate groundborne vibration, which varies considerably depending on vehicle type, weight, and pavement conditions. However, groundborne vibration levels generated from vehicular traffic are not typically perceptible outside of the right-of-way for major roadways and smart streets with a large capacity of heavy vehicle traffic.

Transportation and construction activities can generate varying degrees of ground-borne vibration, depending on the construction procedure and the construction equipment used. Operation of construction equipment generates vibrations that spread through the ground and diminish in amplitude with distance from the source. The effect on buildings located in the vicinity of a construction site often varies depending on soil type, ground strata, and construction characteristics of the receiver building(s). The results from vibration can range from no perceptible effects at the lowest vibration levels, to low rumbling sounds and perceptible

vibration at moderate levels, to slight damage at the highest levels. Ground-borne vibrations from construction activities rarely reach levels that damage structures.

The Federal Transit Administration (FTA) and Caltrans have published guidelines for the analysis of groundborne noise and vibration relating to transportation and construction-induced vibration. Caltrans guidelines recommend that a standard of 0.2 inches/second (in/sec) peak particle velocity (PPV) not be exceeded for the protection of normal residential buildings, and that 0.08 in/sec PPV not be exceeded for the protection of old or historically significant structures.[1] The ground motion caused by vibration is measured as particle velocity in inches per second and, in the United States is referenced as vibration decibels (VdB). With respect to human response within residential uses (i.e., annoyance), FTA recommends a maximum acceptable vibration standard of 80 VdB.[2] The City's *Development Code* Section 16.30.130(K) states that operating or permitting the operation of any device that creates vibration that is above the vibration perception threshold of an individual (motion velocity of 0.01 in/sec over the range of 1 to 100 Hertz) at or beyond the property boundary of the source if on private property, or at 150 feet from the source if on a public space or public right-of-way is prohibited.

Existing Conditions

The sound we hear is a result of a sound source inducing vibration in the air. The vibration produces alternating bands of relatively dense and sparse particles of air that spread outward from the source. The result of the particle movement is a fluctuation in the normal atmospheric pressure, or sound waves. These waves radiate in all directions from the source and may be reflected and scattered, or possibly turn corners. When the vibration stops, the sound waves disappear instantly, and sound ceases. Sound may be described in terms of three variables: amplitude (perceived as loudness), frequency (perceived as pitch), and time pattern.

The rate at which a sound source vibrates determines frequency. The units for frequency refer to the number of times that the acoustical pressure (amplitude) peaks for each sound per unit of time. The unit of time is usually one second and the term Hertz is used to designate the number of cycles per second. A sound that has more cycles per second is higher pitched. Humans can identify sounds with frequencies from about 20 Hertz to 20,000 Hertz. Pure tones are relatively rare in real-life situations and most sounds consist instead of a complex mixture of many frequencies.

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1 California Department of Transportation, *Transportation and Construction-Induced Vibration Guidance Manual*, June 2004.

2 Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Guidelines*, May 2006.

Major sources of noise within the General Plan Study Area include Interstate 15 (I-15), Interstate 215 (I-215), State Route 79 (SR-79), and the arterial roadway system.

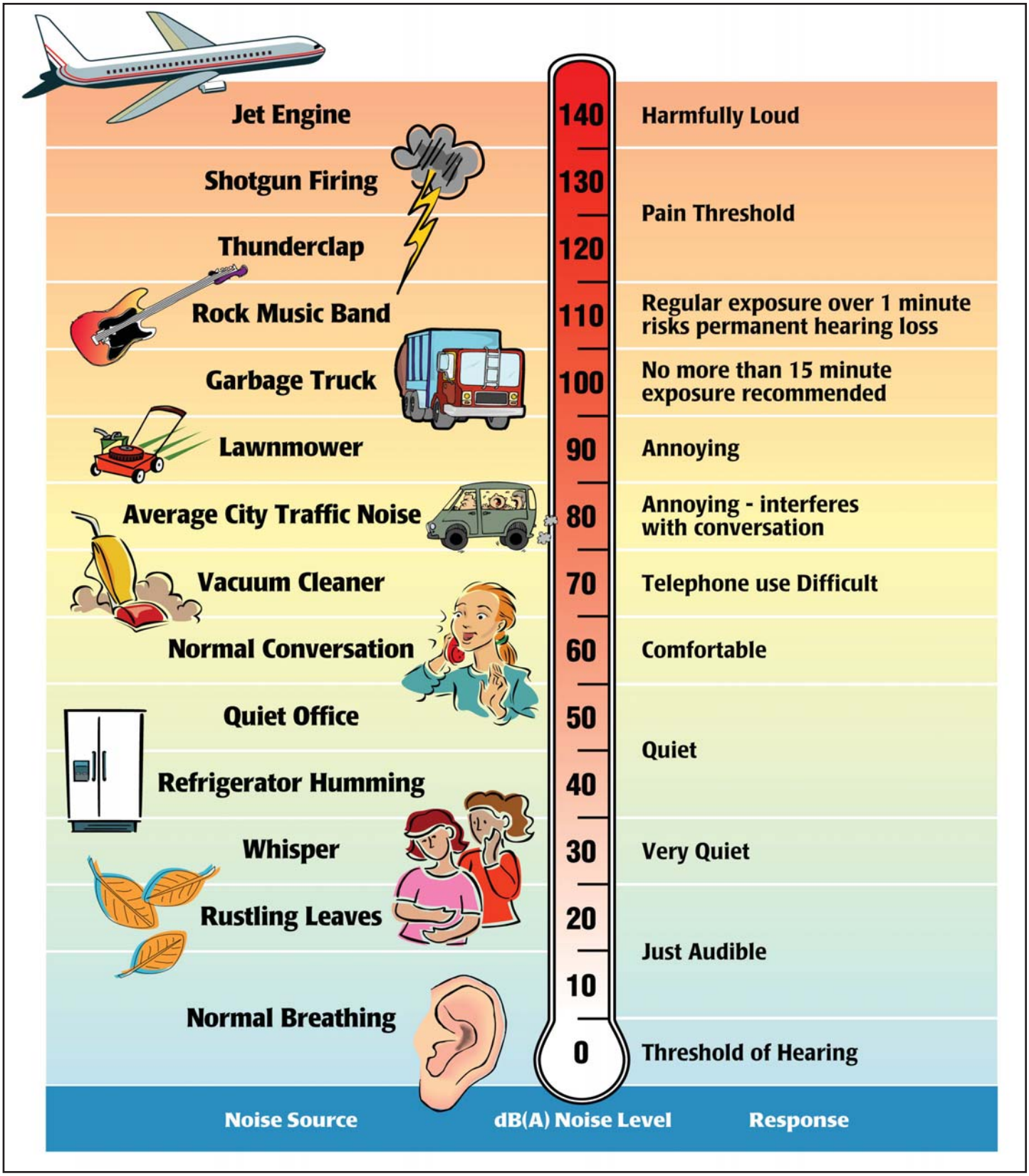
NOISE MEASUREMENT

The standard unit of measurement of the loudness of sound is the decibel (dB). This unit expresses an exponential increase, where an increase of 10 decibels represents a tenfold increase in the sound generated. In order to describe "average noise levels," the measurements are then weighted and added over a specified time period to reflect the magnitude of the sound, as well as its duration, frequency, and time of occurrence.

The sound pressure level is measured on a logarithmic scale. The 0 dB level is based on the lowest detectable sound pressure level that people can perceive (an audible sound that is not zero sound pressure level). The decibel scale has a value of 1.0 dB at the threshold of hearing and 140 dB at the threshold of pain. Each interval of 10 decibels indicates a sound energy ten times greater than before, which is perceived by the human ear as being roughly twice as loud. A 1.0-decibel increase is just audible, and a 10-decibel increase means the sound is perceived as being twice as loud as before. In most situations a 3 dB change in sound pressure level is considered a "just-detectable" difference and a 5 dB change (either louder or quieter) is readily noticeable.

Sound from a small localized source (approximating a "point" source) radiates uniformly outward as it travels away from the source in a spherical pattern. The sound level attenuates or drops-off at a rate of 6 dB for each doubling of the distance (6 dB/DD). This decrease, due to the geometric spreading of the energy over an ever-increasing area, is referred to as the *inverse square law*. However, highway traffic noise is not a single, stationary point source of sound. The movement of the vehicles makes the source of the sound appear to emanate from a line (line source) rather than a point when viewed over some time interval. Since the change in surface area of a cylinder only increases by two times for each doubling of the radius instead of four times associated with spheres, the change in sound level is 3 dB per doubling of distance.

Noise levels are expressed as A-weighted decibels (dBA), which adjusts the actual sound level to reflect only those frequencies audible to the human ear. The human ear is most sensitive to frequencies around 4,000 Hz (about the highest note on a piano) and less sensitive to low frequencies below 100 Hz (such as a low rumble). Other examples of the decibel level of various noise sources include: the quiet rustle of leaves (10 dBA), a soft whisper (20 to 30 dBA), the hum of a small electric clock (40 dBA), ambient noise outdoors or in a kitchen (50 dBA), normal conversation at five feet (55 dBA), and a busy street at 50 feet (75 dBA). Examples of various sound levels are shown in *Exhibit 6.1-1*, *Sound Levels and Human Response*.



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.

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Sound Levels and Human Response

Exhibit 6.1-1

HUMAN REACTION TO SOUND

An estimated 21 million people in the United States currently have some degree of hearing loss. In approximately 10 million of these cases, exposure to very loud or sustained noise caused damage to the inner ear, which could be substantial even before a hearing loss was actually noticed. To prevent the spread of hearing loss, a desirable goal would be to minimize the number of noise sources that expose people to sound levels above 70 decibels. Although hearing impairment is one of the harmful effects of noise on people, there are several other effects noise can have on humans.

Physical and Psychological Responses

Noise can also cause a variety of temporary physical and psychological responses in humans. Temporary physical reactions to passing noises range from a startle reflex to constriction in peripheral blood vessels; the secretion of saliva and gastric fluids; and changes in heart rate, breathing patterns, the chemical composition of the blood and urine, dilation of the pupils of the eye, visual acuity, and equilibrium. The chronic recurrence of these physical reactions has been shown to aggravate headaches, fatigue, digestive disorders, heart disease, circulatory and equilibrium disorders. Noise is a contributing factor in stress-related ailments such as ulcers, high blood pressure, and anxiety.

Noise can mask important sounds and disrupt communication. This process can cause anything from a slight irritation to a serious safety hazard. Noise-induced sleep interference is one of the critical components of community annoyance. Sound level, frequency distribution, duration, repetition, and variability can make it difficult to fall asleep and may cause momentary shifts in the natural sleep pattern, or level of sleep. It can produce short-term adverse effects on mood changes and job performance, with the possibility of more serious effects on health if it continues over long periods.

Noise can cause adverse effects on task performance and behavior at work, and non-occupational and social settings. These effects are the subject of some controversy, since the presence and degree of effects depends on a variety of intervening variables. Most research in this area has focused mainly on occupational settings, where noise levels must be sufficiently high for effects on performance to occur.

Noise has been implicated in the development or exacerbation of a variety of health problems, ranging from hypertension to psychosis. As with other categories, quantifying these effects is difficult due to the amount of variables that need to be considered in each situation. As a biological stressor, noise can influence the entire physiological system. The strongest evidence lies in the cardiovascular effects of noise exposure; research in this area is ongoing. Although evidence for the various effects of noise have differing levels of certainty, it is clear that noise can affect human health. *Table 6.1-8*, *Noise Levels and Human Responses*, summarizes the harmful effects of noise discussed above.

Table 6.1-8
Noise Levels and Human Responses

Health Effect	Noise Level[1]	Activity Area[2]
Hearing Loss	Leq ≤ 70 dB	All Areas
Outdoor Activity Interference and Annoyance	Ldn ≤ 55 dB	Outdoors in residential areas where people spend time
	Leq ≤ 55 dB	Outdoor areas where people spend a limited amount of time
Indoor Activity Interference and Annoyance	Ldn ≤ 45 dB	Indoor residential
	Leq ≤ 45 dB	Other indoor areas with human activities (e.g., schools)

Notes:
1. Refer to Table 6.1-1, Noise Descriptors, for a definition of Leq and Ldn.
2. "Area" refers to residential, industrial, commercial, and recreational areas, unless otherwise specified.

Source: EPA, *Information on Levels of Environmental Noise Requisite to Protect Public Health and Welfare with an Adequate Margin of Safety*, March 1974.

Community Response to Noise

Some people have a very low tolerance for noise, and approximately 10 percent of the population object to nearly any noise not of their own making. Even in the quietest manmade environment, some complaints may occur. Another 25 percent of the population will not complain even in very severe noise environments. Thus, a variety of reactions can be anticipated from people exposed to any given noise environment. Despite this, the population as a whole can be expected to exhibit the following responses to changes in noise levels: an increase or decrease of 1.0 dBA cannot be perceived except in carefully controlled laboratory experiments; a 3.0 dBA increase is just noticeable outside of the laboratory; an increase of 5.0 dBA is often necessary before any noticeable change in community response (i.e., complaints) occurs.

Table 6.1-9, *Effects of Noise on People*, details the effects of noise on individuals living in various noise environments and predicts the average community reaction to various sound levels in a residential setting. As shown, hearing loss may begin to occur at 75 Ldn, and the noise environment would be highly annoying to 37 percent of the population. Residents who live in noise environments of 70 Ldn are not likely to experience hearing loss; however, 25 percent would be highly annoyed, and noise would be viewed as one of the most important adverse aspects of the community environment. At 65 Ldn, hearing loss would not occur, and 15 percent of the population would be highly annoyed by the noise environment.

Table 6.1-9
Effects of Noise on People[1]

Effects [2]	Hearing Loss	Speech Interference		Annoyance [3]		
		Indoor	Outdoor			
Day-Night Average Sound Level in Decibels	Qualitative Description	% Sentence Intelligibility	Distance (meters) for 95% Sentence Intelligibility	% of Population Highly Annoyed [5]	Average Community Reaction [4]	General Community Attitude Towards Area
75 and above	May Begin to Occur	98%	0.5	37%	Very Severe	Noise is likely to be the most important of all adverse aspects of the community environment.
70	Will Not Likely Occur	99%	0.9	25%	Severe	Noise is one of the important adverse aspects of the community environment.
65	Will Not Occur	100%	1.5	15%	Significant	Noise is one of the important adverse aspects of the community environment.
60	Will Not Occur	100%	2.0	9%	Moderate to Slight	Noise may be considered an adverse aspect of the community environment.
55 and below	Will Not Occur	100%	3.5	4%		Noise considered no more important than various other environmental factors.

1. Research implicates noise as a factor producing stress-related health effects such as heart disease, high-blood pressure and stroke, ulcers and other digestive disorders. However, the relationships between noise and these effects have not as yet been quantified.
2. "Speech Interference" data are drawn from the following tables in EPA's "Levels Document"; Table 3, Figure D-1, Figure D-2, Figure D-3. All other data from National Academy of Science, *Guidelines for Preparing Environmental Impact Statements on Noise, Report of Working Group 69 on Evaluation of Environmental Impact of Noise*, 1977.
3. Depends on attitudes and other factors.
4. Attitudes or other non-acoustic factors can modify this. Noise at low levels can still be an important problem, particularly when it intrudes into a quiet environment.
5. The percentages of people reporting annoyance to lesser extents are higher in each case. An unknown small percentage of people will report being "highly annoyed" even in the quietest surroundings. One reason is the difficulty all people have in integrating annoyance over a very long time.

Source: U.S.D.O.T., Guidelines *for Considering Noise in Land Use Planning and Control*, 1980.

As shown in *Table 6.1-10*, *Highly Annoyed Persons and Registered Complaints as a Function of Ldn*, at very low noise exposures, up to 13 percent of the population will display a high degree of annoyance, even though complaints might not be registered. At the other end of the spectrum, even in communities exposed to noise levels between 75 and 80 Ldn, only 15 to 20 percent of the population will register a complaint, despite the fact that more than half are highly annoyed by the noise environment.

Table 6.1-10
Highly Annoyed Persons and Registered Complaints as a Function of Ldn

Noise Level (Ldn)	Percentage of Highly Annoyed	Percentage of Complaints
50	13	Less Than 1
55	17	1
60	23	2
65	33	5
70	44	10
75	54	15
80	62	Over 20
Source: U.S. EPA, *Public Health and Welfare Criteria for Noise*, July 27, 1973.		

Community responses to noise may range from registering a complaint by telephone or letter initiating court action, depending upon each individual's susceptibility to noise and personal attitudes toward noise. Recent studies have shown that changes in long-term noise levels, measured in units of Ldn or CNEL, are noticeable and that people respond. About 10 percent of the people exposed to traffic noise of 60 Ldn would report being highly annoyed with the noise, and each increase of one Ldn is associated with approximately two percent more people being highly annoyed. When traffic noise exceeds 60 Ldn or aircraft noise exceeds 55 Ldn, people begin complaining. Group and legal actions to stop the noise generally occur when traffic noise levels approach 70 Ldn and aircraft noise levels approach 65 Ldn.

GENERAL METHODS TO REDUCE NOISE IMPACTS

There are several basic techniques available to minimize the adverse effects of noise on sensitive noise receivers. Acoustical engineering principles suggest controlling the noise source whenever feasible and protecting the noise receptors when noise source control mechanisms have been pre-empted by State and Federal governments.

Noise producers within local jurisdictions include industrial processes, electrical substations, wastewater treatment facilities, transportation system locations, swimming pool/spa pump motors, air conditioning units, drive-through speakers, siren usage, and local government controlled or sanctioned activities (City vehicles, public works projects). Regulatory mechanisms available to control these noise sources include: City *Noise Ordinance*, the application of "conditions of approval" on new developments, land use policy and approval practices as outlined in the *General Plan*, and noise information in permit applications sources of stationary noise. In the event that source control mechanisms have been employed and noise impacts persist or are projected to occur, additional techniques should be considered. The following is a partial listing of noise control techniques:

- Acoustic Site Planning. Involves the careful arrangement of land uses, lots, and buildings to minimize intrusive noise levels. The placement of noise compatible land uses between the roadway and more sensitive uses is an effective planning technique. The use of buildings as noise barriers, and their orientation away from the source of noise, can shield sensitive activities, entrances, and common open space areas. Clustered and planned unit developments can maximize the amount of open space available for landscaped buffers next to heavily traveled roadways and thereby allow aesthetic residential lot setbacks in place of continuous noise barriers.

- Acoustic Architectural Design. Involves the incorporation of noise reduction strategies in the design and layout of individual structures. Building heights, room arrangements, window size and placement, balcony and courtyard design, and the provision of air conditioning all play an important role in shielding noise sensitive activities from intrusive sound levels.

- Acoustic Construction. Involves the treatment of various parts of a building to reduce interior noise levels. Acoustic wall design, doors, ceilings and floors, as well as dense building materials, the use of acoustic windows (i.e., double glazed, double paned, thick, non-opening, or small with air-tight seals), and the inclusion of maximum air spaces in attics and walls are all available options.

- Noise Barriers. Ideally, noise barriers incorporate the placement of berms, walls, or a combination of the two in conjunction with appropriate landscaping to create an aesthetically pleasing environment. Where space is available (clustered developments), a meandering earth berm is both effective and aesthetically pleasing. Where space is restricted, a wall is an effective treatment.

SOURCES OF NOISE

The major source of noise within the City is transportation-related, with vehicular traffic being the most significant source.

Mobile Sources

Freeways and Streets

The roadways within the City that generate the most traffic noise from vehicle and truck traffic include the major north-south trending I-15 and I-215 due to higher traffic volumes and vehicle speeds than other roadways. Major east-west arterials that generate significant noise include Jefferson Avenue, Washington Avenue, and Clinton Keith Road. Major north-south arterials generating traffic noise include Kalmia Street/California Oaks Road and Murrieta Hot Springs Road.

Aircraft

Noise exposure contours around airports are determined from the number and type of aircraft using the airport, the magnitude and duration of each fly over, flight paths, and the time of day when flights occur. The Airport Noise Standards contained in Title 4 of the *California Administrative Code* specify that airports shall not permit noise exposures of 65 CNEL or greater to extend into residential or school areas. The State Aeronautics Act specifies 65 dB CNEL as the criterion which airports must meet to protect existing residential communities from unacceptable exterior exposures to aircraft noise. The exterior maximum of 65 CNEL is given as the level deemed acceptable to a reasonable person residing in urban residential areas where houses are of typical California construction and may have windows partially open.

There are two primary sources of air traffic affecting noise levels within the City of Murrieta including the privately owned Bear Creek Airport within the City and the French Valley (Rancho California) Airport, located outside of the City's sphere of influence. Aircraft flyovers are heard occasionally in the City; however, the aircraft do not contribute a significant amount of noise heard in the City. The Riverside County Airport Land Use Commission has prepared a *Comprehensive Land Use Plan* for the French Valley Airport (*CLUP*), which experiences an average of 506 daily operations. The *CLUP* indicates that the 55 CNEL noise level contour to be located outside of City boundaries. The *CLUP* also designates portions of the City as being located within Compatibility Zones B1, C, D, and E, all of which require certain land use restrictions.

Railways

There are no railroads traversing the City; therefore, railroad noise does not currently present annoyance within the City. It should be noted that opportunities to pursue future light rail transit and high speed rail are planned for the future of the City, which would create a new source of mobile noise.

Stationary Sources

The most common sources of stationary noise within the City consist of construction activities, and commercial and industrial uses. Commercial and industrial land uses located near residential areas currently generate occasional noise impacts. Residential land uses and areas identified as noise-sensitive must be protected from excessive noise from stationary sources including commercial and industrial centers. These impacts are best controlled through effective land use planning and application of the City Noise Ordinance.

Construction

Construction noise is one of the most common stationary noise sources in the City. The use of pile drivers, drills, trucks, pavers, graders, and a variety of other equipment can result in short, sporadic elevated noise levels. Although construction noise impacts are generally short-term in nature, it can often disturb nearby sensitive uses.

Commercial

Commercial uses within the City are generally located along the I-15 and I-215 corridors, as well as other major roadways such as Jefferson Avenue, Madison Avenue, California Oaks Road, and Murrieta Hot Springs Road. The primary noise sources associated with these facilities are caused by delivery trucks, air compressors, generators, outdoor loudspeakers, and gas venting. Residential, institutional, and park uses are located adjacent to several commercial areas of the City. Commercial operations may cause annoyance to these nearby sensitive receptors.

Industrial

The primary noise sources associated with these facilities are caused by mechanical equipment, loading and unloading of vehicles and trucks, and amplified communication. Industrial noise is generally limited to the immediate source area and only impacts sensitive receptors if there is an incompatible mix of land uses in the vicinity of the industrial facility. Therefore, proper planning, zoning, and enforcement of the *Noise Ordinance* are important factors in limiting the amount of disturbance to sensitive receptors from industrial noise sources.

SENSITIVE RECEPTORS

Sensitive populations are more susceptible to the effects of noise and air pollution than are the general population. Land uses considered sensitive by the State of California include schools, playgrounds, athletic facilities, hospitals, rest homes, rehabilitation centers, long-term care and mental care facilities. Some jurisdictions also consider day care centers, single-family dwellings, mobile home parks, churches, and libraries to be sensitive to noise. Generally, a sensitive receptor is identified as a location where human populations (especially children, senior citizens, and sick persons) are present, and where there is a reasonable expectation of continuous human exposure to noise.

Land uses less sensitive to noise are business, commercial, and professional developments. Noise receptors categorized as being least sensitive to noise include industrial, manufacturing, utilities, agriculture, natural open space, undeveloped land, parking lots, motorcycle parks, rifle ranges, warehousing, liquid and solid waste facilities, salvage yards, and transit terminals. These types of land uses often generate high noise levels. Moderately sensitive land uses typically include: multi-family dwellings, hotels, motels, dormitories, and outpatient clinics. Current land uses located within the City of Murrieta that are sensitive to intrusive noise include residential

uses (particularly those in the vicinity of I-15 and I-215), schools, hospitals (particularly The Golden Triangle Medical Center and Sharp Hospital), churches, and parks.

Findings

- The most significant source of noise within the City is generated from mobile sources. In particular, freeway traffic (vehicles and trucks) and traffic on heavily traveled surface streets contribute the greatest amounts of mobile noise sources. Off-road transportation noise is also generated by aircraft traffic from one nearby airport; however, aircraft do not contribute a significant amount of noise heard in the City. Currently, there are no railway operations or associated noise sources within the City. However, opportunities to pursue future light rail transit and high speed rail are planned for the future of the City. As a result, these new sources of mobile noise would need to be considered in the *General Plan Update*.

- Stationary noise sources, including construction activities, and commercial and industrial uses also contribute to overall noise within the City. Land use incompatibility resulting in noise disturbance can be regulated through proper planning, zoning, and *Noise Ordinance* enforcement.

- Future population growth and development within the City will require careful planning and enforcement of zoning regulations, *General Plan Update* policies, and the *Noise Ordinance* to ensure land use compatibility with respect to noise and locations of sensitive receptors throughout the City.

Significance Thresholds

The following thresholds for determining the significance of impacts related to noise are taken from the environmental checklist form contained in Appendix G of the most recent update of the *California Environmental Quality Act (CEQA) Guidelines*, and will be used in the Environmental Impact Report. Impacts related to noise are considered significant if implementation of the General Plan would:

- Expose persons to or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;

- Expose persons to or generate excessive groundborne vibration or groundborne noise levels;

- Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project;

- Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project;

- For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, expose people residing or working in the project area to excessive noise levels, and/or

- For a project within the vicinity of a private airstrip, expose people residing or working in the project area to excessive noise levels.

Sources Cited

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6.2 Geologic and Seismic Hazards

Introduction

This section evaluates the existing geologic and seismic conditions within the City of Murrieta. Information in this section is based on the Safety Element of the City's existing 1994 General Plan, 1994 General Plan Environmental Impact Report, and the Seismic and Geologic Hazards Review General Plan Update, City of Murrieta, California technical report prepared by Leighton and Associates (2009).

Regulatory Context

FEDERAL SOIL AND WATER RESOURCES CONSERVATION ACT

The purpose of the Federal Soil and Water Resources Conservation Act (1977) is to protect or restore the functions of the soil on a permanent sustainable basis. Protection and restoration activities include prevention of harmful soil changes, rehabilitation of the soil of contaminated sites and of water contaminated by such sites, and precautions against negative soil impacts. If impacts are made on the soil, disruptions of its natural functions and of its function as an archive of natural and cultural history should be avoided, as far as practicable. The Secretary of Agriculture oversees the programs associated with the Act per Title 16 of the United States Code, Sections 2001 – 2009.

ALQUIST-PRIOLO EARTHQUAKE FAULT ZONING ACT

The Alquist-Priolo Earthquake Fault Zoning Act was passed in 1972 to mitigate the hazard of surface faulting to structures for human occupancy. This State law was a direct result of the 1971 San Fernando Earthquake, which was associated with extensive surface fault ruptures that damaged numerous homes, commercial buildings, and other structures. The Act's main purpose is to prevent the construction of buildings used for human occupancy on the surface trace of active faults. The Act only addresses the hazard of surface fault rupture and is not directed toward other earthquake hazards.

The Act requires the State Geologist to establish regulatory zones, known as "Earthquake Fault Zones," around the surface traces of active faults and to issue appropriate maps. Earthquake Fault Zones were called "Special Studies Zones" prior to January 1, 1994. Local agencies must regulate most development projects within these zones. Before a project can be permitted, cities and counties must require a geologic investigation to demonstrate that proposed buildings would not be constructed across active faults. An evaluation and written report of a specific area must be prepared by a licensed geologist. If an active fault is found, a structure for human occupancy cannot be placed over the trace of the fault and must be set back from the fault (typically 50 feet set backs are required).

Effective June 1, 1998, the Natural Hazards Disclosure Act requires that sellers of real property and their agents provide prospective buyers with a "Natural Hazard Disclosure Statement" when the property that is being sold lies within one or more State-mapped hazard areas, including Earthquake Fault Zones.

SEISMIC HAZARDS MAPPING ACT

The Seismic Hazards Mapping Act (S-H Act) of 1990 provides a statewide seismic hazard mapping and technical advisory program to assist cities and counties in fulfilling their responsibilities for protecting the public health and safety from the effects of strong ground shaking, liquefaction, landslides, or other ground failure, and other seismic hazards caused by earthquakes. Mapping and other information generated pursuant to the S-H Act is to be made available to local governments for planning and development purposes. The State requires: (1) local governments to incorporate site-specific geotechnical hazard investigations and associated hazard mitigation, as part of the local construction permit approval process; and (2) the agent for a property seller or the seller if acting without an agent, must disclose to any prospective buyer if the property is located within a Seismic Hazard Zone. The State Geologist is responsible for compiling seismic hazard zone maps. The S-H Act specifies that the lead agency of a project may withhold development permits until geologic or soils investigations are conducted for specific sites and mitigation measures are incorporated into plans to reduce hazards associated with seismicity and unstable soils.

UNIFORM BUILDING CODE

Development standards require projects to comply with appropriate seismic design criteria in the Uniform Building Code (UBC), adequate drainage facility design, and preconstruction soils and grading studies. Seismic design standards have been established to reduce many of the structural problems occurring because of major earthquakes. In 1998, the UBC was revised as follows.

- Upgrade the level of ground motion used in the seismic design of buildings;
- Add site amplification factors based on local soils conditions; and
- Improve the way ground motion is applied in detailed design.

CALIFORNIA BUILDING CODE

California building standards are published in the California Code of Regulations, Title 24, known as the California Building Code (2007 CBC). The CBC applies to all applications for residential building permits. The CBC consists of 11 parts that contain administrative regulations for the California Building Standards Commission and for all State agencies that implement or enforce building standards. Local agencies must ensure that development

complies with the guidelines contained in the CBC. Cities and counties have the ability to adopt additional building standards beyond the CBC.

CITY OF MURRIETA MUNICIPAL CODE

The "Building Code of the City of Murrieta" (Building Code) is codified in Title 15, Buildings and Construction, of the City's *Municipal Code*. The City's Building Code adopted the California Building Code, 2001 Edition. The purpose of the City's Building Code is to provide minimum standards to safeguard life or limb, health, property and public welfare by regulating the design, construction, quality of materials, use and occupancy, location and maintenance of buildings, equipment structures and grading within the City, the electrical, plumbing, heating, comfort cooling and certain other equipment specifically regulated herein; and the moving of buildings with, into, from and through the City of Murrieta.

MURRIETA GENERAL PLAN (1994) – SAFETY ELEMENT (UPDATED FEBRUARY 6, 2001)

The Safety Element of the City's existing 1994 General Plan enables the City to assess the potential risk of natural or man-made hazards and proposes procedures and design measures to reduce personal and property damages which may result from a disastrous event. The information contained within the Safety Element is also used to avoid or minimize exposure to potential hazards by providing data and policy input to support the land use decision making process.

MURRIETA EMERGENCY OPERATIONS PLAN[1]

The City of Murrieta Emergency Operations Plan (EOP) addresses the planned response to extraordinary emergency situations associated with natural disasters, national security emergencies, and technological incidents affecting the City of Murrieta. The EOP describes the operations of the City of Murrieta Emergency Operations Center (EOC), which is the central management entity responsible for directing and coordinating the various City departments and other agencies in their emergency response activities. The EOC centralizes the collection and dissemination of information about the emergency and makes policy-level decision about response priorities and the allocation of resources. As part of the City's Emergency Management Program, the EOC Manager (Fire Division Chief) is responsible for ensuring the readiness of the EOC.

[1] *Murrieta Emergency Operations Plan, Part 1: Basic Plan*, and *City of Murrieta Emergency Operations Plan, Part 2: Supporting Documents*, City of Murrieta, June 2008.

The City of Murrieta has developed a set of quick response references (checklist) for the Murrieta EOC. The set checklist is located in Part Two of the City's *Emergency Operation Plan*. The checklist enumerates issues that are related to earthquake disasters and emergencies.

RIVERSIDE COUNTY MULTI-JURISDICTIONAL LOCAL HAZARD MITIGATION PLAN[2]

Table 6.6-2, Riverside County Local Jurisdiction Hazard Assessment Worksheet of Section 6.6, Emergency Response, provides a detailed identification and analysis of the hazards faced by Riverside County and the City of Murrieta according to the *Riverside County Multi-Jurisdictional Local Hazard Mitigation Plan* (LHMP). Table 6.6-2 assigns each hazard a severity rating, indicating the amount of damage that would be done to the County and the City and its population should the hazard occur. Table 6.6-2 also assigns a probability rating, indicating the likelihood that the hazard may occur within the County and City. Both ratings are on a scale of 0-4, with 4 being the most severe or the most likely to occur. Within the County, earthquakes are assigned a severity rating of 4 and a probability rating of 3. Within the City, earthquakes are assigned a severity rating of 4 and a probability rating of 3.

Existing Conditions

For purposes of this section, and to remain consistent with the Seismic and Geologic Hazards Review General Plan Update, City of Murrieta, California technical report prepared by Leighton and Associates (2009), the future development resulting from the proposed General Plan Update will be divided in three specific study areas or corridors, which have the potential to attract businesses and promote diversified job creation for City residents. These corridors will be referred to as Areas 1 through 3 and may be generally described as follows:[3]

- Area 1 – Southwest Murrieta/Jefferson Business Corridor: The major retail and light industrial agglomeration within Murrieta and located generally west of the Golden Triangle along the west side of Interstate 15 (I-15), south of Kalmia Street and north of the City's southern boundary.

- Area 2 – Golden Triangle: Located north of the intersection of I-15 and Interstate 215 (I-215) and south of Los Alamos Road.

- Area 3 – Northeast I-215 and Clinton Keith Road: The northeastern quadrant of the City located along the east side of I-215 and north of Clinton Keith Road where relatively most vacant land currently exists.

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2 Ibid.

3 *Seismic and Geologic Hazards Review General Plan Update, City of Murrieta, California* technical report, Leighton and Associates, December 2009.

REGIONAL SETTINGS[4]

The City of Murrieta is located within the northern portion of the Peninsular Range geomorphic province which is characterized by steep, elongated valleys and ranges that generally trend northwestward from the tip of Baja California to the Los Angeles Basin. The City is regionally located at the base of the Santa Ana Mountains and the Santa Rosa Plateau, the Santa Margarita and Agua Tibia ranges are located approximately 12 to 14 miles to the south, and the San Jacinto ranges lie approximately 35 miles to the east. More specifically, Murrieta is situated within two structural blocks or subdivision of the Peninsular Range province. The western foothill boundary of the City is within the Santa Ana Mountains block and the east portion is within the Perris block. The provinces are separated by the active Elsinore fault zone, which forms a complex pull-apart basin (locally referred to as the Temecula Valley) that is filled with sedimentary deposits. The relatively stable Santa Ana Mountains and Perris Block are underlain by pre-Cretaceous aged metasedimentary rocks and Cretaceous aged plutonic rocks of the southern California batholith. Tertiary-aged sediments, volcanics, and Quaternary-aged sediments flank the Santa Ana mountain range to the west, elevated portions of the valley floor, and within the western flanks and localized valleys of the Perris Block. The Quaternary sediments include the "Unnamed" Sandstone, Pauba Fanglomerate, Pauba Sandstone, and younger alluvial sediments.

AREA GEOLOGY[5]

The City is underlain by several surficial deposits and/or bedrock units based on published geologic maps; refer to *Exhibit 6.2-1*, *Regional Geology Map*. The surficial deposits and bedrock units that are most likely to be encountered during future developments are described below:

- Artificial Fill (not a mapped unit): Artificial fills are generally referred to as undocumented fills or engineered (documented) fills. Undocumented fills are typically those fills that were placed without the review and testing of a geotechnical consultant. Engineered fills are those fills that were observed and tested by a geotechnical consultant. Most artificial fills within the City are expected to be engineered and placed during construction of existing public roads and private developments. The engineering characteristics and vertical or horizontal extent of these fills are site-specific.

- Colluvial Deposits (not a mapped unit): Colluvium is the name for sediments that have been built up or deposited at the bottom of a low-grade slope or against a barrier on that slope, transported by gravity. As such, these deposits generally consist of silty sand and sandy gravel with abundant angular and sub-angular fragments of the underlying bedrock units.

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4 Ibid.
5 Ibid.

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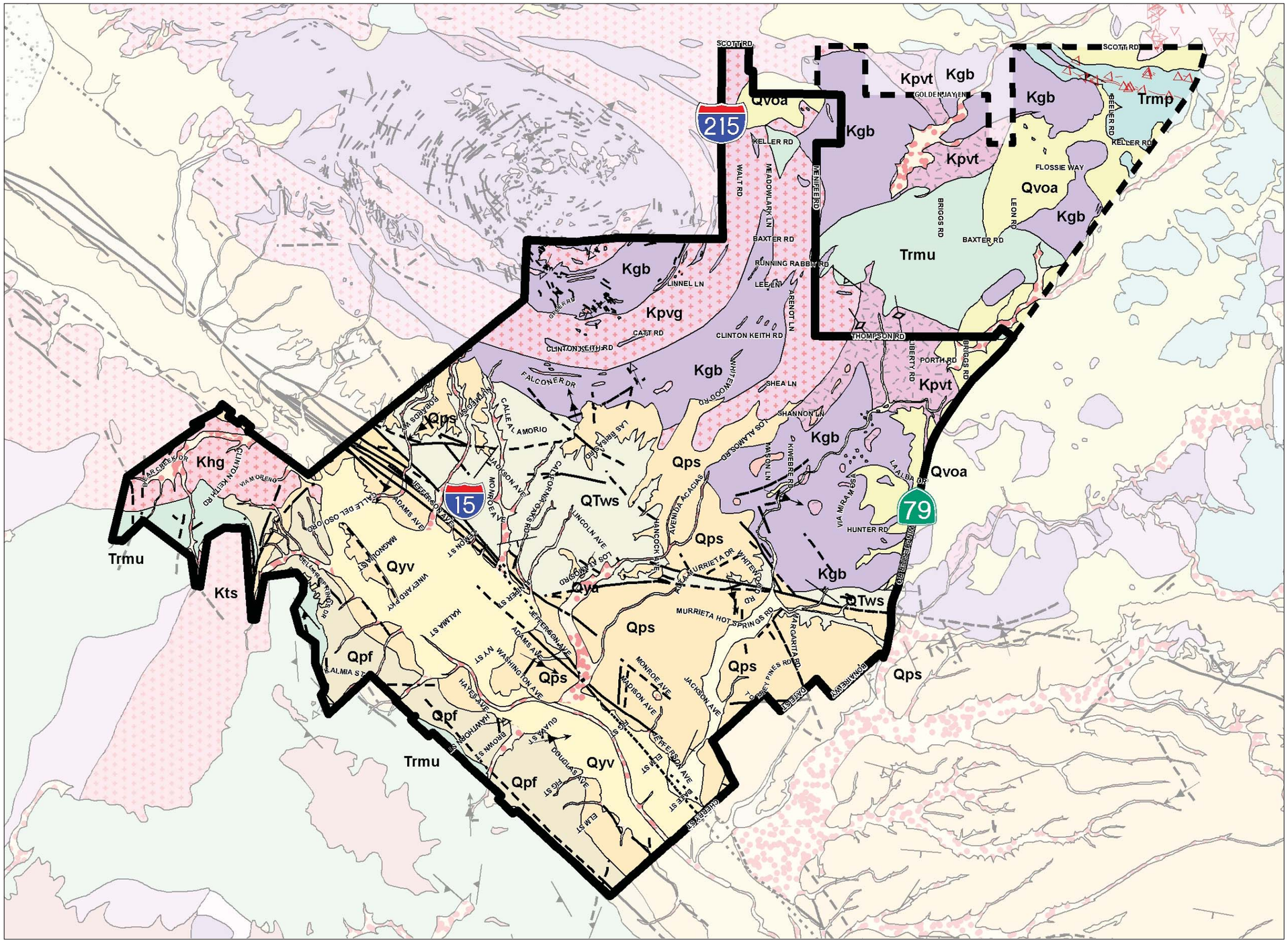
Qva
Qyv
Qpf
Qps
QTws
Kgb
Kpvg
Kpvt
Trmp
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215
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SCOTT RD
KELLER RD
WALT RD
MEADOWLARK LN
MENIFEE RD
BAXTER RD
RUNNING RABBIT RD
LEE LN
ARENOT LN
LINNEL LN
CATT RD
CLINTON KEITH RD
FALCONER DR
SHEA LN
SHANNON LN
THOMPSON RD
GOLDENRAY LN
FLOSSIE WAY
BEELER RD
BRIGGS RD
LEON RD
LIBERTY RD
PORTH RD
LA ALBA DR
HUNTER RD
VIA MIRAMONTE
KIWEBRE RD
MASON LN
LOS ALAMOS RD
AVENIDA ACACIAS
HANCOCK ST
MURRIETA DR
WHITEWOOD RD
MURRIETA HOT SPRINGS RD
MARGARITA RD
TOWN CENTER DR
CALLE AMORIO
LINCOLN AVE
MONROE AVE
JEFFERSON AVE
ADAMS AVE
WASHINGTON AVE
JACKSON AVE
MADISON AVE
HAYES AVE
GUAVA ST
DOUGLAS AVE
FIG ST
ELM ST
ALMIA ST
VINEYARD PKY
KALMIA ST
MAGNOLIA ST
CALLE DEL OSO ORO
VIA MORENO
CLINTON KEITH RD
WARCREEK DR
ROBINSON AVE
CALIFORNIA OAKS RD
LOS ALAMOS RD
LOS BRISAS RD
ROBINSON AVE
MONROE AVE
JEFFERSON AVE
ADAMS AVE
WASHINGTON AVE
HAYES AVE
MAGNOLIA ST
BROWN ST

Back of 11 x 17 exhibit page

- Young Axial-Channel Deposits (map symbol Qya): These alluvial deposits (late Holocene) are generally found in active stream beds, channels or flood plains and consist of unconsolidated to locally poorly consolidated sand and gravel with small amounts of silt.

- Young Alluvial-Valley Deposits (may symbol Qyv): These alluvial flood plain deposits (Pleistocene, younger than 500,000 years) are generally found along the main Murrieta Creek channel and expected to exceed 100 feet in depth. These deposits are found throughout the main channel areas of Area 1 (Southwest Murrieta/Jefferson Business Corridor: the major retail and light industrial agglomeration within Murrieta and located generally west of the Golden Triangle along the west side of Interstate I-15, south of Kalmia Street and north of the City's southern boundary).

- Pauba-sandstone (map symbol Qps): The Pauba-sandstone formation (Pleistocene) is moderately well-indurated, extensively crossbedded, channeled and filled sandstone and siltstone that contains local intervening cobble-and-boulder conglomerate beds. The formation is generally found in the southern half of the City including portions of Area 1 and most of Area 2 (Golden Triangle: north of the intersection of I-15 and I-215 and south of Los Alamos Road).

- Pauba-fanglomerate (map symbol Qpf): The Pauba-fanglomerate member (Pleistocene) is well indurated, poorly sorted fanglomerate and mudstone and generally found along the east flank of the Santa Ana Mountains (west of Murrieta).

- Basalt of the Hogbacks (not mapped): The locally named Hogbacks are an elevated hilltop located in the eastern portion of the City. Capping this unique feature is a remnant channel filled with basalt (Tertiary-age).

- Monzogranite to Granodiorite Bedrock (may symbol Kpvg): The Cretaceous-age formation locally known as the Paloma Valley Ring Complex constitutes portion of the hills along the northern part of the City and underlies the older alluvium in Area 3 (Northeast I-215 and Clinton Keith Road: the northeastern quadrant of the City located along the east side of Interstate 215 and north of Clinton Keith Road where relatively most vacant land currently exists).

- Gabbro Bedrock (map symbol Kgb): The Cretaceous-age formation also constitutes portions of the hills along the northern part of the City and underlies the older alluvium in Area 3.

- Metasedimentary Rock (map symbol Mzu): The Mesozoic-aged metamorphic grade sedimentary rock unit exits in the northeastern quadrant of the City and also constitutes most of the Santa Ana plateau to the west of the City. The bedrock unit consists of laminated to thinly bedded metasilstone, claystone, and shale.

GEOLOGIC HAZARDS

The potential extent and severity of any non-earthquake related geologic hazard varies throughout the General Plan Study Area depending upon the underlying geology, topography, groundwater conditions, and soil type. The most common geologic hazards that may be encountered within the City are expansive soils, collapse soils, loading settlement, subsidence, and hazardous minerals/radon.[6]

Expansive Soils[7]

Expansive soils are surface deposits rich in clays that expand when wet and shrink when dried. The change in volume can exert detrimental stresses on buildings and cause structural damage. Expansive soils can be widely dispersed and can be found in hillside areas as well as low-lying alluvial basins. There have been reported cases of expansive clay layers within the Pauba formation and Alluvial-Valley deposits.

Site-specific reports typically identify the extent of the expansive soils and provide mitigation measures to reduce their impact on the proposed improvements. Such measures may include structural mitigation or ground improvement. The California Building Code contains minimum requirements for construction on expansive soils.

Collapse Soils[8]

The collapse soils process, or hydro-consolidation, typically occurs in recently deposited soils (Holocene age – less than 10,000 years old) that were deposited in an arid or semi-arid environment. These soils typically contain a high percentage of voids and possess low relative density. The soil particles may be partially supported by clay or silt, or chemically cemented with carbonates. When inundated by water, the soils collapse and substantial settlement occurs.

Damage to structures and ground cracking due to hydro-consolidation (collapse) of recent alluvial deposits has occurred in the California Oaks area of Murrieta. Documented collapsible soils in the California Oaks area were documented to be the most severe and resulted in significant property damage. It was determined that the alluvium was left in place during rough grading, and later collapsed when ground water levels rose due to rise in groundwater or irrigation.

Site-specific geotechnical reports should identify the potential presence of such soils based on laboratory testing and provide mitigation measures to reduce their impact on the proposed

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6 *Seismic and Geologic Hazards Review General Plan Update, City of Murrieta, California* technical report, Leighton and Associates, December 2009.

7 Ibid.

8 Ibid.

improvements. Such measures typically include compacting and removing of the collapsible soils.

Loading Settlement[9]

Loading settlement can be immediate or occur gradually over a long period of time. Immediate settlement is normally associated with loose granular soils when subjected to loads. Long-term or consolidations settlement normally takes place in soft saturated silts and clays. These soils are generally found in young alluvium or loosely deposited materials.

Site-specific reports typically identify the potential presence of these materials based on vigorous laboratory testing and provide mitigation measures to reduce their impact on the proposed improvements. Such mitigation typically includes removing and recompacting the loose or soft soils, surcharging the planned developed or structural mitigation. Structural mitigation may include deep foundation such as piles embedded into underlying dense formation.

Subsidence[10]

Subsidence is the ground settlement that results over time from the extraction of oil or groundwater. This process usually extends over a large area and occurs on a gradual basis so the settlement effects on a single site, relative to its immediate neighbors, may be negligible as the neighboring properties are also subsiding. However, ground fissuring due to subsidence can cause structural damage and should be evaluated by the site specific geotechnical report. Although there are no reports of significant subsidence due to groundwater withdrawal in the City, alluvial valley areas are considered susceptible; refer to *Exhibit 6.2-2*, *Subsidence Susceptibility Map*.

Hazardous Minerals/Radon[11]

Naturally occurring geologic formations throughout California may contain minerals that are considered hazardous. Hazardous minerals include asbestos, mercury and rocks that contain small amounts of uranium and thorium that decay and release radioactive radon gas. Radon gas is a naturally occurring radioactive gas that is tasteless, odorless, and invisible. Radon gas becomes hazardous when confined in buildings and the long term exposure levels in the air exceed the United States Environmental Protection Agency's (EPA) concentration of 4 picocuries per liter (4pCi/L). Per the California Department of Public Health Services website, rocks containing the minerals that release radon gas exist in the Murrieta area.

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9 *Seismic and Geologic Hazards Review General Plan Update, City of Murrieta, California* technical report, Leighton and Associates, December 2009.

10 Ibid.

11 Ibid.

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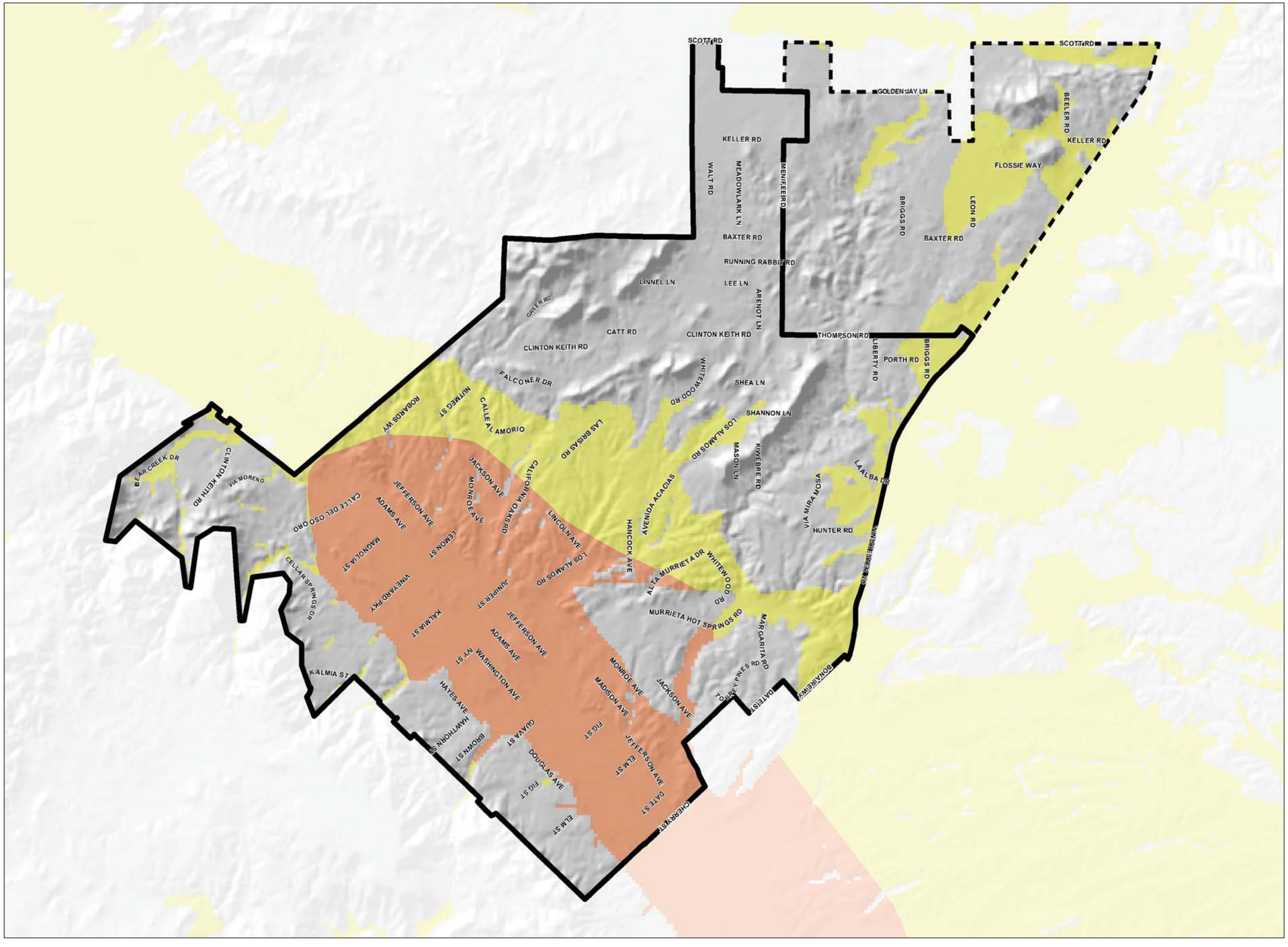

LEGEND

Subsidence Susceptibility

- Active
- Susceptible

- Murrieta City Boundary
- Murrieta City Sphere of Influence

0 0.5 1
Miles

Source: Riverside County, 2007, Subsidence Data.

Subsidence Susceptibility Map

Exhibit 6.2-2

Back of 11 x 17 exhibit page

SEISMICITY AND FAULTING[12]

The City of Murrieta, like the rest of southern California, is located within a seismically active region as a result of being located near the active margin between the North American and Pacific tectonic plates. The most significant known active fault zones that are capable of seismic ground shaking and can impact the City are the Elsinore Fault Zone, San Jacinto Fault Zone, Newport-Inglewood Fault Zone, and the San Andreas Fault Zone.

Elsinore Fault Zone: The Elsinore Fault Zone, which includes the local Elsinore-Temecula fault, passes through the City to the west of Interstate I-15; refer to *Exhibit 6.2-3*, *Alquist-Priolo Earthquake Fault Zone Map* and *Exhibit 6.2-4*, *Riverside County Fault Hazard Map*. The Elsinore-Temecula Fault Zone is capable of generating a Maximum Earthquake Magnitude (Mw) of 6.8 per the Richter scale.

San Jacinto Fault Zone: The San Jacinto Fault Zone is located approximately 21 miles northeast of the City and is capable of generating earthquakes in excess of 7.2 Mw.

Newport-Inglewood Fault Zone (offshore): The Newport-Inglewood Fault Zone is located approximately 28 miles southwest of the City and is capable of generating earthquakes in excess of 6.9 Mw.

San Andreas Fault Zone (southern section): The San Andreas Fault Zone is located approximately 38 miles northeast of the City and is considered the dominant active fault in California. This fault zone is capable of generating earthquakes in excess of 7.4 Mw.

The State Geologist designates seismic hazard zones and the State issues earthquake fault zone maps to assist cities and counties in avoiding the hazard of surface fault rupture. The State identified two Alquist-Priolo Earthquake Fault Zones within Murrieta. The Temecula Segment of the Elsinore Fault Zone traverses the City and the Murrieta Creek Fault is located at the extreme southwest corner of the City; refer to *Exhibit 6.2.3*. The earthquake fault zones extend approximately 500 feet in width on either side of a major active fault trace and approximately 200 to 300 feet in width on either side of a well defined minor active fault, as designated by the State. Development of a building designated for human occupancy is generally restricted within 50 feet of an identified fault.

In addition to the State Alquist-Priolo Hazards Act mapping, the County of Riverside has zoned fault systems and required similar special studies prior to land development. These are referred to as County Earthquake Fault Zones; refer to *Exhibit 6.2-4*.

[12] Ibid.

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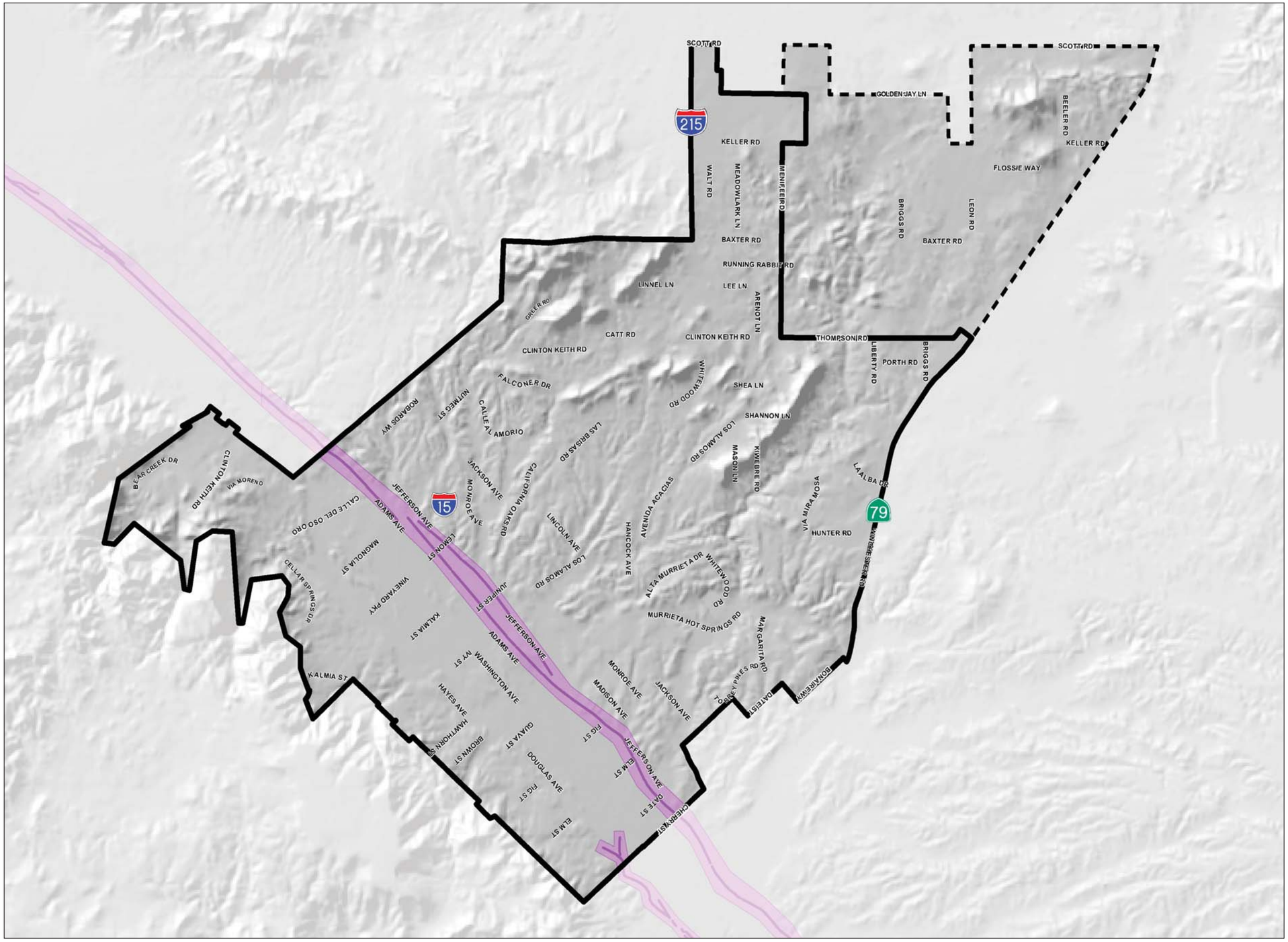

LEGEND

- Alquist-Priolo Earthquake Faults
- Alquist-Priolo Earthquake Fault Zones
- Murrieta City Boundary
- Murrieta City Sphere of Influence

0 0.5 1
Miles

Source: CGS, 2002, State of California Alquist Priolo Fault Zones and Faults, Digital Files.

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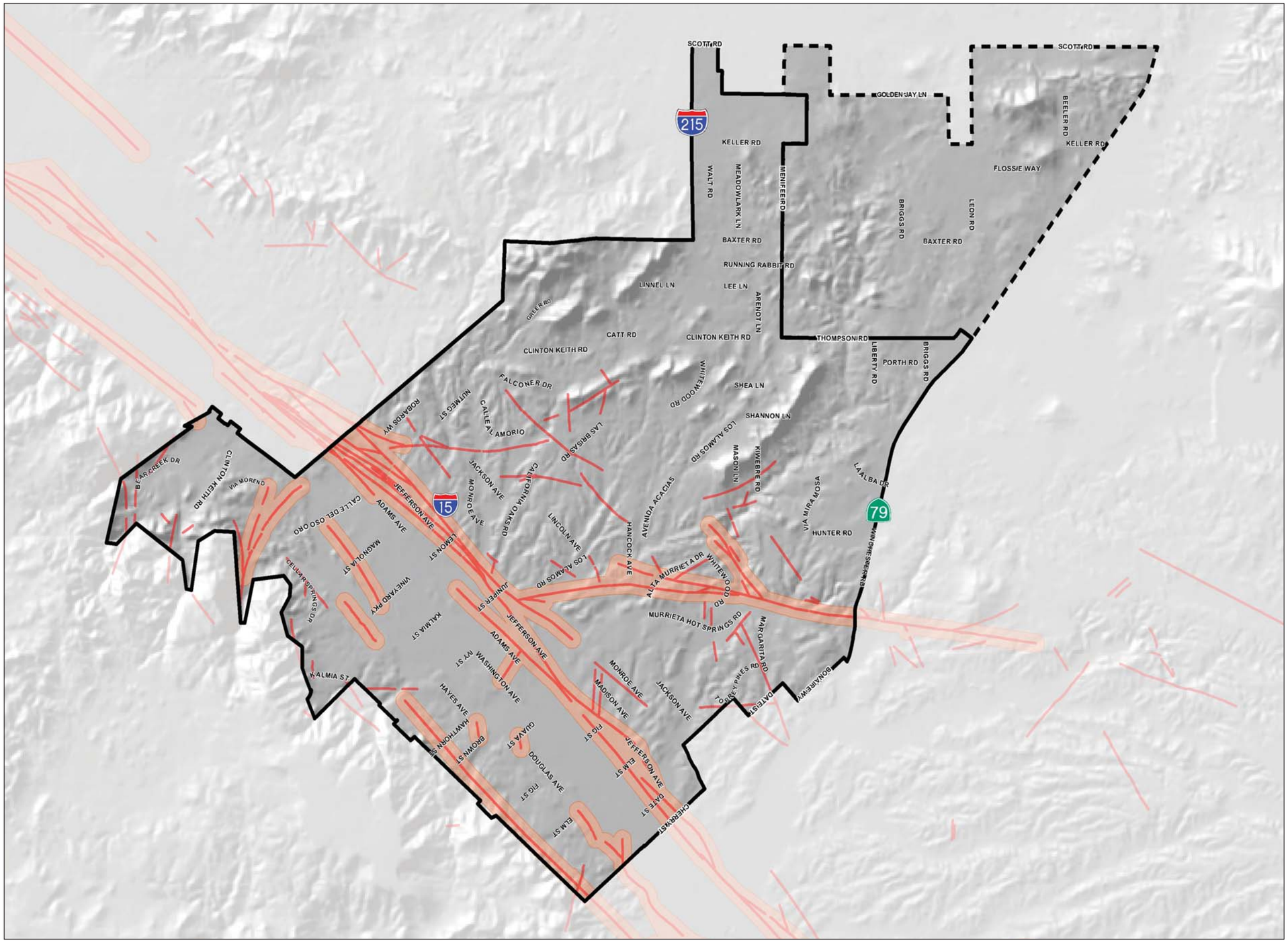
Alquist-Priolo Earthquake Fault Zone Map

Exhibit 6.2-3

Back of 11 x 17 exhibit page



LEGEND

- Riverside County Earthquake Faults
- Riverside County Earthquake Fault Zones
- Murrieta City Boundary
- Murrieta City Sphere of Influence

0 0.5 1
Miles

Source: Riverside County Earthquake Fault Zones and Faults, Digital Files.

01/10 • JN 10-106976

Riverside County Fault Hazard Map

Exhibit 6.2-4

Back of 11 x 17 exhibit page

Fault Rupture[13]

Faults throughout southern California have formed over millions of years. Some of these faults are generally considered inactive under the present geologic conditions. As mentioned above, several State and County fault systems are mapped within the City boundaries and any proposed tracts of four or more dwelling units or critical structures including hospitals, emergency structures, or schools must investigate the potential for and setback from ground rupture hazards. Typically, this is accomplished by excavation of a trench across the site, determining the location of faulting and establishing building setbacks.

In accordance with the Alquist-Priolo Earthquake Fault Zone Act, before a project can be permitted within a fault zone, a geologic investigation must demonstrate that proposed buildings will not be constructed across an Alquist-Priolo Earthquake Fault Zone or County Fault Zones, or within 150 feet of any other active or potentially active fault. A site-specific evaluation and written report must be prepared by a California licensed geologist. If an active fault is discovered, a structure designated for human occupancy must be setback 50 feet from the fault unless adequate evidence is presented to support a different setback.

Ground Shaking[14]

The intensity of earthquake ground shaking varies from one area to another depending primarily upon the distance to the fault, magnitude of the earthquake, and the local geology. The effect of seismic shaking on future structures and land development projects within the City may be mitigated by adhering to the 2007 California Building Code (CBC) or applicable codes and standards at the time. Site-specific peak and spectral accelerations are to be developed in accordance with Chapter 21 of the 2007 CBS, and the guidelines included in American Society of Civil Engineers Standard 7-05. Typical seismic design values per the 2007 CBC, Chapter 16, for study areas 1 through 3 are provided below. The CBC regulates the design and construction of foundations, building frames, retaining walls, excavations, and other building elements to mitigate the effects of seismic shaking and adverse soil conditions. The procedures and limitations for the design of structures are based on site characteristics, occupancy type, structural system, height, configuration, and seismic zoning.

Secondary Seismic Hazards[15]

Ground shaking can induce secondary seismic hazards such as liquefaction, lateral spreading, subsidence, ground fissuring, and landslides.

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13 *Seismic and Geologic Hazards Review General Plan Update, City of Murrieta, California* technical report, Leighton and Associates, December 2009.

14 *Seismic and Geologic Hazards Review General Plan Update, City of Murrieta, California* technical report, Leighton and Associates, December 2009.

15 Ibid.

Dynamic Settlement/Liquefaction[16]

Liquefaction of saturated cohesionless soils can be caused by strong ground motion resulting from earthquakes. Soil liquefaction is a process in which saturated, cohesionless soils lose their strength due to the build-up of excess pore water pressure during cyclic loading such as that induced by earthquakes. The primary factors affecting the liquefaction potential of deposit are: 1) intensity and duration of earthquake shaking; 2) soil type and relative density; 3) overburden pressures; and 4) depth to groundwater. Soils most susceptible to liquefaction are clean, loose, uniformly graded, fine-grained sands, and non-plastic silts that are saturated. Silty sands, under specific site conditions, may also be susceptible to liquefaction. A majority of the alluvial deposits along the Murrieta Creek lie within a liquefaction hazard zone per County of Riverside; refer to *Exhibit 6.2-5*, *Liquefaction Susceptibility Map*. Most of these alluvial soils are also considered susceptible to liquefaction per State Seismic Hazard Zones; refer to *Exhibit 6.2-6*, *State Seismic Hazard Zones*.

Future development within these areas requires a site-specific evaluation for liquefaction hazard. In addition to liquefaction settlement, dynamic densification of dry or moist soil above the water table can occur. The site-specific evaluation for future development should also include evaluation for settlement associated with dynamic densification of dry soils. To reduce the effects and magnitude of seismically-induced dynamic settlements, remedial grading measures or ground improvement techniques are normally implemented.

Lateral Spreading[17]

The process of liquefaction may also produce lateral spreading of soils adjacent to a body of water or water course (Murrieta Creek and Warm Springs Creek). Lateral spreading is therefore considered a liquefaction-induced ground failure whereby block(s) of surficial intact natural or artificial fill soils displace downslope or towards a free face along a shear zone that has formed within the liquefied sediment. The displacement of the ground surface associated with the lateral spreading may be on the order of several inches to several feet at the top of the slope and may affect areas well beyond the top of slope. Developments located further from the creeks or drainage courses are anticipated to be at less risk from lateral spreading than those adjacent to the creek embankment. Detailed analyses of lateral spreading affects to properties adjacent to creeks and drainages should be performed by the geotechnical consultant on a site-by-site basis.

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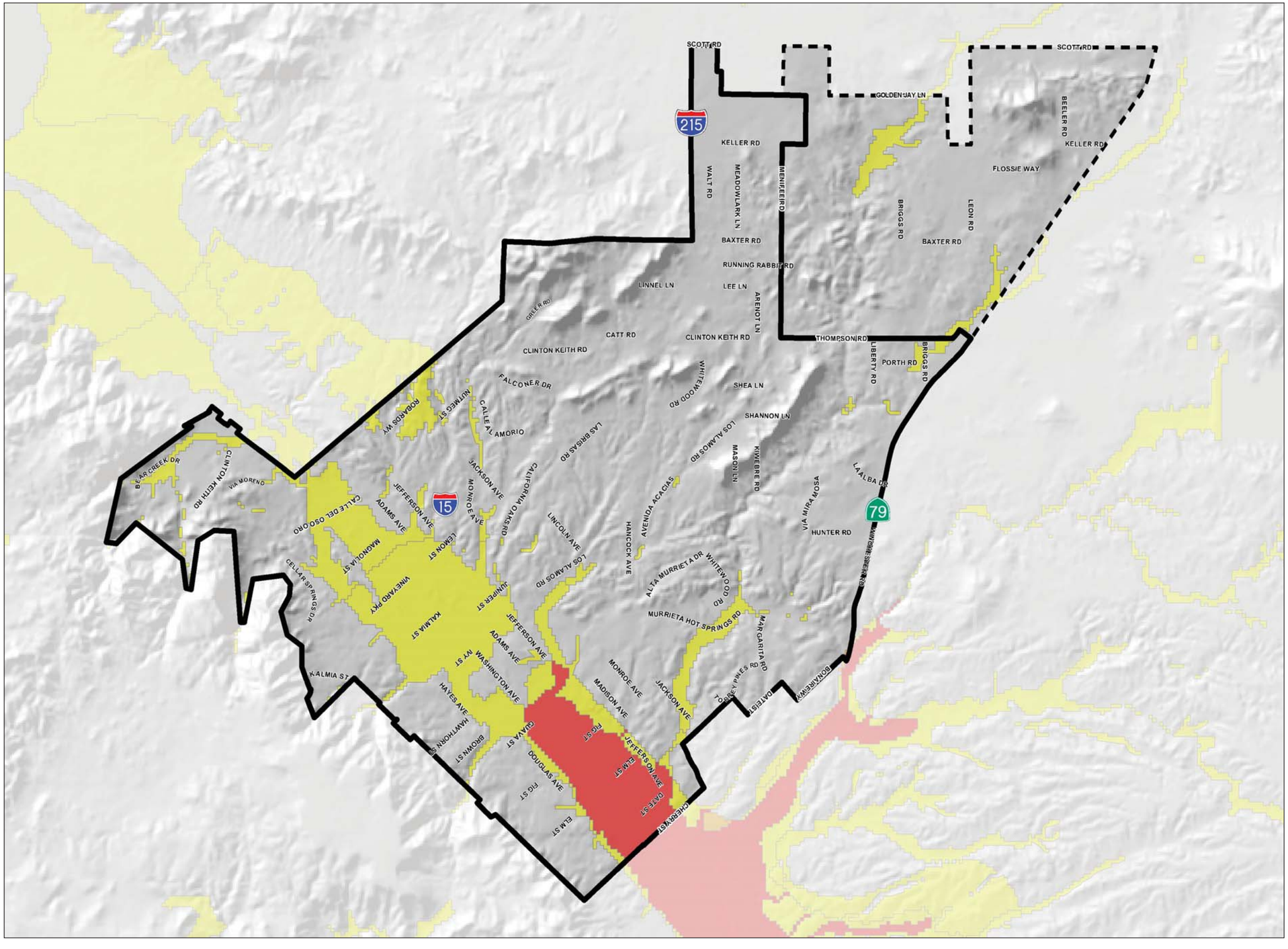
16 Ibid.

17 *Seismic and Geologic Hazards Review General Plan Update, City of Murrieta, California* technical report, Leighton and Associates, December 2009.



LEGEND

Liquefaction Susceptability

- Very High
- High
- Moderate

- Murrieta City Boundary
- Murrieta City Sphere of Influence

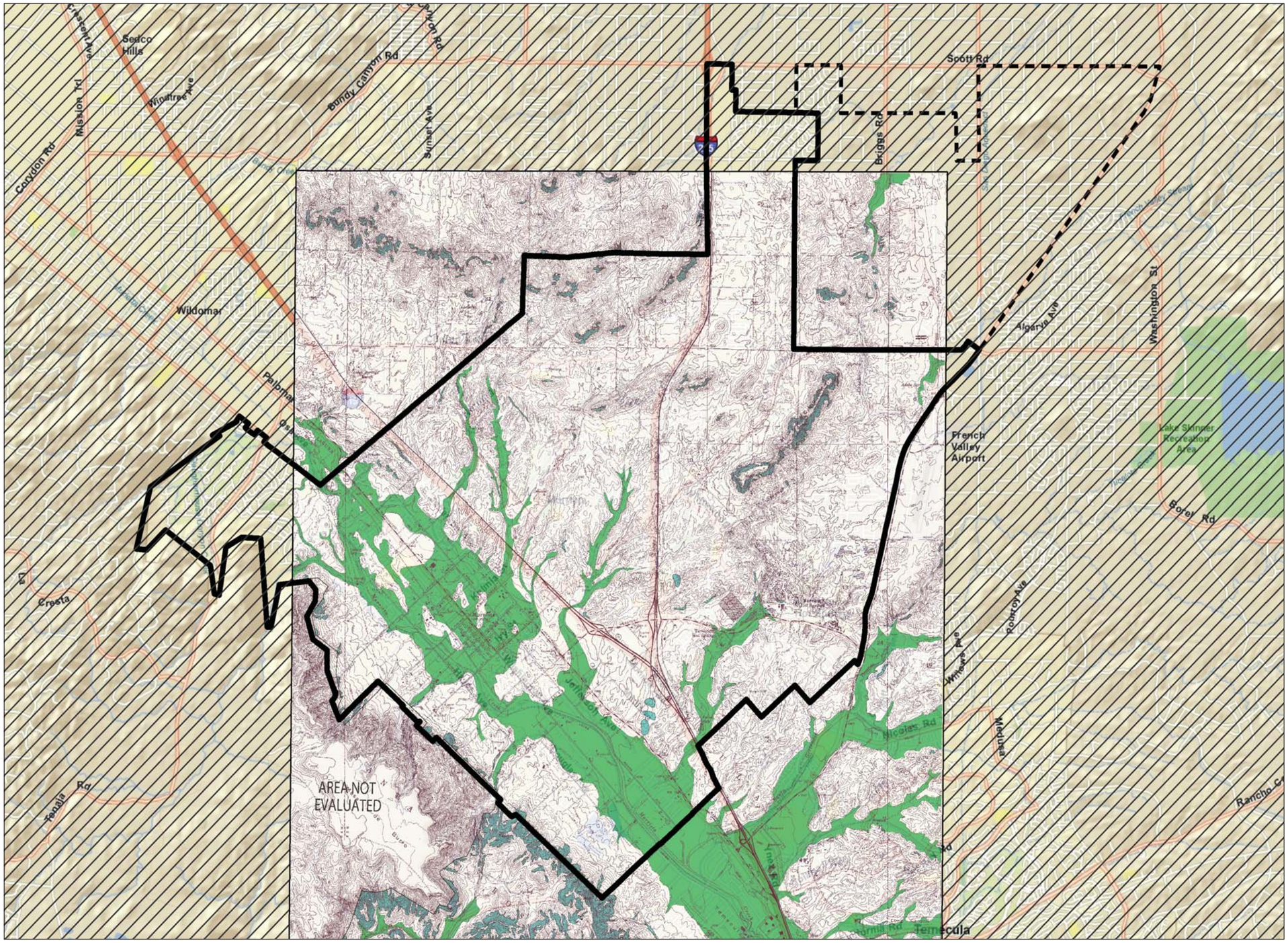
0 0.5 1
Miles

Source: Riverside County, 2006, Liquefaction Susceptibility Data, Digital Files.

Liquefaction Suceptibility Map

Exhibit 6.2-5

Back of 11 x 17 exhibit page



LEGEND

- Murrieta City Sphere of Influence
- Murrieta City Boundary

Area with

- Liquefaction Potential
- Earthquake Induced Landslide
- CGS Data Not Available

0 0.5 1
Miles

Source: Basemap - ESRI Resource Center Maps, January 2010. Thematic Layer Source - Digital Scan of CGS Seismic Hazard Zones Map, Murrieta Quandrangle, December 5, 2007.

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State Seismic Hazard Zones Map

Exhibit 6.2-6

Back of 11 x 17 exhibit page

Differential Subsidence and Ground Fissuring[18]

Ground fissuring typically develops along previous established planes of weakness such as possibly potentially active and active fault traces as well as along steep buried contacts between bedrock to recent alluvial soils. The active Elsinore-Temecula and the Murrieta Creek Fault may develop fissuring along the fault trace during a significant seismic event or groundwater elevation change. As such, there is a low to high potential for ground fissuring and associated differential subsidence along the active fault zones. If commercial water wells are installed within or near the subsidence zone, the potential for ground fissuring and differential settlement could be substantially increased.

Seiches and Tsunamis[19]

Due to the great distance to large bodies of water, the possibility of seiches and tsunamis impacting the City is considered remote. The nearest large body of water is Lake Elsinore, located approximately 6 ¼ miles northwest.

Flooding[20]

Portions of the City lie within the boundaries of the FEMA 100-year flood plain; refer to Section 6.3, Flood Hazards. Potential flood hazard should be evaluated on a case-by-case basis during individual site developments.

Landslides[21]

The potential for earthquake related landsliding within the City limits is based on known conditions and published geologic maps. Several old landslides have been mapped in areas along the Santa Ana Mountains eastern slopes and the hills along the northern side of the City. The State Seismic Hazard Zones provides locations of previous known landsliding or where local conditions indicate a potential for ground displacements; refer to *Exhibit 6.2-6*. Site-specific geologic review should be performed to determine whether the potential for landsliding or slope instability exists and whether buttressing or other slope stabilization methods are required.

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18 Ibid.
19 Ibid.
20 Ibid.
21 Ibid.

Rock Fall Hazards[22]

The potential for rock fall due to natural weathering and instability or rock falls due to a seismic event are possible in areas of the City. The hazard areas are limited to those properties at the base of hill sides where rocks and boulders exist. Site-specific geologic review should be performed to evaluate such hazard and provide appropriate corrective measures.

Goals, Objectives, and Policies

The following goals, objectives, and policies from the *City of Murrieta General Plan*, dated June 21, 1994, *Safety Element*, updated February 6, 2001, shall be applied to all projects within the General Plan Study Area:

GOAL S-1: GEOLOGY AND SOILS

Protect health and safety and minimize injury, loss of life, property damage, excessive maintenance, and social and economic impacts caused by geologic hazards.

Objective S-1.1: Reduce exposure to potentially hazardous geological conditions through the development review process and by maintaining comprehensive records of all geologic hazards.

Policy S-1.1a: Consider formation of "geologic hazard abatement districts" as authorized by Public Resources Code Section 2600 et seq., where existing or proposed development is threatened by geologic hazards and where feasible prevention, mitigation, abatement or control of such hazards is feasible.

Policy S-1.1b: In planning new arterial roadways, fault zones should be avoided. If new construction is necessary, special engineering practices and roadway design should be employed to reduce damage under seismic conditions and provide emergency access. New roadways should not cross fault zones unnecessarily.

Policy S-1.1c: All development within the Alquist-Priolo Earthquake Fault Zoning Act shall be subject to the restrictions and requirements of the Act.

Policy S-1.1d: Collect and maintain current information on geologic hazards and update city-wide mapping of geologic hazards on a continual basis.

[22] *Seismic and Geologic Hazards Review General Plan Update, City of Murrieta, California* technical report, Leighton and Associates, December 2009.

Policy S-1.1e: Prior to site development, projects located in areas where liquefaction, subsidence, landslide and fissuring are considered hazards shall be required to prepare geologic reports addressing site conditions, potential risk, and mitigation, to the satisfaction of the City Engineer.

Policy S-1.1f: Require new projects to be designed and developed in accordance with recommendations set forth in any required geologic reports by conditioning projects, evaluating construction plans, and conducting field inspections.

Policy S-1.1g: Require all grading and construction plans to clearly indicate required mitigation measures.

Policy S-1.1h: Lower the intensity of development as the steepness of terrain increases in order to minimize grading and prevent creation of land instability. Development of steep slopes (exceeding 25 percent steepness) will be regulated through the Hillside Development Ordinance. Proposed extensions of urban or suburban land uses into areas characterized by slopes over 25 percent and other generally unstable land with over 15 percent slopes shall be evaluated with regard to safety hazard prior to the issuance of any discretionary approvals.

Findings

- The City is underlain by several surficial deposits and/or bedrock units based on published geologic maps.
- Damage to structures and ground cracking due to hydro-consolidation (collapse) of recent alluvial deposits has occurred in the California Oaks area of Murrieta. Documented collapsible soils in the California Oaks area were documented to be the most severe and resulted in significant property damage.
- There are no reports of significant subsidence due to groundwater withdrawal in the City. However, alluvial valley areas are considered susceptible.
- The City of Murrieta, like the rest of southern California, is located within a seismically active region as a result of being located near the active margin between the North American and Pacific tectonic plates.

- The most significant known active fault zones that are capable of seismic ground shaking and can impact the City are the Elsinore Fault Zone, San Jacinto Fault Zone, Newport-Inglewood Fault Zone, and the San Andreas Fault Zone.

- The State identified two Alquist-Priolo Earthquake Fault Zones within Murrieta. The Temecula Segment of the Elsinore Fault Zone traverses the City and the Murrieta Creek Fault is located at the extreme southwest corner of the City.

- A majority of the alluvial deposits along the Murrieta Creek lie within a liquefaction hazard zone per County of Riverside.

- The process of liquefaction may also produce lateral spreading of soils adjacent to a body of water or water course (Murrieta Creek and Warm Springs Creek).

- The active Elsinore-Temecula and the Murrieta Creek Fault may develop fissuring along the fault trace during a significant seismic event or groundwater elevation change. As such, there is a low to high potential for ground fissuring and associated differential subsidence along the active fault zones.

- Due to the great distance to large bodies of water, the possibility of seiches and tsunamis impacting the City is considered remote. The nearest large body of water is Lake Elsinore, located approximately 6 ¼ miles northwest.

- Portions of the City lie within the boundaries of the FEMA 100-year flood plain.

- The potential for earthquake related landsliding within the City limits is based on known conditions and published geologic maps. Several old landslides have been mapped in areas along the Santa Ana Mountains eastern slopes and the hills along the northern side of the City. The State Seismic Hazard Zones provides locations of previous known landsliding or where local conditions indicate a potential for ground displacements.

- The potential for rock fall due to natural weathering and instability or rock falls due to a seismic event are possible in areas of the City. The hazard areas are limited to those properties at the base of hill sides where rocks and boulders exist.

Significance Thresholds

The following thresholds for determining the significance of impacts related to geology, soils, and seismicity are taken from the environmental checklist form contained in Appendix G of the most recent update of the *California Environmental Quality Act (CEQA) Guidelines*, and will be used in the Environmental Impact Report. Impacts related to geology, soils, and seismicity are considered significant if implementation of the General Plan would:

- Involve earth movement (cut and/or fill) based on information included in the Project Description Form.
- Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death.
- Be located within an Alquist-Priolo Earthquake Fault Zone.
- Result in substantial soil erosion or the loss of topsoil.
- Be located within an area subject to liquefaction as identified in the City's General Plan.
- Modify any unique physical feature based on site survey/evaluation.
- Result in erosion, dust, or unstable soil conditions from excavation, grading, fill, or other construction activities.

Sources Cited

California Department of Forestry and Fire Protection website, http://www.fire.ca.gov/about/about.php, accessed December 4, 2009.

City of Murrieta Final General Plan EIR, prepared by EIP Associates, June 1994.

City of Murrieta General Plan, prepared by EIP Associates, June 1994.

Seismic and Geologic Hazards Review General Plan Update, City of Murrieta, California technical report, Leighton and Associates, December 2009.

Murrieta Emergency Operations Plan, Part 1: Basic Plan, and *City of Murrieta Emergency Operations Plan, Part 2: Supporting Documents*, City of Murrieta, June 2008.

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Introduction

The City of Murrieta lies within the inland portion of the Santa Margarita River (SMR) Basin, which encompasses approximately 750 square miles. The major tributaries within the General Plan Study Area (City of Murrieta corporate boundaries and sphere of influence) are Murrieta Creek and Warm Springs Creek. Murrieta Creek runs from the northern City limit, along the Rancho Temecula Line, to the southern City limit at Cherry Street. Warm Springs Creek forms a portion of the southern City limit and separates the City from the community of Murrieta Hot Springs. The SMR has a rich ecosystem providing habitat to several listed species. It supports extensive coastal wetlands and is home to one of the last free flowing rivers in Southern California of which the Bureau of Land Management (BLM) has determined qualifies for National Wild & Scenic River status.

Regulatory Context

FEDERAL EMERGENCY MANAGEMENT AGENCY

The Federal Emergency Management Agency (FEMA) performs the following: advises on building codes and flood plain management; teaches people how to get through a disaster; helps equip local and state emergency preparedness; coordinates the federal response to a disaster; makes disaster assistance available to states, communities, businesses and individuals; trains emergency managers; supports the nation's fire service; and administers the national flood and crime insurance programs.[1]

The most widely distributed flood map product is the Flood Insurance Rate Map (FIRM). FEMA is mandated by the Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973 to evaluate flood hazards and provide FIRMs for local and regional planners to further promote safe floodplain development. Flood risk data presented on FIRMs are based on historic, hydrologic, hydraulic, and meteorological data, as well as flood control works, open-space conditions, and development. To prepare a FIRM that illustrates the extent of flood hazards in flood-prone communities, FEMA conducts an engineering study referred to as Flood Insurance Study (FIS). Using information collected in these studies, FEMA engineers and cartographers delineate Special Flood Hazard Areas (SFHAs) on FIRMs. SFHAs are those areas subject to inundation by a flood that has a 1-percent or greater change of being equaled or exceeded during any given year, referred to as a base or 100-year flood.[2]

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1 FEMA website, http://www.fema.gov/about/what.shtm, accessed November 17, 2009.

2 *Natural Hazard Mapping, Analysis, and Mitigation: a Technical Background Report in Support of the Safety Element of the New Riverside County 2000 General Plan*, Earth Consultants International, August 1, 2000.

RIVERSIDE COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT

The Riverside County Flood Control and Water Conservation District was created on July 7, 1945 by an Act of the California State Legislature to control the flooding in Riverside County. The District is located in the western portion of Riverside County and extends easterly to the Palm Springs and Desert Hot Springs area. By establishing the District, the Legislature created an entity charged with keeping County residents safe from flood hazards and established an independent funding source for the projects needing funding. Before the District's inception, severe flooding occurred throughout the County during winter rains and monsoon seasons. Today, through effective engineering, channel and dam construction, regulation, and public education, massive flooding is less common. The City of Murrieta is located within Flood Control District Zone 7.[3]

CITY OF MURRIETA MUNICIPAL CODE

The City of Murrieta's regulations with respect to flood damage prevention are included in Chapter 15.56 Flood Damage Prevention Regulations. The purpose of this chapter is to promote the public health, safety, and general welfare, and to minimize public and private losses due to flood conditions in specific areas.

Chapter 15.56.040, *Methods of reducing flood losses,* includes the following provisions:

> *A. Restricting or prohibiting uses which are dangerous to health, safety, and property due to water or erosion hazards, or which result in damaging increases in erosion or flood heights or velocities;*
>
> *B. Requiring that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction;*
>
> *C. Controlling the alteration of natural floodplains, stream channels, and natural protective barriers, which help accommodate or channel flood water;*
>
> *D. Controlling fill, grading, dredging, and other development which may increase flood damage; and*
>
> *E. Preventing or regulating the construction of flood barriers which will unnaturally divert flood waters or which may increase flood hazards in other areas.*

Chapter 15.56.070, *General provisions – Basis for establishing the areas of special flood hazard,* states the following:

> *The areas of special flood hazard identified by the Federal Insurance Administration (FIA) of the Federal Emergency Management Agency (FEMA) in the flood insurance rate*

[3] Riverside County Flood Control & Water Conservation District website, http://www.floodcontrol.co.riverside.ca.us/, accessed November 17, 2009.

maps (FIRM), dated September 30, 1988, and all subsequent amendments and/or revisions, are hereby adopted by reference and declared to be a part of this chapter. This Flood Insurance Study (FIS) and attendant mapping is the minimum area of applicability of this chapter and may be supplemented by studies for other areas which allow implementation of this chapter and which are recommended to the city by the Floodplain Administrator. The study and Flood Insurance Rate Maps (FIRM) are on file at Murrieta City Hall.

Chapter 15.56.120, *Administration – Establishment of development permit*, states the following:

A. A development permit shall be obtained before any construction or other development begins within any area of special flood hazard, areas of flood-related erosion hazard or areas of mudslide (i.e., mudflow) established in Section 15.56.070. Application for a development permit shall be made on forms furnished by the city and may include, but not be limited to: plans in duplicate drawn to scale showing the nature, location, dimensions, and elevation of the area in question; existing or proposed structures, fill, storage of materials, drainage facilities; and the location of the foregoing.

Existing Conditions

SURFACE WATER RESOURCES

The majority of the General Plan Study Area lies within the inland portion of the Santa Margarita River Basin. The northern most Study Area is part of the Santa Ana Watershed. The Murrieta Creek and Temecula Creek are the main tributaries of the Santa Margarita River, the only remaining free-flowing river in southern California. The Murrieta Creek runs through the Murrieta Valley and flows southeasterly through the portion of the City that lies between Interstate 15 and the base of the Santa Rosa Plateau. The creek drains approximately 220 square miles of the upper watershed. A network of washes and intermittent stream courses occur throughout the Study Area, collecting the seasonal runoff from slopes and valley floors and bringing it towards the creek. These tributaries to the Murrieta Creek include Slaughterhouse Creek, Cole Creek, Warm Springs Creek, Tucalota Creek, Santa Gertrudes Creek, and Long Valley Wash. Stream flows for Murrieta Creek have been highly variable, and flooding frequently occurs in Historic Murrieta. Warm Spring Creek is a tributary to Murrieta Creek. It drains extensive valley and upland areas and flows southwesterly from the northern sphere of influence through the Murrieta Hot Springs area, entering Murrieta Creek in the southern part of the City.[4]

[4] *City of Murrieta General Plan*, prepared by EIP Associates, June 21, 1994.

FLOOD HISTORY

The largest known flood in the Santa Margarita Watershed was in January 1862, and the second greatest was in February 1884. Other major floods occurred in years 1916, 1938, 1943, 1969, 1978, 1980, 1991, 1992, 1993, 1995, and 1998. In both January and February 1993, Riverside County was hit by severe storms resulting in a Presidential Disaster Proclamation. These large flood events resulted in two to six feet of sediment deposited in the Murrieta Creek streambed from Winchester Road south into Old Town Temecula. Breakouts of floodwaters were caused largely by the magnitude of the event, vegetation density, and the sediment accumulations within the channel that severely reduced flow-carrying capacity. The storm caused over $10 million in damage to public facilities along Murrieta Creek. Additionally, the Riverside County Flood Control and Water Conservation District incurred approximately $450,000 in damage.[5] According to "The Californian" website, the most recent Murrieta floods in the years 1980, 1993, 1995, and 1998 were declared federal disasters. The 1993 flood was the most ruinous on record, causing $12 million worth of damage in Temecula and $88 million in damage to Camp Pendleton.[6]

MAJOR SOURCES OF FLOODING

Flooding problems in the Murrieta Creek Watershed are related to inadequate capacity of the existing drainage network. Much of the Murrieta Creek area and sections along Warm Springs Creek are currently without formal flood control systems and as a result drainage, even with moderate rain, is haphazard in the less developed areas of the City. The problem manifests itself as frequent overtopping of the Murrieta Creek channel by floodwaters in a number of channel reaches, flood inundation of structures with attendant damages, and other water-related problems caused by these events including emergency costs, traffic disruption, and automobile damage.[7]

100-YEAR FLOODS

One-hundred-year floods are those that have a 1/100 or one percent chance of occurring in any given year. Flood insurance rates are based on FEMA designations of flood zones. The practice is to avoid or restrict construction within the 100-year flood zones, or to engage in flood proofing techniques such as elevating building pads or by construction floods walls and levees. The 100-year flood is a regulatory standard used by Federal agencies and most states, to administer

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5 Murrieta Creek Flood Control Environmental Restoration and Recreation Project website, Riverside County Flood Control Water Conservation District, http://www.floodcontrol.co.riverside.ca.us/content/MChistory.asp, accessed November 17, 2009.

6 "The Californian" website, article "Murrieta: Leaders looking for alternative creek funding", http://www.nctimes.com/californian/article_69ecef2d-bda0-561f-9a03-a08d6a474999.html, posted August, 20, 2009.

7 Murrieta Creek Flood Control Environmental Restoration and Recreation Project website, Riverside County Flood Control Water Conservation District, http://www.floodcontrol.co.riverside.ca.us/content/MChistory.asp, accessed November 17, 2009.

floodplain management programs, and is also used by the National Flood Insurance Program (NFIP) as the basis for insurance requirements nationwide.

A total of 1,021.2 acres in the City of Murrieta are within the 100-year flood zone. Flood zones are primarily located between Jefferson and Hayes Avenues along the Murrieta Creek, and along the lower portions of Warm Springs Creek near the City's southern boundary; refer to *Exhibit 6.3-1*, *FEMA Flood Zones*.

DAM INUNDATION MAPPING

In addition to the flood hazard currently posed by the Murrieta Creek, the City of Murrieta is also subject to potential flooding in the event of dam failure. Portions of the City of Murrieta are subject to potential dam inundation zones associated with Lake Skinner and Diamond Valley Lake (previously known as the Eastside Reservoir Project); refer to *Exhibit 6.3-)*, *Dam Inundation*. Inundation from Lake Skinner would cause flooding in the extreme southern portion of Murrieta. Diamond Valley Lake was completed in 1999 and the process of filling the 4,500-acre reservoir site was completed in 2003. The reservoir doubles the storage capacity for the Metropolitan Water District of Southern California (MWD) with a reservoir capacity of 987 million cubic meters.[8] Statistical risk analysis performed as part of the Eastside Reservoir Project Environmental Impact Report (EIR) indicated the potential of dam failure to be less than one chance in one hundred million under the worst foreseeable earthquake event.[9] Dam failure is considered an extremely remote possibility as dams are designed at strength much stronger than necessary to survive the largest magnitude possible earthquake without affecting the dam structure; however, it must be considered and recognized within the planning process.

COMMUNITY RATING SYSTEM[10]

The Community Rating System (CRS) is a voluntary program for NFIP-participating communities. The goals of the CRS are to reduce flood damages to insurable property, support and strengthen the insurance aspects of the NFIP, and to encourage a comprehensive approach to floodplain management. The CRS has been developed to provide incentives in the form of premium discounts for communities to go beyond the minimum floodplain management requirements to develop extra measures to provide protection from flooding. All communities begin with a Class 10 rating (no discount). There are 10 CRS classes: Class 1 requires the most credit points and gives the greatest premium discount; Class 10 identifies a community that does not apply for the CRS, or does not obtain a minimum number of credit points and receives no discount. There are 18 activities recognized as measures for eliminating exposure to floods.

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8 Water-Technology.net website, *Eastside Reservoir Project, California, USA*, http://www.water-technology.net/projects/eastside_res/, accessed December 1, 2009.

9 *City of Murrieta Final General Plan EIR*, prepared by EIP Associates, June 1994.

10 *Flood Insurance Agent's Manual*, October 1, 2008, FEMA website, http://www.fema.gov/library/viewRecord.do?id=3629, accessed December 1, 2009.

Credit points are assigned to each activity. The activities are organized under four general categories: Public Information, Mapping and Regulations, Flood Damage Reduction, and Flood Preparedness. Once a community applies to the appropriate FEMA region for the CRS program and its implementation is verified, FEMA sets the CRS classification based upon the credit points. This classification determines the premium discount for policyholders. Premium discounts ranging from 5 percent to a maximum of 45 percent (Class 1) will be applied to every policy written in a community as recognition of the floodplain management activities instituted. The City of Murrieta, community number 060751, obtains Class 9 with a 5 percent discount.

MURRIETA EMERGENCY OPERATIONS PLAN[11]

The City of Murrieta Emergency Operations Plan (EOP) addresses the planned response to extraordinary emergency situations associated with natural disasters, national security emergencies, and technological incidents affecting the City of Murrieta. The EOP describes the operations of the City of Murrieta Emergency Operations Center (EOC), which is the central management entity responsible for directing and coordinating the various City departments and other agencies in their emergency response activities. The EOC centralizes the collection and dissemination of information about the emergency and makes policy-level decision about response priorities and the allocation of resources. As part of the City's Emergency Management Program, the EOC Manager (Fire Division Chief) is responsible for ensuring the readiness of the EOC.

The City of Murrieta has developed a set of quick response references (checklist) for the Murrieta EOC. The set checklist is located in Part Two of the City's *Emergency Operation Plan*. The checklist enumerates issues that are related to flood disasters and emergencies.

RIVERSIDE COUNTY MULTI-JURISDICTIONAL LOCAL HAZARD MITIGATION PLAN[12]

Table 6.6-2, *Riverside County Local Jurisdiction Hazard Assessment Worksheet* of *Section 6.6, Emergency Response*, provides a detailed identification and analysis of the hazards faced by Riverside County and the City of Murrieta according to the *Riverside County Multi-Jurisdictional Local Hazard Mitigation Plan* (LHMP). *Table 6.6-2* assigns each hazard a severity rating, indicating the amount of damage that would be done to the County and the City and its population should the hazard occur. *Table 6.6-2* also assigns a probability rating, indicating the likelihood that the hazard may occur within the County and City. Both ratings are on a scale of 0-4, with 4 being the most severe or the most likely to occur. Within the County, floods are assigned a severity rating of 3 and a probability rating of 3. Within the City, floods are assigned a severity rating of 3 and a probability rating of 3.

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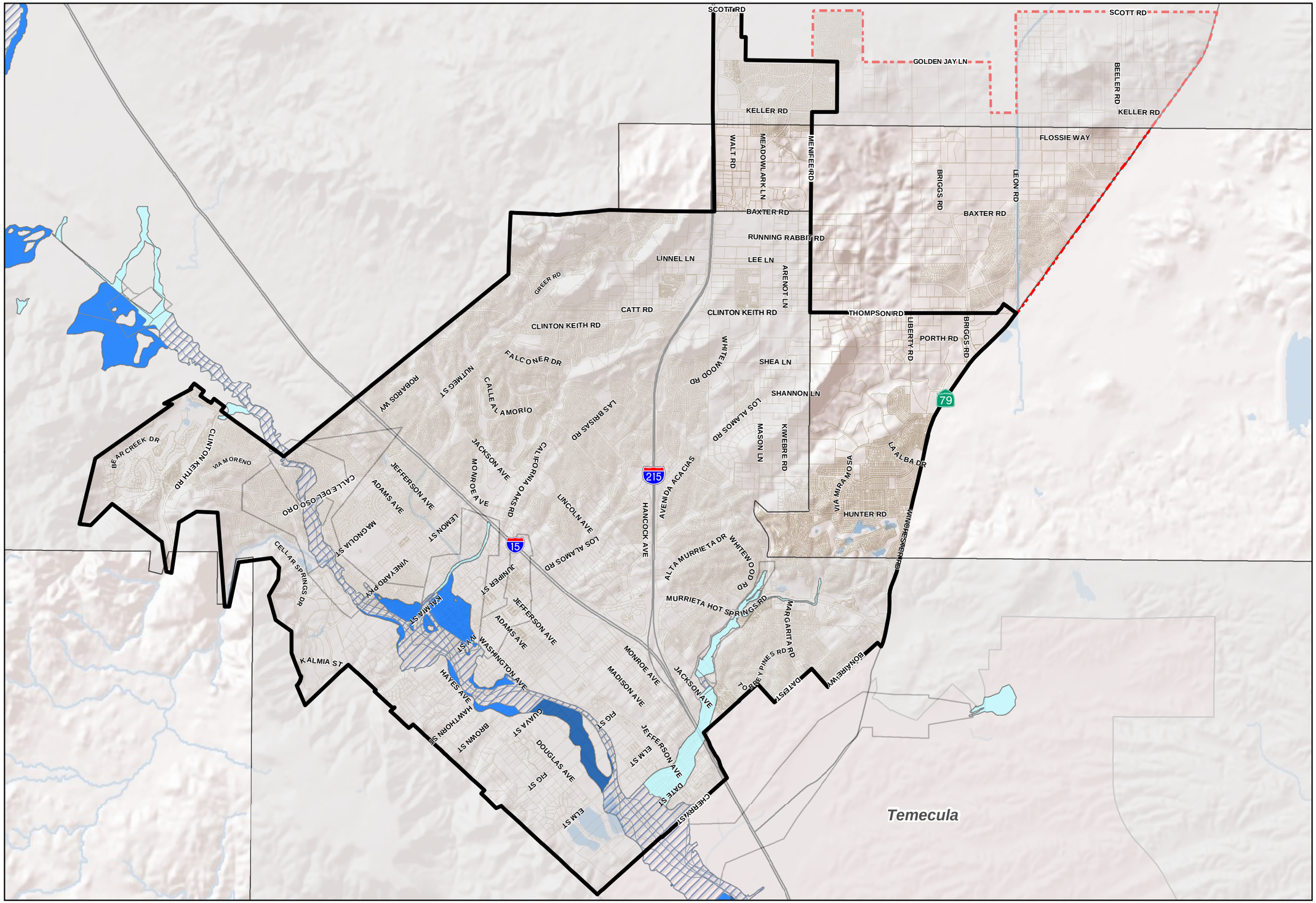
[11] *Murrieta Emergency Operations Plan, Part 1: Basic Plan*, and *City of Murrieta Emergency Operations Plan, Part 2: Supporting Documents*, City of Murrieta, June 2008.

[12] Ibid.



LEGEND

- 0.2 PCT ANNUAL CHANCE FLOOD HAZARD
- A - 100 yr; No base flood elevations determined.
- AE - 100 yr; base flood elevations determined.
- AH - Flood depths of 1 to 3 feet (usually areas of ponding); base flood elevations determined.
- D - Areas in which flood hazards are undetermined.
- X - Areas of 500-yr flood; areas of 100-yr flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 100-yr flood.
- Parcels
- Sphere of Influence
- City Boundary

January 8, 2010

0 0.5 1
Miles

Source:
County of Riverside,
City of Murrieta
FEMA DFIRM database
ESRI - World Shaded Relief

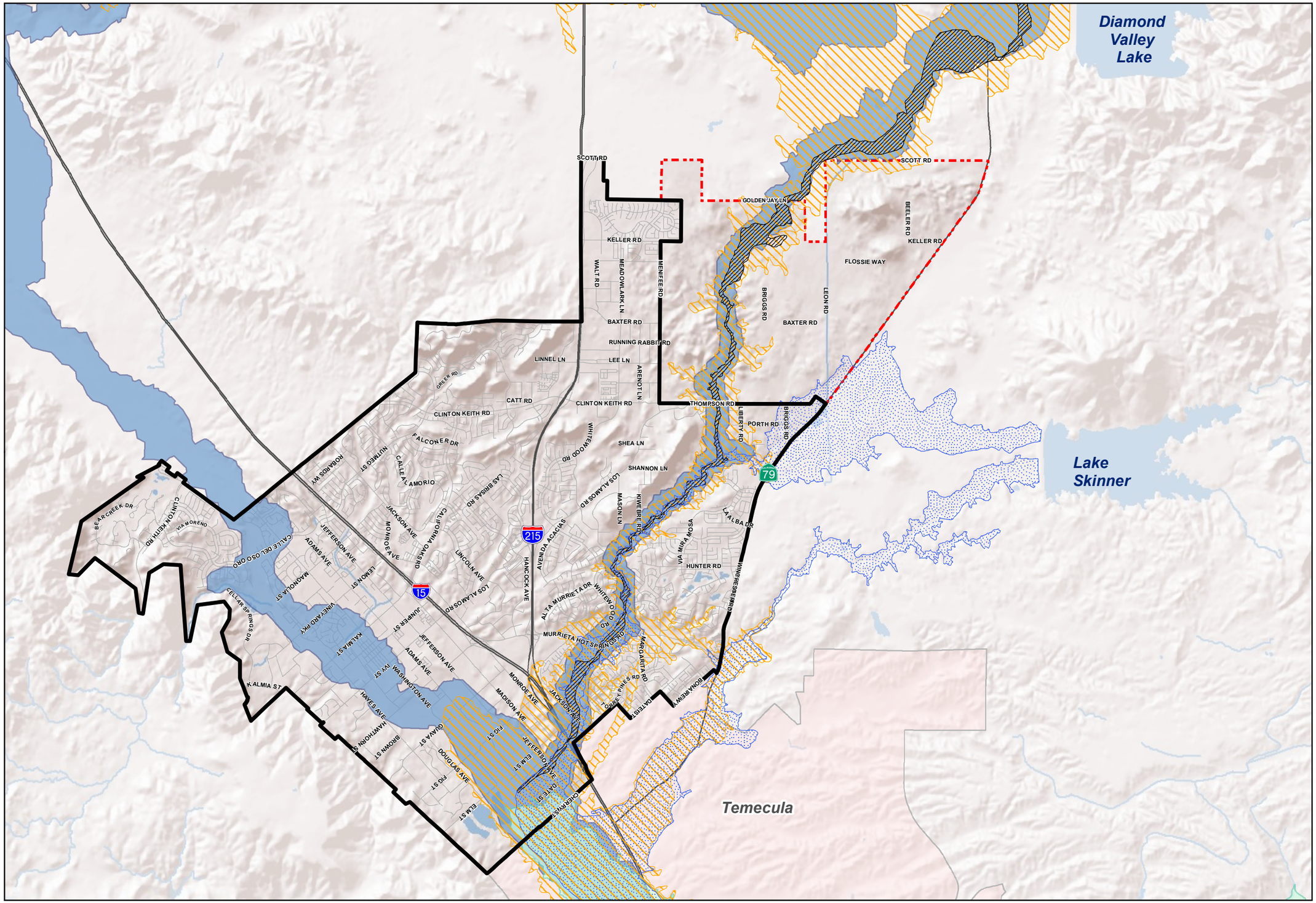
RBF CONSULTING

12/18 JN 10-106976 Ex6.3-1_FEMAFlood.mxd

FEMA Flood Zones

Exhibit 6.3-1

Back of 11 x 17 exhibit page



LEGEND

- Skinner Inundation
- Vail Lake Inundation
- Diamond Valley Lake
  - Diamond Forebay
  - Diamond West Dam
  - Diamond Saddle
- Sphere of Influence
- City Boundary

January 11, 2010

0 0.625 1.25
Miles

Source:
County of Riverside,
City of Murrieta,
ESRI - World Shaded Relief

RBF CONSULTING

12/18 JN 10-106976 Ex6.3-2_DamInundation.mxd

Dam Inundation

Exhibit 6.3-2

Back of 11 x 17 exhibit page

MASTER DRAINAGE PLAN

A Master Drainage Plan prepared for the Murrieta Creek area by the Riverside County Flood Control and Water Conservation District evaluates drainage needs and proposes an economical drainage plan to provide flood protection for both existing and future development in Murrieta. Improvements proposed for Murrieta Creek consist of the channelization of the creek and its major tributaries, and include several concrete-lined open channels and a small network of underground storm drains. The Murrieta Creek Area Drainage Plan was prepared through the merger of the Master Drainage Plan for the Murrieta Creek area, dated March 1986, and the Master Drainage Plan for the Wildomar area, dated August 1980. The Area Drainage Plan for controlling flood and drainage problems in the Murrieta Creek area concludes that certain flood and drainage facilities are critically needed for an orderly and economical development of the area.[13]

MURRIETA CREEK FLOOD CONTROL, ENVIRONMENTAL RESTORATION AND RECREATION PROJECT[14]

The Murrieta Creek continues to pose a severe flood threat to the cities of Murrieta and Temecula. Flooding from the undersized creek with a tributary watershed area of over approximately 220 square miles continues to periodically wreak havoc on the local communities. The winter storms in 1993 cost nearly $20 million in damages to the public and private sectors. Almost on a yearly basis, small to moderate storms cause localized damages at numerous locations requiring ongoing repairs. As the City continues to develop, the potential for both direct and indirect damages continues to increase.

In 1997, the U.S. Army Corps of Engineers initiated studies on the Creek. The final outcome of this effort was the Congressional authorization in 2000 of the $90 million, multi-faced project known as the Murrieta Creek Flood Control, Environmental Restoration and Recreation Project. This Project is being designed and will be constructed in four distinct phases.

Phase One

Groundbreaking for Phase One took place on November 12, 2003. Phase One involved channel improvements through the City of Temecula. This phase included 3,000 linear feet of earthen channel and a 70-foot wide environmental habitat corridor. Also included were multi-purpose trail/maintenance roads on both sides for equestrian, pedestrian, and bicycle use. The discharge capacity is 22,300 cubic feet per second (cfs). Phase One was completed in December 2004.

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13 *Murrieta Emergency Operations Plan, Part 1: Basic Plan*, and *City of Murrieta Emergency Operations Plan, Part 2: Supporting Documents*, City of Murrieta, June 2008.

14 Riverside County Flood Control and Water Conservation District Federal Project Status Report, Spring 2008, Fiscal Year 2009 U.S. Army Corps of Engineers Request, Riverside County Flood Control and Water Conservation District.

Phase Two

Phase Two also involves channel improvements through the City of Temecula. The Corps Engineering staff completed a wall treatment alternative analysis for Phase Two. The existing bridge constructed at Main Street in 1945 has exposed supports and is in danger of collapsing should major rainfall fall within the tributary watershed. The new design of the Main Street Bridge is nearing completion and is ready to move to construction. Right-of-way engineering and real estate acquisition processes for Phase Two improvements have been completed. Possession of all right-of-way needed for Phase Two has been obtained. Utility relocation efforts have begun in order to be ready to begin construction, should sufficient funding be appropriated.

Phase Three

Phase Three proposes the construction of a 250-acre detention basin, including the establishment of approximately 160 acres of new environmental habitat and over 50 acres of recreational facilities within the City of Murrieta. The 160 acres of established riparian vegetation will provide habitat value to native species including ponds with wetland marsh habitats and a sedimentation basin to provide for improved water quality. This area has extraordinary potential for the establishment of several listed endangered species that have already been located nearby, including the least Bell's vireo. The recreational component will include children's play areas, barbecue/picnic area, baseball fields, soccer fields, shade structures, parking, and trails. The multi-purpose basin is critical to the overall design of the Project. Once constructed, it will attenuate the tributary flows to reduce the peak discharge downstream and remove the floodplain designation from Phases One and Two of the Project. Without the basin, citizens and businesses remain at risk and must continue to purchase flood insurance. Furthermore, the already constructed Phase One remains at risk and subject to damages due to the non-containment and collection of flows upstream. The Corps has completed the concept design material for aesthetic treatment, erosion control, and recreation for the basin. The Corps is currently working on the completion of the design documentation report including optimizing the design of the basin.

Phase Four

Currently, moderate storms jeopardize the treatment plant adjacent to the creek. A spill of untreated water could contaminate the downstream waters including SMR and the Ecological Preserve, a field research station of the San Diego State University. The SMR is home of 500 plants, 236 bird species, 52 mammals, 43 reptile species, 26 fish species, and 24 species of aquatic invertebrates, which are all at risk. The SMR also provides a water supply by restoring groundwater aquifers utilized by local residents as well as the Camp Pendleton Marine Base. Phase Four will include channel improvements through the City of Murrieta. This phase provides for the largest expansion of "Waters of the

U.S." with the development and establishment of a 150-foot wide riparian habitat corridor. Design-level digital topographic mapping has been compiled for the entire 7-mile length of the proposed project. The City of Murrieta continues to be actively engaged in both the design and funding issues related to the Project and has initiated engineering design on both the Guava Street and Ivy Street Bridges, which are part of the approved Corps Project.

While Phase One is completed and the environmental enhancements and recreational components are currently visible, the area still remains at risk from flooding and is still mapped by FEMA within the 100-year floodplain. Phase Two traverses Old Town Temecula, one of the hardest hit areas during the flooding of 1993. State Grants have been secured to assist in the funding of trails, habitat restoration and educational features, but are now being lost due to the inability to move the project into further construction. The Riverside County Flood Control and Water Conservation District is currently requesting the Committee's support of a $13 million appropriation in Fiscal Year 2009 to allow the Corps to award and construct the entire Phase Two reach, complete the Design Documentation Report, and the preparation of plans and specifications for the Phase Three, the basin of the long awaited Murrieta Creek Flood Control, Environmental Restoration and Recreation Project. The floodplain designation will not be removed until the upstream Phase Two and Phase Three are constructed.

GOALS, OBJECTIVES, AND POLICIES

The following goals, objectives, and policies from the *City of Murrieta General Plan*, dated June 21, 1994, *Safety Element*, updated February 6, 2001, shall be applied to all projects within the General Plan Study Area:

Goal S-2 Flood and Inundation:

Minimize injury, loss of life, property damage, and economic and social disruption caused by man-made and natural flood and inundation hazards.

Objective S-2.1: Improve flood control systems and provide adequate protection in areas of the City subject to inundation, while protecting the habitat, recreational and aesthetic values of natural drainage ways where feasible.

Policy S-2.1a: Cooperate with the Riverside County Flood Control District and Water Conservation District in evaluating the effectiveness of existing flood control systems in the City and adjacent jurisdictions and improve and expand these systems as necessary to ensure that there is adequate capacity to protect existing and proposed development from storm water runoff and flooding.

Policy S-2.1b: Identify natural drainage courses and designate drainage easements to allow for construction of drainage facilities (if needed to protect the health, safety, and welfare of the community) and/or the preservation of natural drainage courses.

Policy S-2.1c: Actively participate in and strongly promote timely completion of regional drainage plans and improvement projects which affect the City.

Policy S-2.1d: Develop and maintain floodplain inundation evacuation plans in cooperation with the Riverside County Flood Control and Water Conservation District and the Fire Department.

Policy S-2.1e: All new development, including filling, grading and construction, proposed within designated floodplains, shall require the submission of a study prepared by a qualified hydrologist or engineer that determines whether the development would significantly increase flood hazard. The study shall provide specific mitigation measures that indicate how flood hazards would be eliminated or reduced to a less-than-significant level.

Policy S-2.1f: All new construction within the 100 year floodplain shall be per FEMA standards.

Policy S-2.1g: If any fill is placed in floodplain areas, adequate channel capacities or floodplain storage area must be provided for flood waters to off-set displacement of floodplain storage.

Policy S-2.1h: Surface water runoff from new development shall be controlled by on-site measures including, but not limited to the following:

- Structural controls;
- Restricting removal of vegetation;
- Restricting changes in topography; and
- Limiting areas of impervious surface.

Policy S-2.1i: Developments within Federal Emergency Management Agency (FEMA) mapped floodplains shall provide all studies, calculations, plans, and other information required to meet FEMA regulations. Applicants shall obtain a Conditional Letter of Map Revision (CLOMR) prior to grading, recordation or other final approval of a project unless a Letter of Map Revision (LOMR) is obtained prior to occupancy.

Policy S-2.1j: The Murrieta Fire Department shall maintain an active swift water rescue team.

Goal S-3 Dam Inundation Areas:

Reduce the risk of flooding in areas of the City located within designated dam inundation areas.

Objective S-3.1: Establishment of land use regulations and emergency response plans that will prevent death, injury and property damage resulting from dam failure.

Policy S-3.1a: Maintain and update mapping of dam inundation areas within the City as new studies and projects are completed.

Policy S-3.1b: Develop dam failure evacuation plans in cooperation with the Riverside County Flood Control District and the Murrieta Fire Department.

Policy S-3.1c: Discourage critical and essential uses within designated dam inundation areas.

Policy S-3.1d: Discourage high occupant load building uses within designated dam inundation areas.

Findings

- The Riverside County Flood Control and Water Conservation District and the City of Murrieta Public Works and Engineering Department have primary responsibility for flood protection and prevention in Murrieta.
- The flood hazard areas of the City are subject to periodic inundation which results in loss of life and property, safety and health hazards, extraordinary public expenditures for flood protection and relief, disruption of commerce and governmental services, and impairment of tax base, all of which adversely affect the public health, safety, and general welfare.
- The *Riverside County Multi-Jurisdictional Local Hazard Mitigation Plan* (LHMP) assigned Murrieta a flood severity rating of 3 and a probability rating of 3.
- The City of Murrieta is located within Flood Control District Zone 7.
- 1,021.2 acres of the City of Murrieta are within the 100-year flood hazard (4.7 percent of total acres within Murrieta). Flood zones are primarily located between Jefferson and Hayes Avenues along the Murrieta Creek, and along the lower portions of Warm Springs Creek near the City's southern boundary.

- Potential development areas in 100-year flood plains will constrain development or require additional flood engineering. Uses that are inadequately flood proofed, protected, or elevated from flood damage also contribute to the flood loss.

- Flooding problems in the Murrieta Creek Watershed are related to inadequate capacity of the existing drainage network. Much of the Murrieta Creek area and sections along Warm Springs Creek are currently without formal flood control systems and as a result drainage, even with moderate rain, is haphazard in the less developed areas of the City.

- Phase One of the Murrieta Creek Flood Control, Environmental Restoration and Recreation Project is complete with visible environmental enhancements and recreational components. However, the area still remains at risk from flooding and is still mapped by FEMA within the 100-year floodplain. This floodplain designation will not be removed until the upstream Phase Two and Phase Three are constructed.

- Portions of the City of Murrieta are subject to potential dam inundation zones associated with Lake Skinner and Diamond Valley Lake.

- The City of Murrieta, community number 060751, obtains a community rating of Class 9 with a 5 percent discount.

Significance Thresholds

The following thresholds for determining the significance of impacts related to flooding or flooding hazards are taken from the environmental checklist form contained in Appendix G of the most recent update of the *California Environmental Quality Act (CEQA) Guidelines*, and will be used in the Environmental Impact Report. Impacts related to flooding or flooding hazards are considered significant if implementation of the General Plan would:

- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site.

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

- Place within a 100-year flood hazard area structures which would impede or redirect flood flows.

- Expose people or structure to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam.

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Water-Technology.net website, *Eastside Reservoir Project, California, USA*, http://www.water-technology.net/projects/eastside_res/, accessed December 1, 2009.

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Introduction

The Murrieta Fire Department is the primary provider of fire suppression, pre-hospital emergency medical care, disaster preparedness coordination, hazard mitigation and fire prevention services within the City. This section identifies existing fire hazards located within the General Plan Study Area. These sites pose an individual and collective threat to the public health.

Regulatory Context

CALIFORNIA DEPARTMENT OF FORESTRY AND FIRE PROTECTION[1]

The California Department of Forestry and Fire Protection (CAL FIRE) is dedicated to the fire protection and stewardship of over 31 million acres of California's privately-owned wildland. Additionally, Cal Fire provides varied emergency services in 36 of the State's 58 counties via contracts with local governments. The Cal Fire's firefighters, fire engines, and aircraft respond to an average of more than 5,600 wildland fires per year. These fires burn approximately more than 172,000 acres of land annually. Beyond its wildland fire fighting role, CAL FIRE answers the call more than 300,000 times for other emergencies and disasters each year.

RIVERSIDE COUNTY FIRE DEPARTMENT[2]

The Riverside County Fire Department is one of the largest regional fire service organizations in California. The Department operates 95 fire stations in 17 battalions, providing fire suppression, emergency medical, rescue, and fire prevention services. The Department responded to 110,224 incidents during the 2005 calendar year. The Department is staffed with approximately 952 career and 1,100 volunteer personnel, and currently serves approximately 2 million residents in the area of approximately 7,004 square miles. The Department service area consists of the unincorporated county areas, 18 contract cities, and one Community Service District (CSD).

Existing Conditions

HIGH FIRE HAZARD ZONES

The Murrieta Fire Department provides services that include fire prevention, suppression, planning and engineering, disaster preparedness, rescue services, and emergency medical services. The sphere area is served by Riverside County Fire Department (RCFD) through a contract with Cal Fire. The agencies also provide overlapping service under agreements for

[1] California Department of Forestry and Fire Protection website, http://www.fire.ca.gov/about/about.php, accessed December 4, 2009.

[2] Riverside County Fire Department website, http://www.rvcfire.org/opencms/about_us/, accessed December 4, 2009.

automatic aid and wild-land fire response.[3] RCFD has experienced devastating fires in the wildland/urban interface area. Conditions of development are currently required, such as Class A roofing, noncombustible siding and 100-foot fuel buffer zones, to protect communities from wildland/urban interface fires. Additionally, other techniques, such as fuel modification and firebreaks, may be utilized to reduce the threat from wildland fires. Furthermore, community planning, awareness, and involvement are proven elements of effectively reducing the occurrence and damage associated with wildland fires.[4]

Wildland Fires

A wildfire is an uncontrolled fire spreading through vegetative fuels and exposing or consuming structures. Wildfires are often unnoticed and spread quickly. Although not located in a wilderness area, the threat of a wildland fire in or near Murrieta is high due to the wildland urban areas in and around the City. A wildland is a geographical area where structures and other human development meet or intermingle with wildland or vegetative fuels. Significant development in areas of the City and its surroundings are considered wildland and have experienced prolonged droughts and are excessively dry and at risk of wildfires. The threat is particularly significant during dry summer months and when there are strong Santa Ana winds. The fire season extends approximately 5 to 6 months, from late spring through fall. Wildland fire hazards exist in varying degrees over approximately 90 percent of Riverside County and the City of Murrieta in open space, parklands, and agricultural areas.[5] The undeveloped hillside areas in and adjacent to the City of Murrieta present a potentially serious hazard due to the high potential for large scale wildland fires. The escarpments along the western boundary of the City are notorious for their threat of wildland fires that move quickly through the area. Similar wildland areas exist in the Greer Ranch area in northern Murrieta, and the Hogbacks and Los Alamos area.[6] Refer to *Exhibit 6.4-1*, *High Fire Hazard Zones* for locations within the City considered high fire hazard zones.

Fire hazards arise from a combination of reasons: the undeveloped and rugged terrain, highly flammable brush-covered land, and long dry summers. There are heavy fuel loads, especially in watershed areas unaffected by fire for many years. Structures with wood shake roofs ignite easily and produce embers that contribute to fire spread. The aftermath of wildland fire produces a new area of potential landslide as burned and defoliated areas are exposed to winter rains.[7]

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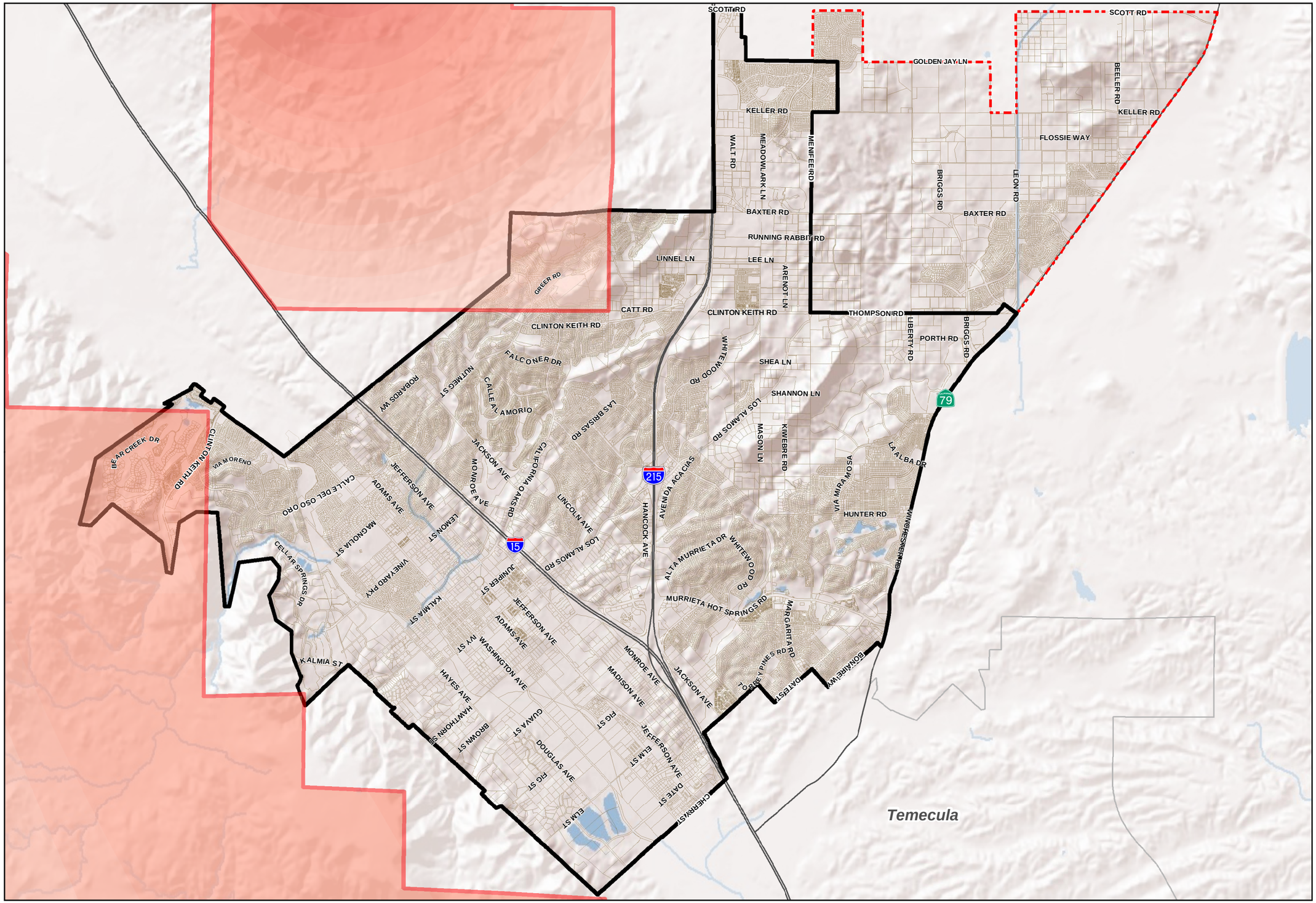
3 *City of Murrieta Final EIR*, prepared by EIP Associates, June 1994.
4 *Murrieta Fire Department Fire Protection Plan*, dated February 2005.
5 *Murrieta Emergency Operations Plan, Part 1: Basic Plan*, and *City of Murrieta Emergency Operations Plan, Part 2: Supporting Documents*, City of Murrieta, June 2008.
6 Ibid.
7 Ibid.



Murrieta
The future of southern California
General Plan Update

LEGEND

- High Fire Zone
- Parcels
- Sphere of Influence
- City Boundary

December 18, 2009

0 0.5 1
Miles

Source:
County of Riverside,
City of Murrieta,
ESRI - World Shaded Relief

RBF CONSULTING

12/18 JN 10-106976 HighFireHazardZone.mxd

High Fire Hazard Zones

Exhibit 6.4-1

Back of 11 x 17 exhibit page

Recognizing that the potential for brush and grass fires remains a constant threat within the Murrieta Fire Department, a Weed Abatement program has been implemented to reduce weed and brush fire hazards. It provides for the inspection and enforcement of properties that pose a potential fire hazard due to weeds and brush. Fuel modification, livestock (horses, cattle, and sheep) grazing, prescribed fires, and fuel breaks can be utilized to prevent the spread of fire and to protect the ecosystem.[8] In the event of a major wildland fire, other resources would be brought into the City as needed as part of the statewide emergency management system. No significant unusual urban fire hazards have been identified with the General Plan Study Area.[9]

Hazardous Materials

According to the existing *City of Murrieta General Plan Final EIR*, 24 businesses in the City of Murrieta incorporated hazardous materials into their production or service processes and 27 businesses generated hazardous waste. The majority of these businesses included automotive services, dry cleaners, photo processing, printing, lithography, and medical services. Potential hazards associated with hazardous materials include fires, explosions, and leaks. RBF searched all regulatory sites within EnviroStor and GeoTracker databases in the General Plan Study Area; refer to *Section 6.5*, *Hazardous Materials* and *Table 6.5-1*, *DTSC & Geo Tracker Identified Regulatory Sites Within Murrieta*, for a detailed listing of the properties and *Exhibit 6.5-1*, *Regulatory Sites Within Murrieta*, for the locations of the sites.

The storage of hazardous materials in businesses poses a threat to occupants, the public, neighboring occupancies and fire fighters. Hazardous materials disclosure allows for the inspection and notification of all businesses within the Murrieta Fire Department that generate, store, and use hazardous materials. The Murrieta Fire Department will take an active role in the inspection of businesses with hazardous materials. The Murrieta Fire Department will monitor the County Certified Unified Program Agency (CUPA) data to ensure that the data is timely and accurate.[10] Monitoring of sites which have contamination associated with underground tanks used to store petroleum products is the primary responsibility of the California Department of Health Services and the Regional Water Quality Control Board.[11]

Through regular inspections, the Murrieta Fire Department can identify hazardous conditions and can obtain compliance through the Fire Code for the safety of citizens and fire fighters alike should a hazardous materials fire or release occur. In the event of a hazardous materials incident within the General Plan Study Area, the Murrieta Fire Department would initially respond with further assistance provided by the CFD Hazardous Materials Response Team and the County Health Department.[12] The types and amounts of hazardous materials found in most communities, or passing through on freeways, have created a very real challenge to the fire

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8 *Murrieta Fire Department Fire Protection Plan*, dated February 2005.
9 *City of Murrieta Final General Plan EIR*, prepared by EIP Associates, June 1994.
10 *Murrieta Fire Department Fire Protection Plan*, dated February 2005.
11 *City of Murrieta General Plan, Safety Element*, prepared by EIP Associates, updated February 6, 2001.
12 *City of Murrieta Final General Plan EIR*, prepared by EIP Associates, June 1994.

service. All Murrieta Fire Department personnel receive first responder operations training for hazardous materials. This is the next level of training above a standard fire company, but below the expertise of a full time dedicated hazardous response team. All Murrieta Fire Department personnel are also trained in hazardous materials decontamination procedures. Engine Company personnel should be able to determine that a problem exists, be able to isolate the problem, and assist an advanced team when they arrive.[13]

MURRIETA EMERGENCY OPERATIONS PLAN[14]

The City of Murrieta Emergency Operations Plan (EOP) addresses the planned response to extraordinary emergency situations associated with natural disasters, national security emergencies, and technological incidents affecting the City of Murrieta. The EOP describes the operations of the City of Murrieta Emergency Operations Center (EOC), which is the central management entity responsible for directing and coordinating the various City departments and other agencies in their emergency response activities. The EOC centralizes the collection and dissemination of information about the emergency and makes policy-level decision about response priorities and the allocation of resources. As part of the City's Emergency Management Program, the EOC Manager (Fire Division Chief) is responsible for ensuring the readiness of the EOC.

The City of Murrieta has developed a set of quick response references (checklist) for the Murrieta EOC. The set checklist is located in Part Two of the City's *Emergency Operation Plan*. The checklist enumerates issues that are related to wildfire/structural fire disasters and emergencies.

RIVERSIDE COUNTY MULTI-JURISDICTIONAL LOCAL HAZARD MITIGATION PLAN[15]

Table 6.6-2, *Riverside County Local Jurisdiction Hazard Assessment Worksheet* of *Section 6.6*, *Emergency Response*, provides a detailed identification and analysis of the hazards faced by Riverside County and the City of Murrieta according to the *Riverside County Multi-Jurisdictional Local Hazard Mitigation Plan* (LHMP). *Table 6.6-2* assigns each hazard a severity rating, indicating the amount of damage that would be done to the County and the City and its population should the hazard occur. *Table 6.6-2* also assigns a probability rating, indicating the likelihood that the hazard may occur within the County and City. Both ratings are on a scale of 0-4, with 4 being the most severe or the most likely to occur. Within the County, wildland fires are assigned a severity rating of 3 and a probability rating of 4. Within the City, wildland fires are assigned a severity rating of 3 and a probability rating of 2.

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13 *Murrieta Fire Department Fire Protection Plan*, dated February 2005.

14 *Murrieta Emergency Operations Plan, Part 1: Basic Plan*, and *City of Murrieta Emergency Operations Plan, Part 2: Supporting Documents*, City of Murrieta, June 2008.

15 *Murrieta Emergency Operations Plan, Part 1: Basic Plan*, and *City of Murrieta Emergency Operations Plan, Part 2: Supporting Documents*, City of Murrieta, June 2008.

GOALS, OBJECTIVES, AND POLICIES

The following goals, objectives, and policies from the *City of Murrieta General Plan*, dated June 21, 1994, *Safety Element*, updated February 6, 2001, shall be applied to all projects within the Plan Study Area:

Goal S-6: Fire and Life Safety

Provide citizens of Murrieta with a fire and physically safe community.

Objective S-6: Provide a safe living environment ensuring adequate fire protection services to prevent and reduce the loss of life and property from structural, wildland, and wildland/urban fire damage.

Policy S-6.1a: The Fire Department shall maintain, and if necessary, strengthen review of projects and development proposals, and upgrade fire prevention standards and mitigation measures in areas of high fire hazard, and throughout the City.

Policy S-6.1b: Any development proposed within wildland fire hazard areas should be reviewed by the Fire Department for compliance with the Department's Fuel Modification Plan.

Policy S-6.1c: As part of the development review process ensure that water main capabilities are adequate to meet fire flow requirements for residential and commercial/industrial areas as set forth by the Fire Department.

Policy S-6.1d: The Fire Department should place the first due EMT-D engine company on-scene within 7 ½ minutes total response time for 90 percent of medical incidents and within 8 minutes for 90 percent of fire incidents. The first due company provides the capacity to treat moderate or greater injuries, or be able to advance a hose line for fire control, or be able to effect a rescue of trapped occupants.

Policy S-6.1e: The Fire Department units shall be located and staffed so that an effective force of three companies and a supervisor, a total of 10 personnel, are available to all areas of the City within a maximum of twelve minutes total response time for 90 percent of all structure fires, wildland fires, and medical incidents with five or more patients. These companies provide a force that can effectively contain a structure fire to the building of origin in moderate risk occupancies, contain 95 percent of wildland fires to less than 10 acres, and treat and triage multiple casualty incidents.

Policy S-6.1f: Require all publicly maintained streets, roads, alleys, and other public ways, to be identified by name with a standard sign distinctly marked and clearly visible.

Policy S-6.1g: Maintain current, accurate, and consistent address mapping and posting for all structures in the City. Ensure street names are not duplicated and are unique to distinguish from others in City. Discourage the use of complex and difficult to pronounce street names.

Policy S-6.1h: The Fire Department and the school districts serving the City should encourage and assist the districts in fire education programs using displays and demonstrations of the more involved aspects of fire safety (i.e. major contributing factors to fire hazard and the relationship of fire to human safety).

Policy S-6.1i: Continue efforts to reduce fire hazards associated with older buildings, multi-family housing, and fire-prone industrial facilities throughout the City.

Policy S-6.1j: The Fire Department shall continue to coordinate fire protection services with the Riverside County Fire Department, California Department of Forestry and all other agencies and districts with fire protection powers.

Policy S-6.1k: The Fire Department shall ensure all property in the City and successive uses of individual buildings comply with the latest edition of the Uniform Fire Code, California Fire Code and other applicable building and fire standards.

Policy S-6.1l: As new development occurs, ensure that outlying areas of the Plan Area can be served by fire communication systems. As necessary, provide for the construction of radio towers (repeater sites) to allow for adequate radio communication.

Policy S-6.1m: In cooperation with the California Department of Forestry, and in accordance with all applicable State and local legislation, identify areas within the City, Sphere of Influence, and along the City boundaries, that present the potential for large scale wildland fires.

Findings

- Conditions of development are currently required, such as Class A roofing, noncombustible siding and 100-foot fuel buffer zones, to protect the community from wildland/urban interface fires.

- Wildland fire hazards exist in varying degrees over approximately 90 percent of Riverside County and the City of Murrieta in open space, parklands, and agricultural areas

- According to the existing *City of Murrieta General Plan Final EIR*, 24 businesses in the City of Murrieta incorporated hazardous materials into their production or service processes and 27 businesses generated hazardous waste.

- RBF searched all sites within the EnviroStor database in the General Plan Study Area resulting in one listed regulatory property.

- RBF searched all sites within the GeoTracker database in the General Plan Study Area resulting in 34 regulatory sites.

Significance Thresholds

The following thresholds for determining the significance of impacts related to fire hazards are taken from the environmental checklist form contained in Appendix G of the most recent update of the *California Environmental Quality Act (CEQA) Guidelines*, and will be used in the Environmental Impact Report. Impacts related to fire hazards are considered significant if implementation of the General Plan would:

- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

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

    - Fire protection, including medical aid.

Sources Cited

California Department of Forestry and Fire Protection website, http://www.fire.ca.gov/about/about.php, accessed December 4, 2009.

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Riverside County Fire Department website, http://www.rvcfire.org/opencms/about_us/, accessed December 4, 2009.

Introduction

This section identifies existing and past hazardous waste and substance sites located within the General Plan Study Area. These sites pose an individual and collective threat to public health, safety, and the environment.

Regulatory Context

Applicable Federal, State, and local regulatory policies and law that apply to hazards and hazardous materials are discussed below.

FEDERAL

United States Environmental Protection Agency

The United States Environmental Protection Agency (U.S. EPA) and the California Department of Toxic Substance Control (DTSC) developed and continue to update lists of hazardous wastes subject to regulation. Regulation of hazardous wastes is provided on both the State and Federal levels. In addition to the U.S. EPA and the DTSC, the Regional Water Quality Control Board (RWQCB), Santa Ana Region (Region 8), is the enforcing agency for the protection and restoration of water resources, including remediation of unauthorized releases of hazardous substances in soil and groundwater.

Department of Toxic Substances Control

The responsibility for implementation of the Resource Conservation and Recovery Act (RCRA) was given to California EPA's Department of Toxic Substances Control in August 1992. The DTSC is also responsible for implementing and enforcing California's own hazardous waste laws, which are known collectively as the Hazardous Waste Control Law. Although similar to RCRA, the California Hazardous Waste Control Law and its associated regulations define hazardous waste more broadly and so regulate a larger number of chemicals. Hazardous wastes regulated by California but not by EPA are called "non-RCRA hazardous wastes."

Federal Emergency Management Agency

The Federal Emergency Management Agency (FEMA) performs the following: advises on building codes and flood plain management; teaches people how to get through a disaster; helps equip local and state emergency preparedness; coordinates the federal response to a disaster; makes disaster assistance available to states, communities, businesses and individuals; trains emergency managers; supports the nation's fire service; and administers the national flood and crime insurance programs

STATE

Unified Hazardous Waste and Hazardous Materials Management Regulatory Program

The "Unified Hazardous Waste and Hazardous Materials Management Regulatory Program" (Program) was created in 1993 by Senate Bill 1082 to consolidate, coordinate, and make consistent the administrative requirements, permits, inspections, and enforcement activities for environmental and emergency management programs. The Program is implemented at the local government level by Certified Unified Program Agencies (CUPA). The Program consolidates, coordinates, and makes consistent the following hazardous materials and hazardous waste programs (Program Elements):

- Hazardous Waste Generation (including on-site treatment under Tiered Permitting);
- Aboveground Petroleum Storage Tanks (only the Spill Prevention Control and Countermeasure Plan or "SPCC");
- Underground Storage Tanks (USTs);
- Hazardous Material Release Response Plans and Inventories;
- California Accidental Release Prevention Program (Cal ARP); and
- Uniform Fire Code Hazardous Material Management Plans and Inventories.

Accidental Release Prevention Law

The State's Accidental Release Prevention Law provides for consistency with Federal laws (i.e., the Emergency Preparedness and Community Right-to-Know Act and the Clean Air Act) regarding accidental chemical releases and allows local oversight of both the State and Federal programs. State and Federal laws are similar in their requirements; however, the California threshold planning quantities for regulated substances are lower than the Federal quantities. Local agencies may set lower reporting thresholds or add additional chemicals to the program. The Accidental Release Prevention Law is implemented by the CUPA and requires that any business, where the maximum quantity of a regulated substance exceeds the specified threshold quantity, register with the County as a manager of regulated substances and prepare a Risk Management Plan. A Risk Management Plan must contain an off-site consequence analysis, a five-year accident history, an accident prevention program, an emergency response program, and a certification of the truth and accuracy of the submitted information. Businesses submit their plans to the CUPA, which makes the plans available to emergency response personnel. The Business Plan must identify the type of business, location, emergency contacts, emergency procedures, mitigation plans, and chemical inventory at each location.

Transportation of Hazardous Materials/Wastes

Transportation of hazardous materials/wastes is regulated by California Code of Regulations (CCR) Title 26. The Federal Department of Transportation (DOT) is the primary regulatory

authority for the interstate transport of hazardous materials. The DOT establishes regulations for safe handling procedures (i.e., packaging, marking, labeling and routing). The California Highway Patrol (CHP) and the California Department of Transportation (Caltrans) enforce Federal and State regulations and respond to hazardous materials transportation emergencies. Emergency responses are coordinated as necessary between Federal, State and local governmental authorities and private persons through a State mandated Emergency Management Plan.

Worker and Workplace Hazardous Materials Safety

Occupational safety standards exist to minimize worker safety risks from both physical and chemical hazards in the workplace. The California Division of Occupational Safety and Health (Cal/OSHA) is responsible for developing and enforcing workplace safety standards and assuring worker safety in the handling and use of hazardous materials. Among other requirements, Cal/OSHA requires many businesses to prepare Injury and Illness Prevention Plans and Chemical Hygiene Plans. The Hazard Communication Standard requires that workers be informed of the hazards associated with the materials they handle.

LOCAL

Riverside County Community Health Agency – Department of Environmental Health

The Environmental Protection and Oversight Division (EPO) is one of the two divisions of the Department of Environmental Health (DEH). The EPO Division has regulatory control over a number of hazardous materials, land use and water system based program.

The Hazardous Materials Management Division (HMMD) is one of the three divisions of the Department of Health (DEH) of the Riverside County Community Health Agency. HMMD is the CUPA for Riverside County responsible for regulating hazardous materials business plans and chemical inventory, hazardous waste and tiered permitting, underground storage tanks, and risk management plans.

Existing Conditions

The production and use of hazardous materials has become a normal part of society. A hazardous material is any substance that may be explosive, flammable, poisonous, corrosive, radioactive, reactive, or any combination thereof, because of its quantity, concentration or characteristics. Hazardous materials require special care in handling due to the hazards they pose to public health, safety, and the environment. A hazardous incident involves the uncontrolled release of a hazardous substance(s) during storage or use from a fixed facility or mobile transport. Releases of hazardous materials can be damaging when they occur in highly

populated areas or along transportation routes used simultaneously by commuters and hazardous materials transports.[1]

MAJOR SOURCES OF HAZARDOUS MATERIALS INCIDENTS

Transport of Hazardous Materials/Waste

Hazardous substance incidents are likely to occur within the City of Murrieta due to the multitude of transportation systems (highways and railways). Transportation of hazardous materials/wastes is regulated by California Code of Regulations (CCR) Title 26. The Federal DOT is the primary regulatory authority for the interstate transport of hazardous materials. The DOT establishes regulations for safe handling procedures (i.e., packaging, marking, labeling and routing). The California Highway Patrol (CHP) and the California Department of Transportation (Caltrans) enforce Federal and State regulations and respond to hazardous materials transportation emergencies. Emergency responses are coordinated as necessary between Federal, State and local governmental authorities and private persons through the *Murrieta Emergency Operations Plan*.

Major transportation routes within the City include surface streets and freeways. Regional access to the General Plan Study Area is provided primarily by Interstates 15 and 215, which traverse generally through the western and central portion of the City. Another significant regional roadway facility is State Route 79 (Winchester Road) along the eastern border of Murrieta.[2]

Fixed Facility

Many businesses within the City handle, transport, and/or store hazardous materials. Also, commercial and retail businesses in Murrieta have very small amounts of hazardous materials. Many smaller chemical users such as school laboratories and stores maintain hazardous materials on-site. These hazardous materials may threaten human health or the environment. Potential hazards are found in materials that are toxic, flammable, corrosive, or reactive. It should be noted that existing Federal, State, and local laws regulate the use, transport, disposal, and storage of hazardous materials within the City.

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1 *Murrieta Emergency Operations Plan, Part 1: Basic Plan*, and *City of Murrieta Emergency Operations Plan, Part 2: Supporting Documents*, City of Murrieta, June 2008.

2 *City of Murrieta General Plan, Circulation Element*, prepared by EIP Associates, updated January 10, 2006.

Agricultural Businesses[3]

The agricultural businesses in and around the City may also be a likely source of hazardous materials incidents. Accidental releases of fertilizers, pesticides, and other agricultural chemicals may be harmful to the public health, safety, and the environment.

Another source of hazardous materials incidents is the illegal manufacturing of drugs in clandestine laboratories. In many instances, the residue and hazardous waste from these laboratories are illegally dumped, posing a major public health and safety hazard and a threat to the environment.

Clandestine Dumping

Clandestine dumping of toxic materials and hazardous materials/waste on public or private property is a criminal act due to the health and safety threat it poses. As the costs and restrictions increase for legitimate hazardous waste disposal sites, it is anticipated that illegal dumping of hazardous materials would increase proportionately.

UNDERGROUND STORAGE TANK (UST) CLEAN UP PROGRAM

Under contract with the State Water Resources Control Board (SWRCB), the Riverside County Department of Environmental Health, Local Oversight Program (LOP) oversees the investigation and cleanup of soil and groundwater contamination resulting from unauthorized releases of petroleum products (diesel fuel, gasoline, waste oil, etc.) from leaking USTs. The cleanup of these sites is necessary to protect the groundwaters of the State from contamination and to protect the public from exposure to hazardous materials.[4]

MURRIETA EMERGENCY OPERATIONS PLAN[5]

The City of Murrieta Emergency Operations Plan (EOP) addresses the planned response to extraordinary emergency situations associated with natural disasters, national security emergencies, and technological incidents affecting the City of Murrieta. The EOP describes the operations of the City of Murrieta Emergency Operations Center (EOC), which is the central management entity responsible for directing and coordinating the various City departments and other agencies in their emergency response activities. The EOC centralizes the collection and dissemination of information about the emergency and makes policy-level decision about response priorities and the allocation of resources. As part of the City's Emergency

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3 *Murrieta Emergency Operations Plan, Part 1: Basic Plan*, and *City of Murrieta Emergency Operations Plan, Part 2: Supporting Documents*, City of Murrieta, June 2008.

4 Riverside County Community Health Agency, Department of Environmental Health website, http://www.rivcoeh.org/opencms/rivcoeh/ProgServices/EPO_Division/LOP.html, accessed December 3, 2009.

5 *Murrieta Emergency Operations Plan, Part 1: Basic Plan*, and *City of Murrieta Emergency Operations Plan, Part 2: Supporting Documents*, City of Murrieta, June 2008.

Management Program, the EOC Manager (Fire Division Chief) is responsible for ensuring the readiness of the EOC.

The City of Murrieta has developed a set of quick response references (checklist) for the Murrieta EOC. The set checklist is located in Part Two of the City's *Emergency Operation Plan*. The checklist enumerates issues that are related to hazardous materials accidents.

RIVERSIDE COUNTY MULTI-JURISDICTIONAL LOCAL HAZARD MITIGATION PLAN[6]

Table 6.6-2, Riverside County Local Jurisdiction Hazard Assessment Worksheet of Section 6.6, Emergency Response, provides a detailed identification and analysis of the hazards faced by Riverside County and the City of Murrieta according to the Riverside County Multi-Jurisdictional Local Hazard Mitigation Plan (LHMP). Table 6.6-2 assigns each hazard a severity rating, indicating the amount of damage that would be done to the County and the City and its population should the hazard occur. Table 6.6-2 also assigns a probability rating, indicating the likelihood that the hazard may occur within the County and City. Both ratings are on a scale of 0-4, with 4 being the most severe or the most likely to occur. Within the County, hazardous materials accidents are assigned a severity rating of 3 and a probability rating of 3. Within the City, hazardous materials accidents are assigned a severity rating of 3 and a probability rating of 3.

HAZARDOUS MATERIALS SITES

According to the *City of Murrieta General Plan Final EIR*, 24 businesses in the City of Murrieta incorporated hazardous materials into their production or service processes and 27 businesses generated hazardous waste. The majority of these businesses included automotive services, dry cleaners, photo processing, printing, lithography, and medical services. Potential hazards associated with hazardous materials include fires, explosions, and leaks.

The storage of hazardous materials in businesses poses a threat to occupants, the public, neighboring occupancies and fire fighters. Hazardous materials disclosure allows for the inspection and notification of all businesses within the Murrieta Fire Department that generate, store, and use hazardous materials. The Murrieta Fire Department will take an active role in the inspection of businesses with hazardous materials. The Murrieta Fire Department will monitor the CUPA data to ensure that the data is timely and accurate.[7] Monitoring of sites which have contamination associated with underground tanks used to store petroleum products is the primary responsibility of the California Department of Health Services and the Regional Water Quality Control Board.[8]

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6 Ibid.

7 *Murrieta Fire Department Fire Protection Plan*, dated February 2005.

8 *City of Murrieta General Plan, Safety Element*, prepared by EIP Associates, updated February 6, 2001.

Through regular inspections, the Murrieta Fire Department can identify hazardous conditions and can obtain compliance through the fire code for the safety of citizens and fire fighters alike should a hazardous materials fire or release occur. In the event of a hazardous materials incident within the General Plan Study Area, the Murrieta Fire Department would initially respond with further assistance provided by the CFD Hazardous Materials Response Team and the County Health Department.[9] The types and amounts of hazardous materials found in most communities, or passing through on freeways, have created a very real challenge to the fire service. All Murrieta Fire Department personnel receive first responder operations training for hazardous materials. This is the next level of training above a standard fire company, but below the expertise of a full time dedicated hazardous response team. All Murrieta Fire Department personnel are also trained in hazardous materials decontamination procedures. Engine Company personnel should be able to determine that a problem exists, be able to isolate the problem, and assist an advanced team when they arrive.[10]

REPORTED REGULATORY PROPERTIES

Department of Toxic Substances Control

RBF searched the General Plan Study Area on the EnviroStor Database. EnviroStor Database was developed by the DTSC to allow the public to search for properties regulated by the DTSC's Site Mitigation and Brownfields Reuse Program where extensive investigation and/or cleanup actions are planned or have been completed. RBF makes no claims as to the completeness or accuracy of EnviroStor Database; our review of EnviroStor Database's findings can only be as current as their listings and may not represent all known or potential hazardous waste or contaminated sites. RBF searched all sites within EnviroStor database in the General Plan Study Area. The following search resulted in one listed regulatory property located within the boundaries of the City; refer to *Table 6.5-1*, *DTSC & Geo Tracker Identified Regulatory Sites Within Murrieta*, for a detailed listing of the property and refer to *Exhibit 6.5-1*, *Regulatory Sites Within Murrieta*, for the location of the property.

GeoTracker

In addition to the EnviroStor Database mentioned above, RBF searched the General Plan Study Area on GeoTracker. GeoTracker was developed pursuant to a mandate by the California State Legislature to investigate the feasibility of establishing a statewide Geographic Information System (GIS) for leaking underground fuel tank (LUFT) sites and is maintained by the SWRCB. RBF makes no claims as to the completeness or accuracy of GeoTracker; our review of GeoTracker's findings can only be as current as their listings and may not represent all known or potential hazardous waste or contaminated sites. The following search resulted in 34 listed regulatory properties located within the boundaries of the City; refer to *Table 6.5-1*, for detailed listings of the properties and refer to *Exhibit 6.5-1*, for locations of the sites.

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9 *City of Murrieta Final General Plan EIR*, prepared by EIP Associates, June 1994.

10 *Murrieta Fire Department Fire Protection Plan*, dated February 2005.

Table 6.5-1
DTSC & GEO TRACKER Identified Regulatory Sites Within Murrieta

Site Name/ Address	Site Information	Cleanup Status
Crossroads Investors III, LLC 24250 Adams Avenue[1]	The 20-acre site consists of a vacant lot bounded by a private elementary school to the southeast, Jeffeson Avenue to the northeast, single family dwellings to the northwest, and Adams Avenue to the southwest. In the 1950's a portion of the site was used for a lead acid battery reclamation and processing facility. Since then part of the buildings were used for a Christian school (1960s to 1977). Due to the lead contamination from the battery recycling operation, the U.S. Environmental Agency (USEPA) conducted site investigation and emergency remediation at the site in 1988 at a request from the Riverside County Environmental Health Department. The emergency remediation work included scraping of contaminated soil and placing it beneath an asphalt cover on the site. Under the DTSC oversight the Draft Removal Action Workplan (RAW) proposed to remove all contaminated soil posing health risk, and dispose it off site at a regulated facility. Some less contaminated soil posing a lower health risk will be removed from the site and may be processed elsewhere for reuse.	No Cleanup Status Certified as of 12/24/02
Bear Creek Golf Course 22640 Bear Creek Drive N	Leaking Underground Tank (LUST) Cleanup Site	Completed – Case Closed
Calvery Chapel 39405 Murrieta Hot Springs Road	Leaking Underground Tank Cleanup Site	Completed – Case Closed
Chevron Station #201241 40500 California Oaks Road	Leaking Underground Tank Cleanup Site	Open – Assessment & Interim Remedial Action
Gerald Johnson Property 42451 Guava Street	Leaking Underground Tank Cleanup Site	Completed – Case Closed
Inco Development Corporation 24391 Washington	Leaking Underground Tank Cleanup Site	Completed – Case Closed
Mobil Service Station 18-BX6 39850 Los Alamos Road	Leaking Underground Tank Cleanup Site	Completed – Case Closed
Murrieta Nursery 41541 Ivy Street	Leaking Underground Tank Cleanup Site	Open – Site Assessment
Rancho California Spa II 40050 Murrieta Hot Springs	Leaking Underground Tank Cleanup Site	Completed – Case Closed
Shell Service Station 39614 Los Alamos	Leaking Underground Tank Cleanup Site	Open – Verification Monitoring
Shell Service Station 121641 25336 Madison Avenue	Leaking Underground Tank Cleanup Site	Open – Site Assessment

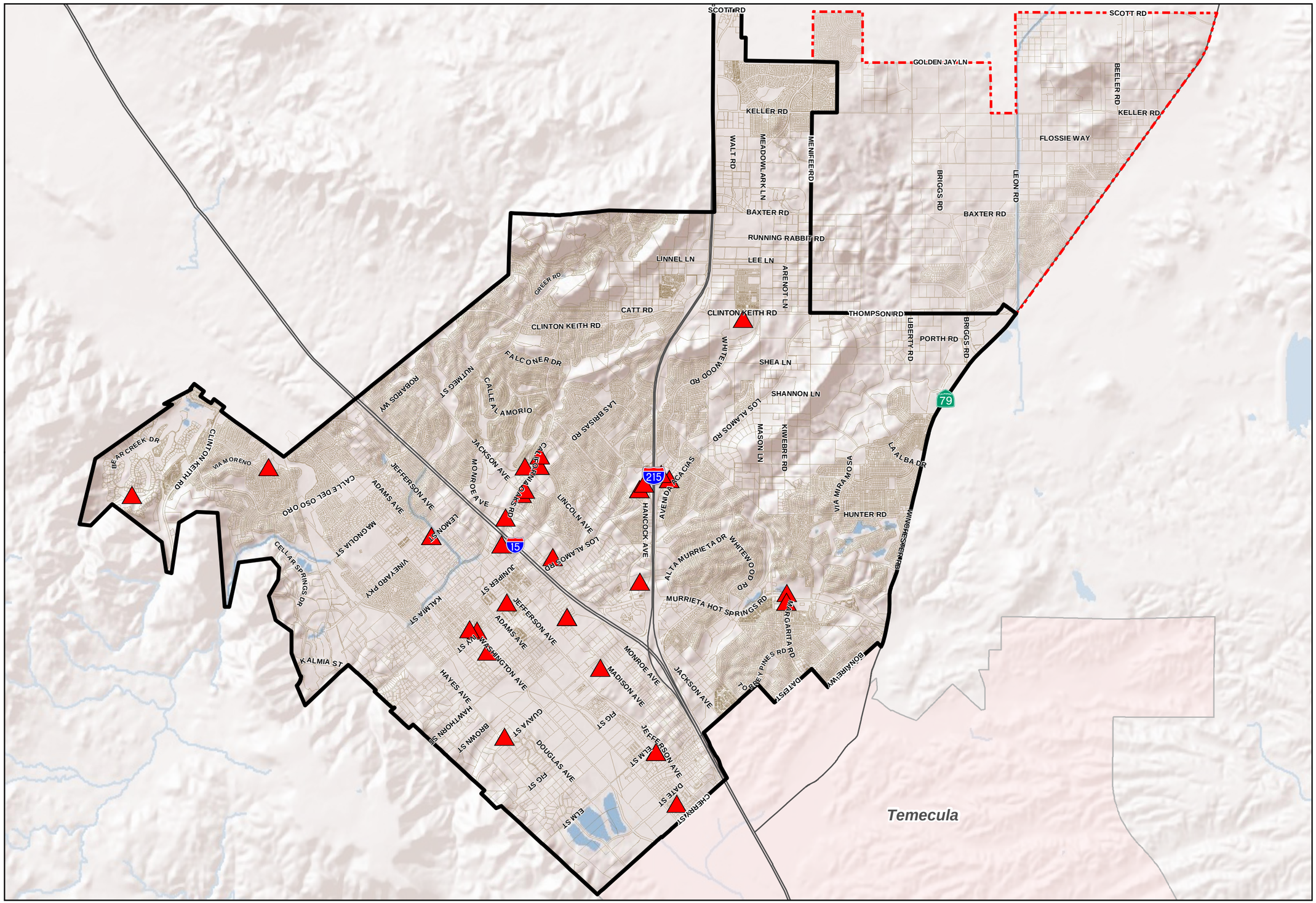
Table 6.5-1 (Continued)
DTSC & GEO TRACKER Identified Regulatory Sites Within Murrieta

Site Name/ Address	Site Information	Cleanup Status
Stan's Service 41991 Ivy Street	Leaking Underground Tank Cleanup Site	Open – Remediation
AM/PM Mini Market #5471 41240 Kalmia Street	Permitted Underground Storage Tank Facilities	-
California Oaks Shell 40981 California Oaks Road	Permitted Underground Storage Tank Facilities	-
Chevron Stations Inc. #1484/201241 40500 California Oaks Road	Permitted Underground Storage Tank Facilities	-
Excalibur Fuels #5 40648 California Oaks Road	Permitted Underground Storage Tank Facilities	-
Grease Monkey Monroe Avenue	Permitted Underground Storage Tank Facilities	-
Mobil Station #18-BX6 39850 Los Alamos Road	Permitted Underground Storage Tank Facilities	-
Murrieta Shell 39614 Los Alamos Road	Permitted Underground Storage Tank Facilities	-
Rancho Springs Medical Center 25500 Medical Center Drive	Permitted Underground Storage Tank Facilities	-
SKS, Inc. 41981 Avenida Alvarado	Permitted Underground Storage Tank Facilities	-
Texaco #2128 40375 California Oaks Road	Permitted Underground Storage Tank Facilities	-
Texaco Star Mart 25336 Madison Avenue	Permitted Underground Storage Tank Facilities	-
Verizon Murrieta Company 24961 Washington Avenue	Permitted Underground Storage Tank Facilities	-

Table 6.5-1 (Continued)
DTSC & GEO TRACKER Identified Regulatory Sites Within Murrieta

Site Name/ Address	Site Information	Cleanup Status
Verizon Temecula Company 41611 Reagan Avenue	Permitted Underground Storage Tank Facilities	-
Cole Canyon School Site Via Alisol	DTSC Cleanup Sites	No Action Required
Crossroads Investors III, LLC 24250 Adams Avenue	DTSC Cleanup Sites	Certified
Elementary School No. 9 Early Lane/Winchester Drive/Hunter Road	DTSC Cleanup Sites	No Action Required
Elementary School Site No. 10	DTSC Cleanup Sites	No Action Required
High School No. 3 Los Alamos Monroe Avenue	DTSC Cleanup Sites	No Further Action
Regional Learning Center – Murrieta 41350 Guava Street	DTSC Cleanup Sites	No Action Required
Sunny Fresh Cleaners 39605 E. Los Alamos Road, Suite E	DTSC Cleanup Sites	Refer: 1248 Local Agency
Vista Murrieta High Whitewood Road/Clinton Keith Road	DTSC Cleanup Sites	No Acton Required
Classic Cleaners 40605 California Oaks Road	Other Cleanup Sites	Open - Remediation
Las Brisas Cleaners	Other Cleanup Sites	Open – Site Assessment

Source: Geotracker website, http://geotracker.waterboards.ca.gov/map/default.asp, accessed December 7, 2009.
1. Department of Toxic Substances Control, EnviroStor Database, http://www.envirostor.dtsc.ca.gov/public/, accessed December 7, 2009.



LEGEND

- Hazardous Sites
- Parcels
- Sphere of Influence
- City Boundary

December 18, 2009

0 0.5 1
Miles

Source:
City of Murrieta,
ESRI, GeoTracker
Department of Toxic Substances Control, EnviroStor Database

RBF CONSULTING

12/18 JN 10-106976 HazardousMaterials.mxd

Identified Hazardous Materials Sites

Exhibit 6.5-1

Back of 11 x 17 exhibit page

GOALS, OBJECTIVES, AND POLICIES

The following goals, objectives, and policies from the *City of Murrieta General Plan*, dated June 21, 1994, *Safety Element*, updated February 6, 2001, shall be applied to all projects within the Plan Study Area:

Goal S-10 Hazardous Materials and Waste:

Reduce threats to public health and safety from hazardous materials, especially threats induced by earthquakes and accidental leaks and spills.

Objective S-10.1: Ensure the safe and prudent use of hazardous materials, and control the quantity of hazardous materials handled within the City.

Policy S-10.1a: No specified hazardous waste facility shall be located within 100 feet of an active fault.

Policy S-10.1b: Review proposed development projects involving the use, storage and disposal of hazardous materials within the intent of minimizing the magnitude and probability of a hazardous event.

Policy S-10.1c: Assist in maintaining all personnel of the Murrieta Fire Department at the Hazardous Materials First Responder Operational level. The operational level will allow firefighters responding to hazardous materials incidents to protect nearby persons, environment or property during the initial stages of a hazardous materials incident, to initiate preliminary action, and assist an advanced response team from a County-wide joint powers team or from the County of Riverside.

Policy S-10.1d: Land uses involved in the production, storage, transportation, handling, or disposal of hazardous materials will be located a safe distance from land uses that may be adversely impacted by such uses.

Policy S-10.1e: Incorporate by reference the relevant portions of County Hazardous Waste Management Plan.

Objective S-10.2: Control the amount of hazardous wastes generated, stored, and disposed of by Murrieta residents.

Policy S-10.2a: Adopt a Household Hazardous Waste Element and implement appropriate programs consistent with the Public Resources Code.

Objective S-10.3: Ensure safe transportation of hazardous waste, in coordination with CalTrans to make freeways commuter safe, such as barricades, signage, enforcement and closings.

Policy S-10.3a: Specified hazardous waste facilities shall use routes that can safely accommodate additional truck traffic, do not pass through residential areas, and use interstate or state divided highways as major routes.

Policy S-10.3b: In cooperation with the County Environmental Health Services Department, Murrieta Fire Department and City Building and Safety Division require new businesses to submit detailed information regarding the amounts of types of hazardous materials used and hazardous waste generated, the business procedures used to manage these substances, and emergency procedures in place to handle an accident.

Findings

- According to the existing *City of Murrieta General Plan Final EIR*, 24 businesses in the City of Murrieta incorporated hazardous materials into their production or service processes and 27 businesses generated hazardous waste.
- RBF searched all sites within EnviroStor database in the General Plan Study Area resulting in one listed regulatory property located within the boundaries of the City.
- RBF searched all sites within the GeoTracker database in the General Plan Study Area resulting in 34 regulatory properties located within the boundaries of the City.

Significance Thresholds

The following thresholds for determining the significance of impacts related to hazards and hazardous materials are taken from the environmental checklist form contained in Appendix G of the most recent update of the *California Environmental Quality Act (CEQA) Guidelines*, and will be used in the Environmental Impact Report. Impacts related to hazards and hazardous materials are considered significant if implementation of the General Plan would:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.

- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment.

- For a Project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area.

- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

- Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildland.

Sources Cited

City of Murrieta Final General Plan EIR, prepared by EIP Associates, June 1994.

City of Murrieta General Plan, prepared by EIP Associates, June 1994.

City of Murrieta General Plan, prepared by EIP Associates, June 21, 1994, *Circulation Element*, updated January 10, 2006.

City of Murrieta General Plan, prepared by EIP Associates, June 21, 1994, *Safety Element*, updated February 6, 2001.

City of Murrieta website, Fire Department, http://www.murrieta.org/services/fire/index.asp, accessed December 4, 2009.

Department of Toxic Substances Control, EnviroStor Database, http://www.envirostor.dtsc.ca.gov/public/, accessed December 4, 2009

Geotracker website, http://geotracker.waterboards.ca.gov/map/default.asp, accessed December 7, 2009.

Murrieta Emergency Operations Plan, Part 1: Basic Plan, and *City of Murrieta Emergency Operations Plan, Part 2: Supporting Documents*, City of Murrieta, June 2008.

Murrieta Fire Department Fire Protection Plan, dated February 2005.

Riverside County Community Health Agency, Department of Environmental Health website, http://www.rivcoeh.org/opencms/rivcoeh/ProgServices/EPO_Division/LOP.html, accessed December 3, 2009.

Introduction

The preservation of life, property, and the environment is an inherent function of local, state, and federal government. The City of Murrieta prepared an Emergency Operations Plan (EOP) to ensure the most effective allocation of resources for protection of people and property in time of a disaster or emergency. The objective of the EOP is to coordinate and incorporate all the facilities and personnel of the City into an efficient organization capable of responding effectively to all disasters and emergencies.

Regulatory Context

FEDERAL EMERGENCY MANAGEMENT AGENCY[1]

The Federal Emergency Management Agency (FEMA) performs the following: advises on building codes and flood plain management; teaches people how to get through a disaster; helps equip local and state emergency preparedness; coordinates the federal response to a disaster; makes disaster assistance available to states, communities, businesses and individuals; trains emergency managers; supports the nation's fire service; and administers the national flood and crime insurance programs.

Existing Conditions

EMERGENCY RESPONSE

The Murrieta Fire Department communications are critical to the success of any emergency operation. Emergency 911 services are provided by the Murrieta Police Department as a joint police/fire dispatch center. The dispatch center operates as a primary safety answering point (PSAP) fielding local emergency 911 calls without having to transfer calls to other law or fire agencies.[2] The dispatch center is staffed 24 hours a day, seven days a week and dispatched Murrieta fire, police, paramedics, and ambulance services.[3]

The dispatch center is inter-connected to neighboring law and fire dispatch centers as well as AMR Ambulance dispatch, the County Operational Area, School District, and utility companies. The dispatch center is also interconnected to fire apparatus via radios with three 150 megahertz (mgz) frequencies, Verizon wireless mobile data computers and Nextell cellular telephone/radios. These duplicate systems allow for backup forms of communication between the dispatch center, vehicles and personnel.[4]

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1 FEMA website, http://www.fema.gov/about/what.shtm, accessed November 17, 2009.
2 Ibid.
3 City of Murrieta website, Police Department, 24-Hour Emergency Dispatch Center, http://www.murrieta.org/datapages/dataprograms.asp?id=1, accessed December 1, 2009.
4 *Murrieta Fire Department Fire Protection Plan*, dated February 2005.

The Murrieta Fire Department is evaluating the feasibility of incorporating Emergency Medical Dispatch (EMD) into the current dispatching system to provide emergency medical assistance to 911 callers through properly trained dispatchers using the national and state recognized EMD program.[5]

Evacuation Routes

Currently, the City of Murrieta has no defined emergency routes. Interstate 15 (I-15) and Interstate 215 (I-215) may be considered emergency routes as they traverse the City granting access from many of the main thoroughfares.[6]

Emergency Incident Information

In the event of a major emergency such as fire, hazardous materials spill, police activity or other situation which may directly impact the City of Murrieta or its residents, the "Emergency Incident Information" City website page will contain updated information on the nature of the incident, potential impacts to traffic circulation, possible evacuations and/or other pertinent information. The City also has an emergency radio station AM 1640.[7]

Riverside County Early Warning Notification System Public Sign-Up Page

Residents of Riverside County who wish to be notified of emergency events and disasters in their area can sign up for the Riverside County's Early Warning Notification System.

Amber Alert

The Amber Alert Program is a voluntary partnership between law-enforcement agencies, transportation agencies, broadcasters, and the wireless industry, to activate an urgent bulletin in the most serious child-abduction cases. The goal of an Amber Alert is to instantly inform the entire community to assist in the search for and the safe recovery of the child.[8]

Emergency Preparedness Checklist

The Murrieta Fire Department provides an emergency preparedness checklist available on the City website. The checklist recommends stocking up now for at least seven days on emergency supplies (survival, safety and comfort, tools and supplies, cooking, sanitation supplies, and

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5 *Murrieta Fire Department Fire Protection Plan*, dated February 2005.

6 Email correspondence, Mr. Dan Wilson, Emergency Preparedness Coordinator, dated December 23, 2009.

7 City of Murrieta website, Fire Department, Emergency Incident Information, http://www.murrieta.org/datapages/datafull.asp?id=91, accessed December 1, 2009.

8 U.S. Department of Justice website, Office of Justice Programs, Amber Alert, http://www.amberalert.gov/, accessed December 1, 2009.

family action planning) to add to family safety and comfort during and after an earthquake or other major emergency.[9]

Home Emergency Comprehensive Supply List

The Murrieta Fire Department provides a home emergency comprehensive supply list available on the City website. The list provides advice and suggestions on storage of emergency supplies and food, a seven-day survival pack, additional suggested items, survival kit for automobile, water suggestions and how to purify water, and further details regarding emergency food supplies and supplies needed in an emergency.[10]

Community Emergency Response Team (CERT)

Part of a comprehensive emergency preparedness program is an ongoing public awareness campaign designed to educate and train civilians in the art of surviving a disaster. The Community Emergency Response Team (CERT) is a nationally recognized program designed to train citizens in the skills needed to survive an earthquake or other disaster should emergency services be interrupted for an extended period of time because of the size of the areas affected, lost communications, and impassable roads. CERT training consists of basic understanding of disaster preparation, disaster teamwork, fire suppression, light search and rescue, and First Aid and CPR. A 20-hour course is offered free of charge. Participants receive safety gear, a backpack with rescue equipment, and identification cards to be used in the event of a large-scale City emergency. The threat of a large-scale disaster is present every day and it is each person's responsibility to prepare themselves and their immediate family to survive on their own for a minimum seven days following such an event. Murrieta Firefighters provide the training to the community through groups formed in neighborhoods or businesses.[11]

Urban Search and Rescue (USAR) Task Force

The Murrieta Fire Department is committed to providing residents with access to the most-advanced rescue equipment and techniques. As such, ten of the Department's professional firefighters are Federal Emergency Management Agency-certified as Urban Search and Rescue (USAR) team members, three in training, and 1 special assignment FEMA certified dog handler.[12] They serve the larger community as part of California Task Force 6, supervised by the Riverside City Fire Department and comprised of representatives from several inland empire fire

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9 City of Murrieta website, Fire Department Emergency Preparedness Checklist, http://www.murrieta.org/uploads/forms/fire/Emergency%20Prep%20Checklist.pdf, accessed December 1, 2009.

10 City of Murrieta website, Fire Department Home Emergency Comprehensive Supply List, http://www.murrieta.org/uploads/forms/fire/Home%20Emergency%20Supplies%20_Trash%20Can_%20color.pdf, accessed December 1, 2009.

11 City of Murrieta website, Fire Department, Disaster Preparation and Community Emergency Response Team (CERT), http://www.murrieta.org/datapages/datafull.asp?id=36, accessed December 1, 2009.

12 Email correspondence, Mr. Gary Whisenand, Division Chief – Operations/Fire Marshal, dated December 22, 2009.

agencies. The USAR team members regularly train with other agencies for rapid deployment to local, regional, and national incidents. Recent activations of USAR Task Force 6 included a team of five that aided the Gulf Coast region of Louisiana for approximately three weeks following Hurricane Katrina and the reactivation of the team just three days after returning from New Orleans to help with Hurricane Rita.[13]

The Murrieta Fire Department's involvements with the USAR task force are part of our ongoing commitment to provide quality service to the citizens of Murrieta and the larger community. Most deployments to federal disasters are reimbursable through FEMA and the benefits of having such highly trained search and rescue professionals are immeasurable.[14]

EMERGENCY OPERATIONS PLAN[15]

The City of Murrieta Emergency Operations Plan (EOP) addresses the planned response to extraordinary emergency situations associated with natural disasters, national security emergencies, and technological incidents affecting the City of Murrieta. The EOP describes the operations of the City of Murrieta Emergency Operations Center (EOC), which is the central management entity responsible for directing and coordinating the various City departments and other agencies in their emergency response activities. The EOC centralizes the collection and dissemination of information about the emergency and makes policy-level decisions about response priorities and the allocation of resources. As part of the City's Emergency Management Program, the EOC Manager (Fire Division Chief) is responsible for ensuring the readiness of the EOC.

The EOP is designed to establish the framework for implementation of the California Standardized Emergency Management Systems (SEMS) for the City, which is located within the Riverside County Operational Area (OA) and Mutual Aid Region VI as defined by the Governor's Office of Emergency Services (State OES). The Plan also implements the National Incident Management System (NIMS) which is being integrated into SEMS at the Governor's directive (Executive Order S-2-05). The Plan's purpose is to facilitate multi-agency and multi-jurisdictional coordination, particularly between the City of Murrieta and Riverside County, special districts, and State agencies, in emergency operations. This document is operational in design.

Departments within the City that have roles and responsibilities identified by the plan need to develop and maintain their own department-specific EOPs, emergency response checklists based on and consistent with the provisions of the plan, and detailed Standard Operating Procedures (SOPs).

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[13] City of Murrieta website, Fire Department, USAR Task Force, http://www.murrieta.org/datapages/datafull.asp?id=37, accessed December 1, 2009.

[14] Ibid.

[15] *City of Murrieta Emergency Operations Plan, Part 1: Basic Plan*, City of Murrieta, June 2008.

Exhibit 6.6-1, *Emergency Management Planning System*, presents the overall comprehensive emergency management planning system. *Exhibit 6.6-1* summarizes the relationship of the EOP with the various other emergency planning documents in use in the City. The EOP defines the overall structure of emergency operations in the City and presents the overall context within which the other emergency operations planning documents reside. The associated functional response plan annexes provide detailed plans for selected functions that may be performed for any type of disaster while the hazard-specific response plan annexes provide detailed plans associated with specific types of hazards. Cohesively, the documents identified in *Exhibit 6.6-1* fully define emergency operations for the City of Murrieta.

The EOP is divided in two major parts: Part One, the Basic Plan and Part Two, Supporting Documents.

Part 1 – Basic Plan

The Basic Plan provides an overview of the Emergency Operations system at the policy and operations levels. The first five sections of the plan address policy-level issues and provides an overview of the organizational, legal, and management concepts that are in place for the City. The primary audiences for these sections are City Executives, City Departmental Management, City Emergency Management Program, and anyone interested in an overview of emergency operations in the City of Murrieta.

Part 2 – Supporting Documents

The Supporting Documents consists of detailed information that will be used by each member of the staff in the course of doing his or her job within the EOC. This material consists of checklists and other reference data to be used by each staff member. The objective of Part Two is to provide a concise package of materials for each EOC staff member during an emergency. The Part Two material must be current and is expected to change on a regular basis.

Emergency Management Phases

Emergency management activities during peacetime and national security emergencies are associated with four federally-defined phases: preparedness, response, recovery, and mitigation.

Preparedness Phase

The preparedness phase involves activities that are undertaken in advance of a disaster or emergency. These activities develop operational capabilities and effective responses to disasters and emergencies. These actions may include mitigation activities, emergency/disaster planning, training and exercises, and public education. During this

phase, the City will place emphasis on training, conducting exercises, emergency planning, and public awareness and education, and resource management.

Response Phase

The City's response to an emergency can be roughly divided between initial response and extended response. The system is flexible so that emergency personnel can engage in the appropriate actions as dictated by an incident's characteristics.

Recovery Phase

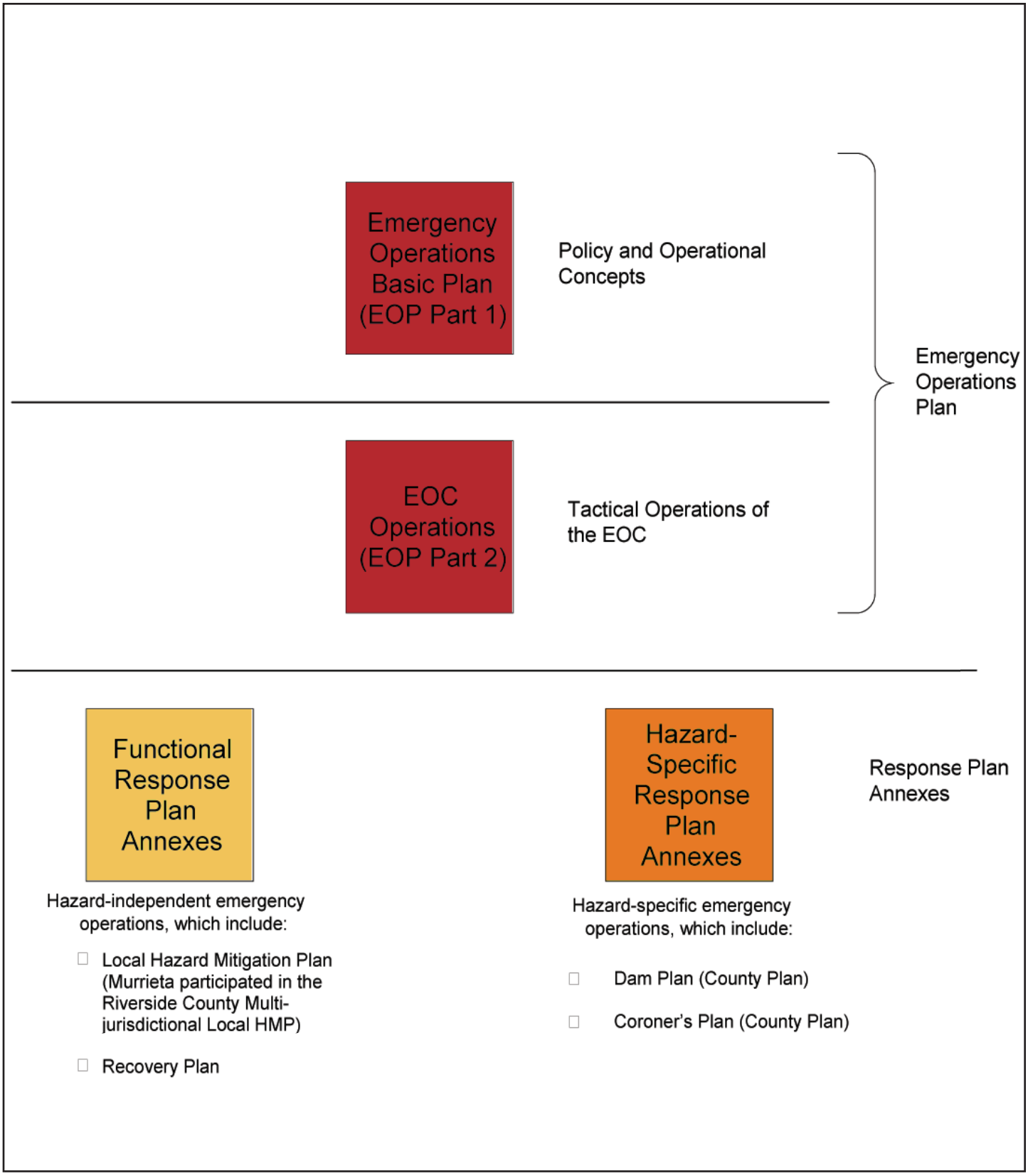
Recovery activities involve the restoration of services to the public and returning the affected area(s) to pre-emergency conditions. Recovery activities may be both short-term and long-term, ranging from restoration of essential utilities, such as power and water, to mitigation measures designed to prevent future occurrences of a given threat. These activities may reflect the continuation of the response phase activities, or they may include new activities wholly enacted as a part of the recovery process after the disaster has abated.

Mitigation Phase

Mitigation phase occurs both before and after disasters or emergencies. Post-disaster mitigation is actually part of the recovery process. This includes reducing or eliminating the impact of hazards that exist within the City of Murrieta. Pre-disaster mitigation involves activities designed to reduce the damaging impact of a disaster should it occur at some future date.

Organizational Levels

SEMS is designed to be applicable to all organizational functions and levels. There are five designated levels in the SEMS organization: field response, local government, operational area, region, and state. These levels are activated as necessary based on the characteristics of a given incident and resource availability.



Source: City of Murrieta Emergency Operations Plan, Part I: Basic Plan, June 2008.

Field Response

The field response level is the level at which emergency response personnel and resources, under the command of an appropriate authority, carry out tactical decisions and activities in direct response to a threat or incident. The Incident Command System (ICS) is used to coordinate and control field-level response activities. ICS provides a standard organizational structure to facilitate coordination of multiple response organizations at the field level. Departmental operational plans describe the specifics of the implementation of ICS in the various City departments. During a field response operation, the City EOC may or may not be activated, depending on the severity and type of incident.

Local Government

Local governments include cities, counties, and special districts. Local governments manage and coordinate the overall emergency response and recovery activities within their jurisdiction. Local governments are required to use SEMS when their EOC is activated or a local emergency is declared or proclaimed in order to be eligible for State funding of response-related personnel costs. Under SEMS, the local government emergency management organization and its relationship to the field response level may vary, depending upon factors related to population, geographical size, complexity, and function.

Operational Area

Under SEMS, the OA refers to an intermediate level of the State's emergency services organization which encompasses the County and all political subdivisions located within the County, including special districts. The OA manages and coordinates resources, information, and priorities among local governments within the OA, and serves as the coordination and communication link between the local government level and regional level. The decision on organization and structure within the OA is made by the governing bodies of the County and the political subdivision within the County.

Region

The State of California has created three OES Administrative Regions. The City of Murrieta in the County of Riverside is part of the Southern Region. The State has been further divided into six Mutual Aid Regions. The purpose of a Mutual Aid Region is to provide for the effective coordination and application of mutual aid and other emergency related activities. The Regional level coordinates and manages resources and information among OAs within a designated Mutual Aid Region and between the OAs and the State level. The Regional level also coordinates overall State agency support for emergency

response activities within the Region. The City of Murrieta is part of Mutual Aid Region VI.

State

The State level manages State resources in response to the emergency needs of the other levels, coordinates and manages mutual aid among the Mutual Aid Regions and between the Regional level and State level, and serves as the communication and coordination link with the Federal disaster response system.

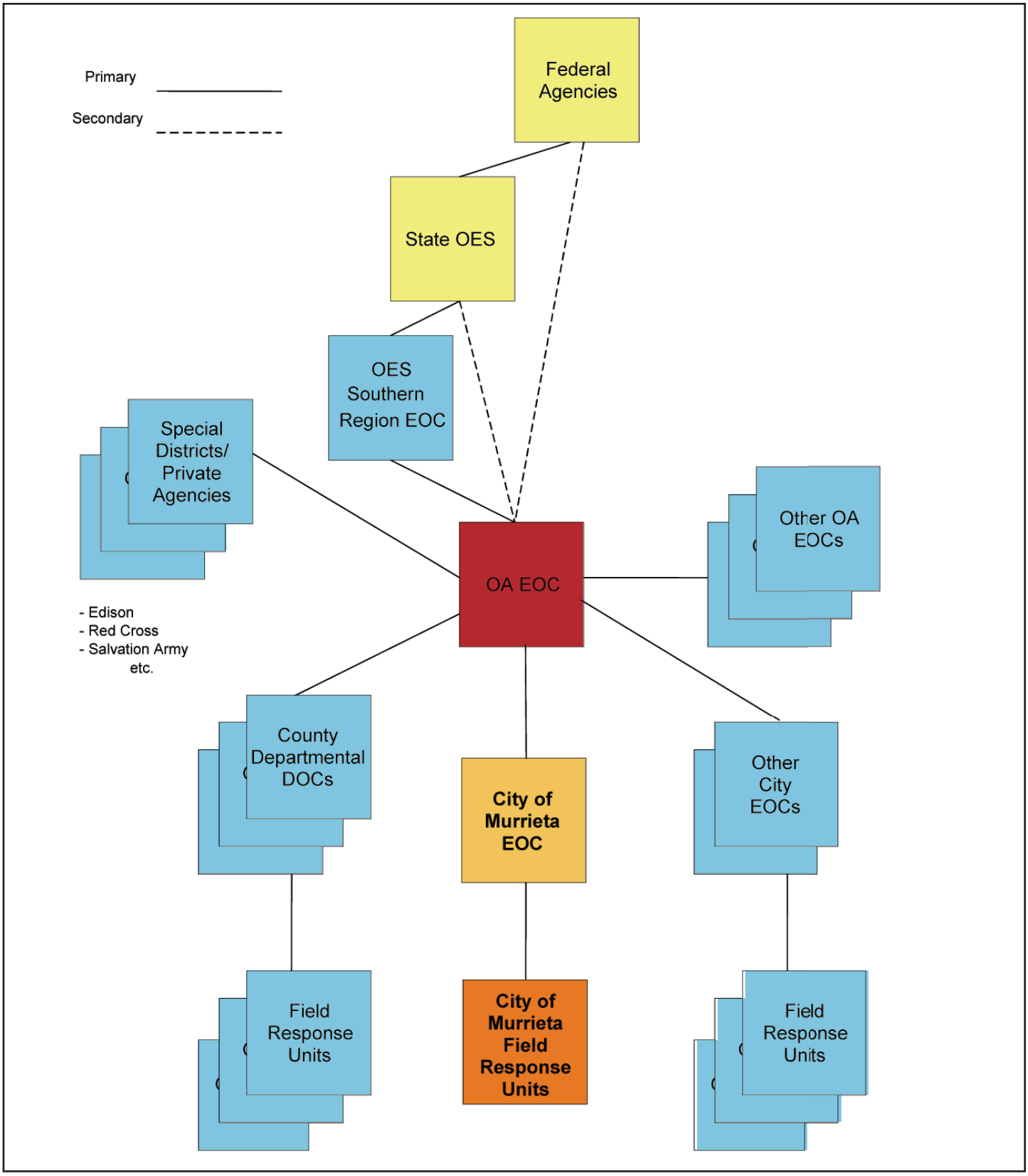
Exhibit 6.6-2, *EOC Interfaces*, provides a diagram indicating the organizations that the City of Murrieta's EOC interfaces with during an activation period. The City's EOC will direct all activities during an emergency.

Mutual Aid Agreement

Incidents frequently require responses that exceed the resource capabilities of the affected response agencies and jurisdictions. When this occurs, mutual aid is provided by other agencies, local governments, and the State. Mutual aid is voluntary aid and assistance by the provision of facilities and services, including fire, police, medical and health, transportation, communications, utilities, and other assistance.

The foundation of California's emergency planning and response capability is a statewide mutual aid system, which is designed to ensure that adequate facilities, resources, and other support are provided to jurisdictions whenever their own resources prove to be inadequate to cope with a given situation. The basis for the system is the California Master Mutual Aid Agreement, as referenced in the California Master Mutual Aid Agreement. The Agreement created a formal process, in which each jurisdiction retains control of its own personnel and facilities, but can give and receive help whenever it is needed. As previously mentioned, the City of Murrieta is part of Mutual Aid Region VI. Inter-agency, multi-agency, and discipline-specific mutual aid system coordination is used by the City of Murrieta and other member jurisdictions of the Riverside County for coordinating mutual aid. The Murrieta Fire Department is also part of the standard Countywide and Statewide mutual aid systems.

Volunteer and private agencies are part of the City of Murrieta's mutual aid system. The American Red Cross and Salvation Army are significant elements of response to meet the care and shelter needs of disaster victims. Private sector medical/health resources are also an essential part of the medical response. Volunteer and private agencies mobilize volunteers and other resources through their own systems. They may also identify resource needs that are not met within their own systems that would be requested through the mutual aid system.



Source: City of Murrieta Emergency Operations Plan, Part I: Basic Plan, June 2008.

EOC Interfaces

Exhibit 6.6-2

Riverside County Multi-Jurisdictional Local Hazard Mitigation Plan (LHMP)

The City of Murrieta participated as a "submitting jurisdiction" in the Riverside County Multi-Jurisdictional LHMP, approved by FEMA and State OES in May 2005. The County's LHMP provides a detailed identification and analysis of the hazards faced by Riverside County. *Table 6.6-1*, *Specific Hazards Summary*, lists the specific information extracted from the County's Multi-Jurisdictional LHMP for the City of Murrieta.

Table 6.6-1
Specific Hazards Summary

Jurisdiction	Hazard Type	Hazard Name	In Jurisdiction?	Adjacent to Jurisdiction?
Murrieta	Dam	Diamond Valley Lake	No	Yes
Murrieta	Fault	Elsinore	Yes	No
Murrieta	Flood Channel	Line G	Yes	No
Murrieta	Lake	Diamond Valley Lake	No	Yes
Murrieta	Lake	Lake Skinner	No	Yes
Murrieta	River	Murrieta Creek	Yes	No
Murrieta	Stream	Warm Springs	Yes	No

Source: *City of Murrieta Emergency Operations Plan, Part 1: Basic Plan*, City of Murrieta, June 2008.

The approved LHMP identifies and analyzed an extensive list of the hazards faced by the County. It assigns each hazard a severity rating, indicating the amount of damage that would be done to the County and City and its population should the hazard occur. It also assigns a probability rating, indicating the likelihood that that hazard may occur within the County and City. Both ratings are on a scale of 0-4, with 4 being the most severe or the most likely to occur. *Table 6.6-2*, *Riverside County Local Jurisdiction Hazard Assessment Worksheet*, summarizes the hazards identified and the ratings assigned by the LHMP.

Table 6.6-2
Riverside County Local Jurisdiction Hazard Assessment Worksheet

Hazard	County		City of Murrieta		
	Severity 0 – 4	Probability 0 – 4	Severity 0 – 4	Probability 0 – 4	Ranking 1 – 19
EARTHQUAKE	4	3	4	3	1
WILDLAND FIRE	3	4	3	2	2
FLOOD	3	3	3	3	12
OTHER NATURAL HAZARDS					
Drought	3	3	3	3	11
Landslides	2	3	2	1	14
Insect Infestation	3	4	3	3	9
Extreme Summer/Winter Weather	2	4	2	3	13
Sever Wind Event	3	3	2	2	10
AGRICULTURAL					
Disease/Contamination	3	4	3	3	7
Terrorism	4	2	4	2	8
OTHER MAN-MADE					
Pipeline	2	3	2	3	16
Aqueduct	2	3	2	3	15
Transportation	2	4	2	3	17
Blackouts	3	4	3	3	4
Hazmat Accidents	3	3	3	3	3
Nuclear Accident	4	2	4	1	18
Terrorism	4	2	4	2	6
Civil Unrest	2	2	2	2	19
Jail/Prison Event	1	2	2	2	5

Source: *City of Murrieta Emergency Operations Plan, Part 1: Basic Plan*, City of Murrieta, June 2008.

Hazard Summaries

Although the City of Murrieta has numerous hazard threats, earthquakes, wildland fire, flood, hazardous materials, and terrorism are hazards that the City has taken special notice of and has developed specific activation checklists. Additionally, several of these hazards have specific plans written for the hazard addressing specific response activities. Some of the hazard specific plans have been written at the City specific level while others have been written at the County/Operational Area Level. The Hazard specific plans and checklists are located within the *Murrieta Emergency Operations Plan*.

Authorities

The following provides emergency authorities for supporting and/or conducting emergency operations within the City of Murrieta:

Federal

- Federal Civil Defense Act of 1950 (Public Law 920, as amended)
- Robert T. Stafford Disaster Relief and Emergency Assistance Act of 1988 (Public Law 93-288, as amended)
- Army Corps of Engineers Flood Fighting (Public Law 84-99)
- Federal Communications Corporation (RACES)
- Title 19, Public Safety, Division 2, Chapter 6, Natural Disaster Assistance Act, 2900

State

- California Emergency Services Act (Chapter 7 of Division 1 of Title 2 of the Government Code)
- SEMS Regulations (Chapter 1 of Division 2 of Title 19 of the California Code of Regulations and California Government Code 8607 et seq.)
- Executive Order S-2-05 regarding integration of NIMS into SEMS
- Hazardous Materials Area Plan Regulations (Chapter 4 of Division 2, Title 19, Article 3, 2720-2728 of the California Code of Regulations and California Health and Safety Code, Division 20, Chapter 6.95, Section 25503.5)
- California Department of Water Resources Flood Control (California Water Code 128)
- Orders and Regulations which may be Selectively Promulgated by the Governor during a State of Emergency
- Orders and Regulations which may be Selectively Promulgated by the Governor to take effect upon the existence of a State of War
- California (Labor Code, 3211.92b)

Local

- City of Murrieta Municipal Code (MMC) Title 2, Chapter 2.60
- Riverside County Emergency Services Ordinance 533.4, adopted August 15, 1995, by the Riverside County Board of Supervisors
- Resolution 91-60, Relating to Participation in the California Disaster and Civil Defense Master Mutual Aid Agreement, adopted November 5, 1991
- Resolution 91-61, adopting Workmen's Compensation Benefits for Disaster Service Workers, adopted November 5, 1991
- Resolution 95-377, adopting the SEMS, August 1, 1995
- Resolution 03-1228, adopting the EOP, adopted August 19, 2003

- Resolution 06-1625, approving the integration of the NIMS into the City of Murrieta's Emergency Management System, adopted August 1, 2006
- Resolution 06-1626, adopting the Revised City of Murrieta Emergency Operations Plan
- County Resolution 95-206, adopting the Operational Area Agreement, August 15, 1995

The EOP is an extension of the State Emergency Plan. It will be reviewed and exercise periodically and revised as necessary to meet changing conditions. The City gives its full support to the plan and urges all officials, employees, and the citizens, individually and collectively, to do their share in the total emergency effort of the City.

GOALS, OBJECTIVES, AND POLICIES

The following goals, objectives, and policies from the *City of Murrieta General Plan*, dated June 21, 1994, *Safety Element*, updated February 6 ,2001, shall be applied to all projects within the Plan Study Area:

Goal S-8 Emergency Preparedness:

Utilize a City Emergency Operation Plan (EOP).

Objective S-8.1: Minimize the amount of loss of life, injury, property damage and disruption of vital services resulting from earthquakes, hazardous material incidents, and other natural and man-made disasters.

Policy S-8.1a: Support and expand existing emergency preparedness and disaster response programs, and initiate a program for post-disaster planning.

Policy S-8.1b: In cooperation with the Murrieta Fire Department, continue to update the Emergency Operation Plan for the City of Murrieta on a regular basis.

Policy S-8.1c: Continue to enhance emergency preparedness and awareness of public safety hazards through community education and self-help programs.

Policy S-8.1d: In cooperation with the Murrieta Fire Department, continue to actively participate in Operational Area (Riverside County) Mutual Aid Region, and local planning, training, and coordinating exercises.

Findings

- The City of Murrieta prepared an Emergency Operations Plan (EOP) to ensure the most effective allocation of resources for protection of people and property in time of a disaster or emergency.

- As part of the City's Emergency Management Program, the EOC Manager (Fire Division Chief) is responsible for ensuring the readiness of the EOC.

- The Murrieta Fire Department will evaluate the feasibility of incorporating Emergency Medical Dispatch (EMD) into the current dispatching system to provide emergency medical assistance to 911 callers through properly trained dispatchers using the national and state recognized EMD program.

- The City of Murrieta is part of Mutual Aid Region VI. The Murrieta Fire Department, volunteer and private agencies, American Red Cross and Salvation Army, and private sector medical/health resources are all essential parts of the Murrieta's medical response.

Significance Thresholds

The following thresholds for determining the significance of impacts related to emergency response are taken from the environmental checklist form contained in Appendix G of the most recent update of the *California Environmental Quality Act (CEQA) Guidelines*, and will be used in the Environmental Impact Report. Impacts related to emergency response are considered significant if implementation of the General Plan would:

- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

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

  - Fire protection, including medical aid.
  - Police protection.

Sources Cited

City of Murrieta General Plan, prepared by EIP Associates, June 1994.

City of Murrieta General Plan, prepared by EIP Associates, June 21, 1994, *Safety Element*, updated February 6, 2001.

City of Murrieta website, Fire Department, http://www.murrieta.org/services/fire/index.asp, accessed December 1, 2009.

City of Murrieta website, Police Department, 24-Hour Emergency Dispatch Center, http://www.murrieta.org/datapages/dataprograms.asp?id=1, accessed December 1, 2009.

Email correspondence, Mr. Dan Wilson, Emergency Preparedness Coordinator, dated December 23, 2009.

Email correspondence, Mr. Gary Whisenand, Division Chief – Operations/Fire Marshal, dated December 22, 2009.

FEMA website, http://www.fema.gov/about/what.shtm, accessed November 17, 2009.

Murrieta Emergency Operations Plan, Part 1: Basic Plan, and *City of Murrieta Emergency Operations Plan, Part 2: Supporting Documents*, City of Murrieta, June 2008.

Murrieta Fire Department Fire Protection Plan, dated February 2005.

U.S. Department of Justice website, Office of Justice Programs, Amber Alert, http://www.amberalert.gov/, accessed December 1, 2009.

Introduction

This section summarizes the existing air quality conditions within the City of Murrieta. Information in this section is based primarily on the Aerometric Data Analysis and Measurement System (ADAM) Statistics (California Air Resources Board [CARB] 2004 through 2008); the *CEQA Air Quality Handbook* prepared by the South Coast Air Quality Management District (SCAQMD), April 1993 (as revised through November 1993); and the *SCAQMD Final Air Quality Management Plan* (August 2007).

Regulatory Context

The City of Murrieta is located within the South Coast Air Basin (Basin). Regulatory oversight for air quality in the Basin rests with SCAQMD at the regional level, the CARB at the State level and the United States (U.S.) Environmental Protection Agency (EPA) Region IX office at the Federal level.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

The EPA is responsible for implementing the Federal Clean Air Act (FCAA), which was first enacted in 1955 and amended numerous times after. The FCAA established Federal air quality standards known as the National Ambient Air Quality Standards (NAAQS). These standards identify levels of air quality for "criteria" pollutants that are considered the maximum levels of ambient (background) air pollutants considered safe, with an adequate margin of safety, to protect the public health and welfare. The criteria pollutants are ozone (O_3), carbon monoxide (CO), nitrogen dioxide (NO_2) (which is a form of nitrogen oxides [NO_X]), sulfur dioxide (SO_2) (which is a form of sulfur oxides [SO_x]), particulate matter less than 10 and 2.5 microns in diameter (PM_{10} and $PM_{2.5}$, respectively) and lead (Pb); refer to *Table 7.1-1*, *National and California Ambient Air Quality Standards*.

CALIFORNIA AIR RESOURCES BOARD

The California Air Resources Board (CARB) administers the air quality policy in California. The California Ambient Air Quality Standards (CAAQS) were established in 1969 pursuant to the Mulford-Carrell Act. These standards, included with the NAAQS in *Table 7.1-1*, are generally more stringent and apply to more pollutants than the NAAQS. In addition to the criteria pollutants, CAAQS have been established for visibility reducing particulates, hydrogen sulfide, and sulfates. The CCAA, which was approved in 1988, requires that each local air district prepare and maintain an Air Quality Management Plan (AQMP) to achieve compliance with CAAQS. These AQMP's also serve as the basis for preparation of the State Implementation Plan (SIP) for the State of California.

Similar to the EPA, CARB also designates areas within California as either attainment or nonattainment for each criteria pollutant based on whether the CAAQS have been achieved. Under the CCAA, areas are designated as nonattainment for a pollutant if air quality data show that a state standard for the pollutant was violated at least once during the previous three calendar years. Exceedances that are affected by highly irregular or infrequent events are not considered violations of a state standard, and are not used as a basis for designating areas as nonattainment.

Under the CCAA, the Basin is designated as a nonattainment area for O_3, PM_{10}, and $PM_{2.5}$. The Basin is designated as an attainment area for CO, NO_2, SO_2, and Pb; refer to *Table 7.1-1*. Similar to the FCAA, all areas designated as nonattainment under the CCAA are required to prepare plans showing how the area would meet the CAAQS by its attainment dates.

On March 12, 2009, CARB submitted recommendations for revisions to the area designations for the federal 8-hour ozone standard. These recommendations are based on ozone air quality data collected during 2006 through 2008. As recommended, there are 21 nonattainment areas. These include all areas that were nonattainment for the previous standard and six new or expanded areas. In addition to the nonattainment areas, CARB recommends 12 areas be designated as attainment and five areas be designated as unclassified. Based on CARB's recommendation, the City of Murrieta, which is within the South Coast Air Basin, would remain a nonattainment area. The EPA has one year to review the recommendations and will notify states by November 12, 2009 if they plan to modify the state-recommended areas. After allowing time for comment and submission of additional information, the EPA will issue final designations by March 12, 2010.

The amendments to the CCAA establish the CAAQS and a legal mandate to achieve these standards. These standards apply to the same criteria pollutants as the FCAA and also include sulfate, visibility, hydrogen sulfide, and vinyl chloride; refer to *Table 7.1-1*.

The EPA and CARB have designated portions of the Basin as non-attainment for a variety of pollutants, and some of those designations have an associated classification. The Basin has been designated in attainment for carbon monoxide (CO), nitrogen dioxide (NO_X), and sulfur dioxides (SO_X) for both State and Federal standards and is non-attainment for ozone (O_3), PM_{10} and $PM_{2.5}$. Despite implementing many strict controls, the Basin still fails to meet the Federal and State air quality standards for O_3. For the Federal standards, O_3 is designated non-attainment (Serious 17).

Table 7.1-1
National and California Ambient Air Quality Standards

Pollutant	Averaging Time	California[1]		Federal[2]	
		Standard[3]	Attainment Status	Standards[4]	Attainment Status
Ozone (O_3)	1 Hour	0.09 ppm (180 μg/m^3)	**Nonattainment**	NA[5]	NA[5]
	8 Hours	0.07 ppm (137 μg/m^3)	Unclassified	0.075 ppm (147 μg/m^3)	**Nonattainment**
Particulate Matter (PM_{10})	24 Hours	50 μg/m^3	**Nonattainment**	150 μg/m^3	**Nonattainment**
	Annual Arithmetic Mean	20 μg/m^3	**Nonattainment**	NA[6]	**Nonattainment**
Fine Particulate Matter ($PM_{2.5}$)	24 Hours	No Separate State Standard		35 μg/m^3	Unclassified
	Annual Arithmetic Mean	12 μg/m^3	**Nonattainment**	15 μg/m^3	**Nonattainment**
Carbon Monoxide (CO)	8 Hours	9.0 ppm (10 mg/m^3)	Attainment	9 ppm (10 mg/m^3)	Attainment
	1 Hour	20 ppm (23 mg/m^3)	Attainment	35 ppm (40 mg/m^3)	Attainment
Nitrogen Dioxide (NO_2)	Annual Arithmetic Mean	0.030 ppm (56 μg/m^3)	NA	0.053 ppm (100 μg/m^3)	Attainment
	1 Hour	0.18 ppm (338 μg/m^3)	Attainment	N/A	NA
LEAD (PB)	30 days average	1.5 μg/m^3	Attainment	N/A	NA
	Calendar Quarter	N/A	NA	1.5 μg/m^3	Attainment
Sulfur Dioxide (SO_2)	Annual Arithmetic Mean	N/A	NA	0.030 ppm (80 μg/m^3)	Attainment
	24 Hours	0.04 ppm (105 μg/m^3)	Attainment	0.14 ppm (365 μg/m^3)	Attainment
	3 Hours	N/A	NA	N/A	Attainment
	1 Hour	0.25 ppm (655 μg/m^3)	Attainment	N/A	NA
Visibility-Reducing Particles	8 Hours (10 a.m. to 6 p.m., PST)	Extinction coefficient = 0.23 km@<70% RH	Unclassified	**No Federal Standards**	
Sulfates	24 Hour	25 μg/m^3	Attainment		
Hydrogen Sulfide	1 Hour	0.03 ppm (42 μg/m^3)	Unclassified		
Vinyl Chloride	24 Hour	0.01 ppm (26 μg/m^3)	Unclassified		

μg/m^3 = micrograms per cubic meter; ppm = parts per million; km = kilometer(s); RH = relative humidity; PST = Pacific Standard Time.
N/A = Not Applicable

1. California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1- and 24-hour), nitrogen dioxide, suspended particulate matter-PM_{10} 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. In 1990, the California Air Resources Board (CARB) identified vinyl chloride as a toxic air contaminant, but determined that there was not sufficient available scientific evidence to support the identification of a threshold exposure level. This action allows the implementation of health-protective control measures at levels below the 0.010 parts per million ambient concentration specified in the 1978 standard.
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. EPA also may designate an area as *attainment/unclassifiable*, if: (1) it has monitored air quality data that show that the area has not violated the ozone standard over a three-year period; or (2) there is not enough information to determine the air quality in the area. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 μg/m^3 is equal to or less than one. For $PM_{2.5}$, 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.
3. Concentration is expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 mm of mercury. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 mm of mercury (1,013.2 millibar); ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
4. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health.
5. T he Federal 1-hour ozone standard was revoked on June 15, 2005 in all areas except the 14 8-hour ozone nonattainment Early Action Compact (EAC) areas.
6. The Environmental Protection Agency revoked the annual PM_{10} standard in 2006 (effective December 16, 2006).

Source: California Air Resources Board and U.S. Environmental Protection Agency, November 17, 2008.

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

The *2007 Air Quality Management Plan for the South Coast Air Basin* (2007 AQMP), which was adopted in June 2007, proposes policies and measures to achieve federal and state standards for improved air quality in the South Coast Air Basin (Basin) and those portions of the Salton Sea Air Basin (formerly named the Southeast Desert Air Basin) that are under the South Coast Air Quality Management District's (SCAQMD's) jurisdiction. The *2007 AQMP* relies on a multi-level partnership of governmental agencies at the Federal, State, regional, and local level. These agencies (EPA, CARB, local governments, Southern California Association of Governments [SCAG], and the SCAQMD) are the primary agencies that implement the *2007 AQMP* programs. The *2007 AQMP* includes new information on key elements such as:

- Current air quality;
- Improved emission inventories;
- An overall control strategy comprised of: Stationary and Mobile Source Control Measures, SCAQMD, State and Federal Stationary and Mobile Source Control Measures, and the SCAG Regional Transportation Strategy and Control Measures;
- New attainment demonstration for $PM_{2.5}$ and ozone;
- Milestones to the Federal Reasonable Further Progress Plan; and
- Preliminary motor vehicle emission budgets for transportation conformity purposes.

Proposed Rule 2301

The SCAQMD is considering adopting Proposed Rule 2301 (PR 2301) Control of Emissions from New or Redevelopment Projects. This new rule would require projects in the Basin to obtain discretionary approval based on their annual NO_X emissions. The purpose of PR 2301 is to mitigate emission growth from new residential, commercial, industrial, and institutional development, and redevelopment projects. This proposed rule was previously referred to as Emission Growth Measure (EGM)-01 in the *2007 AQMP*. PR 2301 is currently moving through the SCAQMD's rule-making process and holding stakeholder working group meetings in order to develop an approach that will work toward the clean air goals for the region.

The goal of PR 2301 is to reduce construction and operational NO_X emissions from new and redevelopment projects. This reduction would be required through a discretionary process and approval of a Compliance Plan administered by the SCAQMD if projects generate NO_X beyond certain thresholds. For projects meeting or exceeding the operational NO_X threshold, a Compliance Plan must be approved by the SCAQMD before publication of a Notice of Availability of an EIR or negative declaration. As presently drafted, Compliance Plan approval will be required for projects with the following operational emissions:

- Effective January 1, 2010, projects exceeding 10.0 tons per year of NO_X.
- Effective January 1, 2011, projects exceeding 4.0 tons per year of NO_X.
- Effective January 1, 2012, projects exceeding 2.0 tons per year of NO_X.

New development projects produce new sources of air pollution from new vehicle trips, use of consumer products, landscape maintenance, new stationary source processes such as fuel combustion, as well as emissions generated during construction activities. Each day millions of vehicles travel the roads in the Basin and SCAQMD expects the length of vehicle trips to increase as outlying areas continue to be developed. In addition, older residential, commercial and industrial areas may undergo major redevelopment involving construction activities, with emissions comparable to new development projects. Redevelopment projects may also generate additional vehicular traffic compared to the projects they replace because redevelopment projects often involve increasing population density compared to the previous use. Redevelopment includes demolishing existing buildings, increasing overall floor area, or building additional capacity on an existing property.

SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS

The City of Murrieta is an active member of the Southern California Association of Governments (SCAG). SCAG is the regional planning agency for Los Angeles, Orange, Ventura, Riverside, San Bernardino, and Imperial Counties and serves as a forum for regional issues relating to transportation, the economy, community development, and the environment. SCAG serves as the Federally designated metropolitan planning organization for the Southern California region and is the largest metropolitan planning organization in the United States. With respect to air quality planning, SCAG has prepared the Regional Comprehensive Plan and Guide for the region, which includes Growth Management and Regional Mobility chapters that form the basis for the land use and transportation control portions of the *2007 AQMP*. SCAG is responsible under the FCAA for determining conformity of projects, plans, and programs with the SCAQMD.

WESTERN RIVERSIDE COUNCIL OF GOVERNMENTS

The City of Murrieta is also a member of the Western Riverside Council of Governments (WRCOG). WRCOG is the regional planning agency whose purpose is to unify Western Riverside County. WRCOG has 16 member cities, which together with the Riverside County Board of Supervisors and the Eastern and Western Municipal Water Districts have seats on the WRCOG Executive Committee who sets policy for the organization. WRCOG has formed the Clean Cities Coalition and the Regional Air Quality Task Force, which draw members from local jurisdictions, industry, SCAQMD, and environmental groups who are dedicated to achieving air quality goals for the region.

GENERAL PLAN

The existing *Murrieta General Plan* includes an Air Quality element. The Air Quality element set forth goals, objectives, and policies to provide for the attainment of local and regional goals aimed at improving air quality. Air Quality goals included regional efforts, land use and planning, jobs/housing balance, reduction of vehicle miles traveled, enhanced mobility, energy conservation, particulate matter and fugitive dust emissions, and new technology. Implementation of these goals falls under the responsibility of the City's Planning Department, the SCAQMD, and SCAG.

Existing Conditions

REGIONAL AND LOCAL CLIMATE

Geography

The City of Murrieta is located in the South Coast Air Basin (Basin), a 10,743-square mile area bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino and San Jacinto Mountains to the north and east. The Basin includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties, in addition to the San Gorgonio Pass area of Riverside County. The Basin's terrain and geographical location (i.e., a coastal plain with connecting broad valleys and low hills) determine its distinctive climate.

The general region lies in the semi-permanent high-pressure zone of the eastern Pacific. The climate is mild and tempered by cool sea breezes. The usually mild climatological pattern is interrupted infrequently by periods of extremely hot weather, winter storms, or Santa Ana winds. The extent and severity of the air pollution problem in the Basin is a function of the area's natural physical characteristics (weather and topography), as well as man-made influences (development patterns and lifestyle). Factors such as wind, sunlight, temperature, humidity, rainfall, and topography all affect the accumulation and/or dispersion of pollutants throughout the Basin.

Climate

The climate in the Basin is characterized by moderate temperatures and comfortable humidity, with precipitation limited to a few storms during the winter season (November through April). The average annual temperature varies little throughout the Basin, averaging 75 degrees Fahrenheit (°F). However, with a less pronounced oceanic influence, the eastern inland portions of the Basin show greater variability in annual minimum and maximum temperatures. January is usually the coldest month at all locations, while July and August are usually the hottest months of the year. Although the Basin has a semi-arid climate, the air near the surface is moist due to the presence of a shallow marine layer. Except for infrequent periods when dry, continental air is brought into the Basin by offshore winds, the ocean effect is dominant. Periods with heavy

fog are frequent, and low stratus clouds, occasionally referred to as "high fog," are a characteristic climate feature.

Annual average relative humidity is 70 percent at the coast and 57 percent in the eastern part of the Basin. Precipitation in the Basin is typically 9 to 14 inches annually and is rarely in the form of snow or hail due to typically warm weather. The frequency and amount of rainfall is greater in the coastal areas of the Basin.

In the City of Murrieta, the climate is typically hot on summer days and comfortable at night when temperatures tend to be in the 70s and cool during winter when temperatures tend to be in the 50s. The warmest month of the year is July with an average maximum temperature of 98°F, while the coldest month of the year is December with an average minimum temperature of 34°F. Temperature variations between night and day tend to be moderate during summer with a difference that can reach 39°F, and moderate during winter with an average difference of 34°F. The annual average precipitation in Murrieta is 11.4 inches. Rainfall primarily occurs between November and March. The wettest month of the year is February with an average rainfall of 2.9 inches.[1]

Photochemical Smog

The presence and intensity of sunlight are necessary prerequisites for the formation of photochemical smog. Under the influence of the ultraviolet radiation of sunlight, certain original or "primary" pollutants (mainly reactive hydrocarbons and oxides of nitrogen) react to form "secondary" pollutants (primarily oxidants). Since this process is time dependent, secondary pollutants can be formed many miles downwind from the emission sources. Because of the prevailing daytime winds and time-delayed nature of photochemical smog, oxidant concentrations are highest in the inland areas of Southern California.

Temperature Inversions

Under ideal meteorological conditions and irrespective of topography, pollutants emitted into the air would be mixed and dispersed into the upper atmosphere. However, the Southern California region frequently experiences temperature inversions in which pollutants are trapped and accumulate close to the ground. The inversion, a layer of warm, dry air overlaying cool, moist marine air, is a normal condition in the southland. The cool, damp, and hazy sea air capped by coastal clouds is heavier than the warm, clear air that acts as a lid through which the marine layer cannot rise. The height of the inversion is important in determining pollutant concentration. When the inversion is approximately 2,500 feet above sea level, the sea breezes carry the pollutants inland to escape over the mountain slopes or through the passes. At a height of 1,200 feet, the terrain prevents the pollutants from entering the upper atmosphere, resulting in a

[1] The Weather Channel, *Average Weather for Murrieta, CA*, Accessed November 9, 2009. http://www.weather.com/outlook/events/weddings/setthedate/month/average/USCA0748?from=pif_loc_wedding.

settlement in the foothill communities. Below 1,200 feet, the inversion puts a tight lid on pollutants, concentrating them in a shallow layer over the entire coastal basin. Usually, inversions are lower before sunrise than during the daylight hours. Mixing heights for inversions are lower in the summer and more persistent, being partly responsible for the high levels of ozone observed during summer months in the Basin. Smog in Southern California is generally the result of these temperature inversions combining with coastal day winds and local mountains to contain the pollutants for long periods of time, allowing them to form secondary pollutants by reacting with sunlight. The Basin has a limited ability to disperse these pollutants due to typically low wind speeds.

PRIMARY SOURCES OF EMISSIONS

Air pollutants within the City of Murrieta are generated by stationary and mobile sources. These emission sources are described below.

Stationary Sources

Stationary source emissions refer to those that originate from a single place or object that does not move around. Typical stationary sources include power plants, mines, smokestacks, vents, incinerators, buildings, and other facilities using industrial combustion processes. Stationary point sources have one or more emission sources at a facility with an identified location and are usually associated with manufacturing and industrial projects.

Point Sources

The City contains several point sources of air pollutants. A variety of pollutants, including reactive hydrocarbons from activities such as spray painting, are generated by smaller commercial and industrial uses. Industrial uses are generally located in the southern portion of the City. While each use might not represent a significant source of air pollution, the cumulative effects of development within the City would be significant. Although the number and nature of future additional air pollutant point sources is presently unknown, each individual source would be required to comply with rules and regulations established by the SCAQMD. These regulations require that sources of hazardous materials or criteria pollutants above threshold levels obtain permits prior to operation of the facility.

Mobile Sources

Mobile sources of emissions refer to those moving objects that release pollution and include cars, trucks, busses, planes, trains, motorcycles, and gasoline-powered lawn mowers. Mobile source emissions may be classified as on- or off-road sources. Increased traffic volumes within the City of Murrieta could contribute to regional incremental emissions of NO_X, VOC, CO, SO_X, and PM_{10}. The following is a listing of emissions that typically emanate from vehicular sources:

- Vehicle running exhaust (VOC, CO, NO_X, SO_X, and PM_{10});
- Vehicle tire wear particulates (PM_{10});
- Vehicle brake wear particulates (PM_{10});
- Vehicle variable starts (VOC, CO, NO_X);
- Vehicle hot soaks (VOC);
- Vehicle diurnal (VOC);
- Vehicle resting losses (VOC); and
- Vehicle evaporative running losses (VOC).

On-Road Sources

These sources are considered to be a combination of emissions from automobiles, trucks, and indirect sources. Major sources of mobile emissions in the City include the local and regional roadway network. Interstate 15 (I-15) and Interstate 215 (I-215) are the two major regional access routes that pass through the City, as well as State Highway 79 (Winchester Road). In the City, 2004 daily traffic volumes reached 196,000 vehicles per day for I-15; 93,000 vehicles per day for I-215; and 33,500 vehicles per day for Highway 79.[2] Other heavily traveled roadways within the City that contribute to localized air quality emissions are Clinton Keith Road, Scott Road, Washington Avenue, California Oaks Road, Los Alamos Road, Murrieta Hot Springs Road, Jefferson Avenue, Jackson Street, and Antelope Road.

Indirect on-road sources of emissions are those that by themselves may not emit air contaminants; however, they indirectly cause the generation of air pollutants by attracting vehicle trips or by consuming energy. Examples of these indirect sources include an office complex or commercial center that generates trips and consumes energy resources.

Off-Road Sources

Off-road sources include aircraft, construction equipment, and landscape equipment. Primary sources of aircraft traffic within the City are from the privately owned Bear Creek Airport within the City and the French Valley (Rancho California) Airport, located outside of the City's sphere of influence. As a result, aircraft flying over the City of Murrieta can contribute off-road emissions. Construction activities are typically temporary and intermittent and take place at various locations within the City. Landscape equipment emissions occur, and will continue to take place throughout the City, especially within residential areas. There are no railroad tracks located within the City.

Emissions from off-road sources include NO_X and diesel particulate matter, which contribute to serious public health problems. The EPA has set emission standards for the engines used in most construction, agricultural, and industrial equipment. The EPA has adopted off-road diesel fuel

[2] California Department of Transportation, *Traffic and Vehicle Data Systems Unit*, 2008.

requirements to decrease the allowable levels of sulfur, which can damage advanced emission control technologies.

REGIONAL AND LOCAL AIR QUALITY

Riverside County Emissions Inventory

Table 7.1-2, 2008 Estimated Emissions Inventory for Riverside County, summarizes the emissions of criteria air pollutants within Riverside County for various source categories in 2008. According to Riverside County's emissions inventory, vehicular sources are the largest contributor to the estimated annual average air pollutant levels for ROG, CO, NO_X, SO_X, PM_{10}, and $PM_{2.5}$.

Table 7.1-2
2008 Estimated Emissions Inventory for Riverside County

Source Type/Category	Estimated Annual Average Emissions (Tons/Day)					
	ROG	CO	NO_X	SO_X	PM_{10}	$PM_{2.5}$
Stationary Sources						
Fuel Combustion	0.41	2.20	4.33	0.46	0.28	0.28
Waste Disposal	1.17	0.04	0.11	0.02	0.18	0.04
Cleaning and Surface Coating	5.01	0.00	0.00	0.00	0.16	0.16
Petroleum Production Marketing	2.94	-	-	0.00	-	-
Industrial Processes	3.21	0.04	0.15	0.01	3.13	125
Subtotal (Stationary Sources)[1]	**12.75**	**2.29**	**4.59**	**0.49**	**3.75**	**1.72**
Areawide Sources						
Solvent Evaporation	17.55	-	-	-	0.00	0.00
Miscellaneous Processes	4.70	12.80	2.89	0.07	60.74	10.31
Subtotal (Areawide Sources)[1]	**22.26**	**12.80**	**2.89**	**0.07**	**60.75**	**10.31**
Mobile Sources						
On-Road Mobile Sources	32.20	334.48	111.49	0.35	5.80	4.49
Other Mobile Sources	17.81	97.26	34.33	0.31	2.10	1.88
Subtotal (Mobile Sources)[1]	**50.01**	**431.75**	**145.82**	**0.66**	**7.90**	**6.36**
Grand Total for Riverside County[2]	**85.01**	**446.84**	**153.29**	**1.22**	**72.39**	**18.39**

Notes:
1 – Totals may be slightly off due to rounding. Totals are derived from the inventory model, and are not specifically added by category.
2 – This total excludes emissions from natural sources (i.e., biogenic, geogenic, and wildfire sources).

Source: California Air Resources Board, California Emissions Facility Search Engine (CEFS), accessed at: http://www.arb.ca.gov/app/emsinv/emssumcat_query.php?F_DIV=-4&F_DD=Y&F_YR=2008&F_SEASON=A&SP=2009&F_AREA=CO&F_CO=33.

Local Air Quality Monitoring

The SCAQMD monitors air quality at 37 monitoring stations throughout the Basin. Each monitoring station is located within a Source Receptor Area (SRA). The communities within an SRA are expected to have similar climatology and ambient air pollutant concentrations. The City of Murrieta is located in SRA 26 (Temecula Valley). The monitoring stations usually measure pollutant concentrations ten feet above ground level; therefore, air quality is often referred to in terms of ground-level concentrations.

Pollutants Measured

The following air quality information briefly describes the various types of pollutants monitored at the Lake Elsinore, Perris, and Riverside-Magnolia Monitoring Stations. The Lake Elsinore Monitoring Station is the nearest to the City; however, for pollutants not measured at Lake Elsinore, the next closest station was used. Air quality data from 2004 through 2008 is provided in *Table 7.1-3*, *Local Air Quality Levels*.

Carbon Monoxide. Carbon monoxide (CO) is a colorless and odorless gas. The automobile and other types of motor vehicles are the main source of this pollutant in the Basin. CO concentrations are generally higher along roadways, especially in the early mornings. The State and Federal standard for CO is 9.0 parts per million (ppm), averaged over eight hours. The State and Federal standard for CO is 9.0 ppm. The standards were not exceeded between 2004 and 2008.

Nitrogen Dioxide. Nitrogen dioxide (NO_2) (often used interchangeably with NO_X) is a reddish-brown gas with an odor similar to bleach and is the by-product of fuel combustion, which results from mobile and stationary sources. It has complex diurnal concentrations that are typically higher at night. The Basin has relatively low NO_2 concentrations, as very few monitoring stations have exceeded the State standard of 0.18 ppm (one hour) since 1988. NO_2 is itself a regulated pollutant, but it also reacts with hydrocarbons in the presence of sunlight to form O_3 and other compounds that make up photochemical smog. For NO_2, the Basin is designated as being in attainment under both State and Federal standards. From 2004 through 2008, there were no exceedances of the one hour State standard at the Anaheim Monitoring Station. The NO_2 ambient air quality standard was amended on February 22, 2007 to lower the State 1-hour standard to 0.18 ppm and establish a new Federal annual standard of 0.053 ppm.

Table 7.1-3
Local Air Quality Levels

Pollutant	California Standard	Federal Standard	Year	Maximum[1] Concentration	Days (Samples) State/Federal Std. Exceeded
Ozone (O_3) (1-Hour) [2]	0.09 ppm for 1 hour	NA	2004 2005 2006 2007 2008	0.130 ppm 0.149 0.142 0.129 0.139	34/NA 32/NA 42/NA 26/NA 49/NA
Ozone (O_3) (8-Hour)[2]	0.07 ppm for 8 hours	0.08 ppm for 8 hours	2004 2005 2006 2007 2008	0.114 ppm 0.119 0.109 0.109 0.119	78/43 71/41 71/54 56/35 91/69
Carbon Monoxide (CO)[2]	9.0 ppm for 8 hours	9.0 ppm for 8 hours	2004 2005 2006 2007 2008	1.14 ppm 1.00 1.01 1.40 0.84	0/0 0/0 0/0 0/0 0/0
Nitrogen Dioxide (NO_2) [2]	0.25 ppm for 1 hour	0.053 ppm annual average	2004 2005 2006 2007 2008	0.090 ppm 0.065 0.072 0.064 0.055	0/0 0/0 0/0 0/0 0/0
Particulate Matter (PM_{10}) [3,5,6]	50 µg/m^3 for 24 hours	150 µg/m^3 for 24 hours	2004 2005 2006 2007 2008	83.0 µg/m^3 80.0 125.0 1,212.0 85.0	15/0 18/0 18/0 25/2 8/0
Fine Particulate Matter ($PM_{2.5}$) [4,6]	No Separate State Standard	65 µg/m^3 for 24 hours	2004 2005 2006 2007 2008	93.8 µg/m^3 94.9 55.3 68.5 42.9	NA/14 NA/6 NA/9 NA/8 NA/2

ppm = parts per million; PM_{10} = particulate matter 10 microns in diameter or less; NM = not measured; µg/m^3 = micrograms per cubic meter; $PM_{2.5}$ = particulate matter 2.5 microns in diameter or less; NA = not applicable.

Notes:
1. Maximum concentration is measured over the same period as the California Standards.
2. Lake Elsinore-West Flint Street Monitoring Station located at 506 West Flint Street, Lake Elsinore, California 92530.
3. Perris Monitoring Station located at 237 ½ North D Street, Perris, California 92570.
4. Riverside-Magnolia Monitoring Station located at 7002 Magnolia Avenue, Riverside, California 92506.
5. PM_{10} exceedances are based on State thresholds established prior to amendments adopted on June 20, 2002.
6. PM_{10} and $PM_{2.5}$ exceedances are derived from the number of samples exceeded, not days.

Source: Aerometric Data Analysis and Measurement System (ADAM), summaries from 2004 to 2008, http://www.arb.ca.gov/adam.

Ozone. Ozone (O_3), a colorless gas with a sharp odor, is one of a number of substances called photochemical oxidants (highly reactive secondary pollutant). These oxidants are formed when hydrocarbons, nitrogen oxides, and related compounds interact in the presence of ultraviolet sunlight. The State standard for O_3 is 0.09 ppm, averaged over one hour, and 0.07 ppm, averaged over eight hours. Both Federal and State standards designate the Basin as a nonattainment area. The Federal one-hour standard for O_3 was revoked as of June 5, 2005, and therefore no longer applies.

The 1-hour O_3 levels ranged from 0.129 parts per million (ppm) to 0.149 ppm from 2004 to 2008. The 8-hour O_3 levels between 2004 and 2008 ranged from 0.1097 ppm to 0.119 ppm. The State 8-hour standard for O_3 is 0.07, and was approved by CARB on April 28, 2005. The exceedances for the State standards have not yet been provided by CARB. The Federal standard for O_3 has been revoked as of June 2005.

Coarse Particulate Matter (PM_{10}). PM_{10} refers to suspended particulate matter which is smaller than 10 microns (or ten one-millionths) of a meter. PM_{10} arises from sources such as road dust, diesel soot, combustion products, construction operations, and dust storms. PM_{10} scatters light and significantly reduces visibility. In addition, these particulates penetrate in the lungs and can potentially damage the respiratory tract. On June 19, 2003, CARB adopted amendments to the statewide 24-hour particulate matter standards based upon requirements set forth in the Children's Environmental Health Protection Act (Senate Bill 25). The Federal 24-hour standard of 150 $\mu g/m^3$ was retained; this standard was exceeded twice between 2004 and 2008. The State standard for PM_{10} is 50 micrograms per cubic meter ($\mu g/m^3$) averaged over 24 hours; this standard was exceeded 84 days between 2004 and 2008.

Fine Particulate Matter ($PM_{2.5}$). In 1997, the EPA announced new $PM_{2.5}$ standards. Industry groups challenged the new standard in court and the implementation of the standard was blocked. However, upon appeal by the EPA, the U.S. Supreme Court reversed this decision and upheld the EPA's new standards. On January 5, 2005, the EPA published a Final Rule in the Federal Register that designates the Orange County portion of the Basin as a nonattainment area for Federal $PM_{2.5}$ standards.[3] On June 20, 2002, CARB adopted amendments for statewide annual ambient particulate matter air quality standards. These standards were revised/established due to increasing concerns by CARB that previous standards were inadequate, as almost everyone in California is exposed to levels at or above the current State standards during some parts of the year, and the statewide potential for significant health impacts associated with particulate matter exposure was determined to be large and wide-ranging.[4] For $PM_{2.5}$, the State standard is 50 $\mu g/m^3$ and the Federal standard is 35 $\mu g/m^3$ over 24 hours. There were 39 exceedances between 2004 and 2008.

[3] http://www.epa.gov/fedrgstr/EPA-AIR/2005/January/Day-05/a001.pdf

[4] *Staff Report: Public Hearing to Consider Amendments to the Ambient Air Quality Standards for Particulate Matter and Sulfates*. California Environmental Protection Agency, Air Resources Board, May 3, 2002.

Reactive Organic Gases and Volatile Organic Compounds. Hydrocarbon compounds are any compounds containing various combinations of hydrogen and carbon atoms that exist in the ambient air. VOCs contribute to the formation of smog and/or may themselves be toxic. VOCs often have an odor; some examples include gasoline, alcohol, and the solvents used in paints. There are no specific State or Federal VOC thresholds as they are regulated by individual air districts as O_3 precursors.

Lead (Pb). In the Basin, atmospheric lead is generated almost entirely by the combustion of leaded gasoline and contributes less than one percent of the material collected as total suspended particulate. Atmospheric lead concentrations have been reduced substantially in recent years due to the lowering of average lead content in gasoline. Exceedances of the State air quality standard for lead (monthly average concentration of 1.50 $\mu g/m^3$) now are confined to densely populated areas, where vehicle traffic is greatest. Lead was not monitored at the nearby monitoring locations. The Basin has achieved attainment for lead under both State and Federal standards.

TOXIC AIR CONTAMINANTS

Toxic air contaminants are another group of pollutants of concern in Southern California. There are hundreds of different types of toxic air contaminants, with varying degrees of toxicity. Sources of toxic air contaminants include industrial processes such as petroleum refining and chrome plating operations, commercial operations such as gasoline stations and dry cleaners, and motor vehicle engine exhaust. Public exposure to toxic air contaminants can result from emissions from normal operations, as well as accidental releases of hazardous materials during upset spill conditions. Health effects of toxic air contaminants include cancer, birth defects, neurological damage, and death.

California regulates toxic air contaminants through its air toxics program, mandated in Chapter 3.5 (Toxic Air Contaminants) of the *Health and Safety Code* (Health and Safety Code Section 39660 et seq.) and Part 6 (Air Toxics "Hot Spots" Information and Assessment) (Health and Safety Code Section 44300 et seq.). CARB, working in conjunction with the State Office of Environmental Health Hazard Assessment, identifies toxic air contaminants. Air toxic control measures may then be adopted to reduce ambient concentrations of the identified toxic air contaminant to below a specific threshold, based on its effects on health, or to the lowest concentration achievable through use of best available control technology (BACT) for toxics. The program is administered by CARB. Air quality control agencies, including the SCAQMD, must incorporate air toxic control measures into their regulatory programs or adopt equally stringent control measures as rules within six months of adoption by CARB.

SENSITIVE RECEPTORS

Sensitive populations are more susceptible to the effects of air pollution than are the general population. Sensitive populations (sensitive receptors) that are in proximity to localized sources of toxics and CO are of particular concern. Land uses considered sensitive receptors include

residences, schools, playgrounds, childcare centers, athletic facilities, churches, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes. The majority of land uses located within the City that are sensitive to air pollution include residential uses (particularly those in the vicinity of I-15 and I-215), schools, hospitals (particularly the Rancho Springs Medical Center), churches, and parks. Most pollutant sources affecting sensitive receptors in the City include freeways and arterials.

PUBLIC HEALTH

SCAQMD Mates III Study

The Multiple Air Toxics Exposure Study III (MATES III) is a monitoring and evaluation study conducted by the SCAQMD. The MATES III study consists of a monitoring program, an updated emissions inventory of toxic air contaminants, and a modeling effort to characterize risk throughout the Basin. The study concentrates on the carcinogenic risk from exposure to air toxics. Ten monitoring locations measured toxic air contaminants (over 30 air pollutants) once every three days for two years. The monitoring locations were the same as the previous MATES II Study in order to provide comparisons. Additionally, five mobile monitoring platforms were used to determine if gradients existed between communities.

The carcinogenic risk from air toxics in the Basin, based on average concentrations at the fixed monitoring locations, is about 1,200 per million (as compared to the 1,400 per million in the MATES II Study). This risk refers to the expected number of additional cancers in a population of one million individuals that are exposed over a 70-year lifetime. Under the MATES III methodology, approximately 94 percent of the risk is attributed to mobile source emissions, and approximately six percent is attributed to stationary sources. The City of Murrieta is closest to the Rubidoux monitoring location which had relatively moderate levels of risk. The Huntington Park and Inland Valley San Bernardino monitoring locations reported the highest levels of risk. However, as compared to previous studies of the presence of air toxics in the Basin, the MATES III Study found a decreasing risk for air toxics exposure. The study found an estimated Basin-wide population-weighted risk down by eight percent from the MATES II Study. Although the Basin has some areas with higher concentrations of air toxics, these concentrations are declining and conditions are improving. Additionally, the ambient air toxics data from the ten fixed monitoring sites demonstrated a reduction in air toxic levels and risks. Although the model estimates an overall Basin-wide reduction, some areas (near the ports, eastern portions of the Basin, and in northern Los Angeles County) showed an increase in air toxics risk.

SCAQMD Protocol for Air Quality and Health Risk Assessments

The SCAQMD recommendations within the *Protocol for Air Quality and Health Risk Assessments* (*Protocol*) include a regional criteria pollutant analysis, localized criteria pollutant analysis, air toxics analysis, and greenhouse gas emissions. Significance thresholds should be

clearly stated, and emissions should be analyzed for construction and operational conditions. An adequate number of alternatives should be included.

The SCAQMD recommends that the air toxics emissions include both construction and operational emissions. Operational emissions should be estimated from the time that the first phase of construction begins. The air toxics emissions of vehicles using the I-15 and I-215 freeways can be estimated for the entire 70-year exposure duration, beginning with the date of the *General Plan Update* implementation. In addition, the total air toxics emissions from project construction should be estimated and added to the vehicular emissions and then averaged over the 70-year exposure duration. It is also important to model the air toxics emissions along the detour routes that could possibly result from any potential projects. As previously discussed, the SCAQMD's MATES III Study focused on the carcinogenic risks from exposure to air toxics, which included two years of ambient monitoring for air toxics in the Basin. Emissions from all roadways affected by the *General Plan Update* should be analyzed.

General Plan Guidance

The SCAQMD has prepared the *Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning*, dated May 6, 2005. The SCAQMD has made this document available to local governments as a tool to assist in the development of their General Plans and other planning decisions. Implementation of the suggested strategies throughout the region will strengthen the local government partnership with the SCAQMD to achieve state and federal clean air standards and demonstrate efforts taken to provide environmental equity and protect public health. Air pollutants regulated by the federal and California Clean Air Acts or other laws include criteria pollutants, toxic air contaminants, and greenhouse gases.

The involvement of local governments to establish public policies that support SCAQMD strategies is essential for this region to meet state and federal air quality goals. Since the General Plan is the foundation for all local planning and development decisions, it is the most important tool in the implementation of local government policies and programs necessary to achieve clean air standards. Local governments work with their Council of Governments and the SCAQMD to improve air quality through a variety of programs, including regulatory actions, policy making, and education programs. The City can address air quality issues through ordinances, local circulation systems, transportation services, energy, and land use. Design standards such as requirements for bicycle racks and bicycle paths may result in reduced motor vehicle trips and decreased levels of air pollutants. The *Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning* contains suggested policies and strategies which are intended to guide local governments in developing approaches to reduce exposure to source-specific air pollution and lower health risk associated with cumulative air pollution impacts.

Findings

- Air pollutant emissions within the City of Murrieta are currently generated by stationary and mobile sources, with mobile sources accounting for the majority of emissions. Future emissions would be expected to continue to follow these trends.

- Although air quality has steadily improved in the Basin in recent history, the Basin (including the City) is designated as a nonattainment area under State standards for one-hour ozone and under Federal standards is designated as nonattainment for eight-hour ozone. The Basin is nonattainment under both State and Federal standards for PM_{10}, and $PM_{2.5}$. Also, it should be noted that CARB has proposed in 2009 to redesignate the Basin as nonattainment for NO_2.

- Future population growth resulting in additional vehicles and development would further amounts of air pollutants in the City and the Basin. State, regional, and local efforts, including policies adopted by the City of Murrieta, should work together to regulate and reduce emissions regionally and locally.

- Consider establishing guidelines to determine when health risk assessments are needed for development or redevelopment projects.

Significance Thresholds

The following thresholds for determining the significance of impacts related to air quality are taken from the environmental checklist form contained in Appendix G of the most recent update of the *California Environmental Quality Act (CEQA) Guidelines*, and will be used in the Environmental Impact Report. Impacts related to air quality are considered significant if implementation of the General Plan would:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable Federal or State ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors);
- Exposes sensitive receptors to substantial pollutant concentrations; and/or
- Create objectionable odors affecting a substantial number of people.

Sources Cited

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Introduction

The purpose of this section is to identify existing biological resources within the General Plan Study Area. Significant biological resources include species listed as threatened or endangered, proposed for Federal and/or State listing as threatened or endangered, or any species identified as a candidate, sensitive, or special status species in local or regional plans, policies or regulations, or by the California Department of Fish and Game (CDFG) or U.S. Fish and Wildlife Service (USFWS). Additionally, sensitive habitat, habitat for any of the species described above, and/or wetlands or other waters under the jurisdiction of the U.S. Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act (CWA), are considered significant biological resources.

Information contained in this section is largely based on the *Biological Resources Report* prepared by LSA Associates, Inc. in January 2010. Additionally, the *Western Riverside County Multiple Species Habitat Conservation Plan* (MSHCP), adopted June 2003, was also reviewed for supplemental information on existing conditions. In addition, the *City of Murrieta General Plan*, adopted June 1994, and the *City of Murrieta Final General Plan EIR*, certified June 1994, was also reviewed for relevant data. Other data sources included the CDFG Natural Diversity Data Base (NDDB) (2009a), the California Native Plant Society (CNPS) Electronic Inventory, the United States Department of Agriculture (USDA) *Soil Survey, Western Riverside Area, California* (Soil Conservation Service 1971), United States Geological Survey (USGS) topographic maps, and California Water Quality Control Board hydrologic data.

Regulatory Context

Threatened and endangered species are listed by the California Department of Fish and Game (CDFG) and the U.S. Fish and Wildlife Service (USFWS). Three agencies generally regulate activities within inland streams, wetlands, and riparian areas within the State of California. Activities pursuant to Section 404 of the Federal Clean Water Act (CWA) and Section 10 of the Rivers and Harbors Act are regulated by the U.S. Army Corps of Engineers (USACE) Regulatory Branch. The CDFG is responsible for the regulation of activities under the California Fish and Game Code Sections 1600-1607, and the Regional Water Quality Control Board (RWQCB) regulates activities pursuant to Section 401 of the CWA and the California Porter-Cologne Act.

FEDERAL

Federal Endangered Species Act

The Federal Endangered Species Act (FESA) of 1973 (50 CFR 17) is aimed at the protection of plants and animals that have been identified as being at risk of extinction and classified as either threatened or endangered. FESA also regulates the “taking” of any endangered fish or wildlife

species, per Section 9 of the Act. A responsible agency or individual landowners are required to submit to a formal consultation with the USWFS to assess potential impacts to listed species as the result of a development project, pursuant to Sections 7 and 10 of the FESA. The USFWS is required to make a determination as to the extent of impact to a particular species a project would have. If it is determined that potential impacts to a species would likely occur, measures to avoid or reduce such impacts must be identified.

Federal Clean Water Act

Section 404

The USACE maintains regulatory authority over the discharge of dredged or fill material into the waters of the United States, pursuant to Section 404 of the CWA. The USACE and United States Environmental Protection Agency (EPA) defines "fill material" as any "material placed in waters of the United States where the material has the effect of: (i) Replacing any portion of a water of the United States with dry land; or (ii) Changing the bottom elevation of any portion of the waters of the United States." Fill material may include sand, rock, clay, construction debris, wood chips, or other similar "materials used to create any structure or infrastructure in the waters of the United States." The term "waters of the United States" includes the following:

- All waters that have, are, or may be used in interstate or foreign commerce (including sightseeing or hunting), including all waters subject to the ebb and flow of the tide;
- Wetlands;
- All waters such as interstate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds; the use, degradation or destruction of which could affect interstate or foreign commerce;
- All impoundments of water mentioned above;
- All tributaries of waters mentioned above;
- Territorial seas; and,
- All wetlands adjacent to the waters mentioned above.

In the absence of wetlands, the USACE's jurisdiction in non-tidal waters extends to the ordinary high water mark (OHWM), which is defined as "…that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding area (33 CFR 328.3(e))."

Wetlands generally include swamps, marshes, bogs, and similar areas. Wetlands are jointly defined by the USACE and EPA as "those areas that are inundated or saturated by surface or

groundwater at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions (33 CFR 328.3(b)).”

On January 9, 2001, the U.S. Supreme Court issued the decision, Solid Waste Agency of Northern Cook County v. U.S. Army USACE of Engineers et al (SWANCC). As a result of this case, the scope of the USACE’s Section 404 CWA regulatory permitting program was limited, restricting USACE’s jurisdictional authority over isolated, non-navigable, intrastate waters that are not tributary or adjacent to navigable waters or tributaries (i.e., wetland conditions). The Court held that Congress did not intend for isolated, non-navigable water conditions to be covered within Section 404 of the CWA, as they are not considered to be true “waters of the U.S.”

Section 401

The Regional Water Quality Control Board is the primary agency responsible for protecting water quality in California. The RWQCB regulates discharges to surface waters under the Federal CWA and the California Porter-Cologne Water Quality Control Act. The RWQCB’s jurisdiction extends to all waters of the State and to all waters of the United States, including wetlands (isolated and non-isolated conditions).

Through 401 Certification, Section 401 of the CWA allows the RWQCB to regulate any proposed Federally permitted activity that may affect water quality. Such activities include the discharge of dredged or fill material, as permitted by the USACE, pursuant to Section 404 of the CWA. The RWQCB is required to provide “certification that there is reasonable assurance that an activity which may result in the discharge to waters of the United States will not violate water quality standards,” pursuant to Section 401. Water Quality Certification must be based on the finding that proposed discharge will comply with applicable water quality standards, of which are given as objectives in each of the RWQCB’s Basin Plans.

In addition, pursuant to the Porter-Cologne Water Quality Control Act, the State is given authority to regulate waters of the State, which are defined as any surface water or groundwater, including saline waters. As such, any person proposing to discharge waste into a water body that could affect its water quality must first file a Report of Waste Discharge if a Section 404 does not apply. “Waste” is partially defined as any waste substance associated with human habitation, including fill material discharged into water bodies.

STATE

California Endangered Species Act

The California Endangered Species Act (CESA) of 1984, in combination with the California Native Plant Protection Act of 1977, regulates the listing and take of plant and animal species

designated as endangered, threatened, or rare within the State. The State of California also lists Species of Special Concern based on limited distribution, declining populations, diminishing habitat, or unusual scientific, recreational, or educational value. The CDFG is given the responsibility by the State to assess development projects for their potential to impact listed species and their habitats. State listed special-status species are also addressed through the issuance of a 2081 permit (Memorandum of Understanding).

California Fish and Game Code

Within the State of California, fish, wildlife, and native plant resources are protected and managed by the CDFG. The Fish and Game Commission and/or the CDFG are responsible for issuing permits for the take or possession of protected species. The following sections of the Code address the protected species: Section 3511 (birds); Section 4700 (mammals); Section 5050 (reptiles and amphibians); and, Section 5515 (fish).

California Department of Fish and Game Lake and Streambed Alteration Agreements

Historically, the State of California regulated activities in rivers, streams, and lakes pursuant to Sections 1600-1607 of the California Fish and Game Code; however, on January 1, 2004, legislation went into effect that repealed Fish and Game Code Sections 1600-1607 and instead, added Fish and Game Code sections 1600-1616. This action eliminated the separation between private/public notifications (previously 1601/1603). Section 1602 of the Fish and Game Code requires any person, state, or local governmental agency, or public utility to notify the CDFG before commencing any activity that would result in one or more of the following:

- Substantially obstruct or divert the natural flow of a river, stream, or lake;
- Substantially change or use any material from the bed, channel, or bank of a river, stream, or lake; or,
- Deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into a river, stream, or lake.

Section 1602 of the Fish and Game Code applies to all perennial, intermittent, and ephemeral rivers, streams, and lakes within the State of California. While the jurisdictional limits are similar to the limits defined by USACE regulations, CDFG jurisdiction includes riparian habitat supported by a river, stream, or lake with or without the presence or absence of saturated soil conditions or hydric soils. CDFG jurisdiction generally includes to the top of bank of the stream, or to the outer limit of the adjacent riparian vegetation (outer drip line), whichever is greater. Any project that occurs within or in the vicinity of a river, steam, lake, or their tributaries typically requires notification of the CDFG, including 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 supports or has supported riparian vegetation.

Migratory Bird Treaty Act of 1918

The Migratory Bird Treaty Act (MBTA) was originally drafted to end the commercial trade in bird feathers popular in the latter part of the 1800s. The MBTA makes it illegal to take, possess, buy, sell, purchase, or barter any migratory bird listed in 50 C.F.R. Part 10, including feathers, nests, eggs, or other avian products. The USFWS is responsible for enforcing the MBTA.

California Environmental Quality Act

In addition to specific Federal and State statutes for the protection of threatened and endangered species, Section 15380(b) of the California Environmental Quality Act (CEQA) Guidelines provides that a species not listed on the Federal or State list of protected species may be considered rare or endangered if it can be shown that the species meets certain specified criteria. Modeled after definitions in the FESA and the section of the California Fish and Game Code dealing with rare or endangered plants and animals, these criteria are given in Section 15380(b) of the CEQA Guidelines. Section 15380(b) requires public agencies to undertake reviews to determine if projects would result in significant effects on species not listed by either the USFWS or CDFG (i.e., candidate species). Through this process, agencies are provided with the authority to protect additional species from the potential impacts of a project until the appropriate government agencies have an opportunity to designate the species as protected, if deemed appropriate.

LOCAL

Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP)

The Riverside County Board of Supervisors adopted the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP) on June 23, 2003. The City of Murrieta approved the MSHCP and is a Permittee under the MSHCP. The USFWS and CDFG issued take permits under the Federal Endangered Species Act (16 U.S.C. 1531 et seq.). Section 10(a)(1)(b) and California Natural Community Conservation Planning Act (NCCP) (California Fish and Game Code, Section 2800 et seq.) in June 2004. As such, the City has the authority to meet the Federal and State endangered species and conservation planning obligations for its jurisdiction (Western Riverside County Regional Conservation Authority 2007).

The City of Murrieta Department of Planning is responsible for ensuring that all development proposed is consistent with the MSHCP Species Conservation Guidelines and Area Plan Conservation Criteria. The MSHCP, Permits, and Implementation Agreement serve as guiding documents for the implementation of the conservation goals and land use planning parameters now required by the local Permittees (cities).

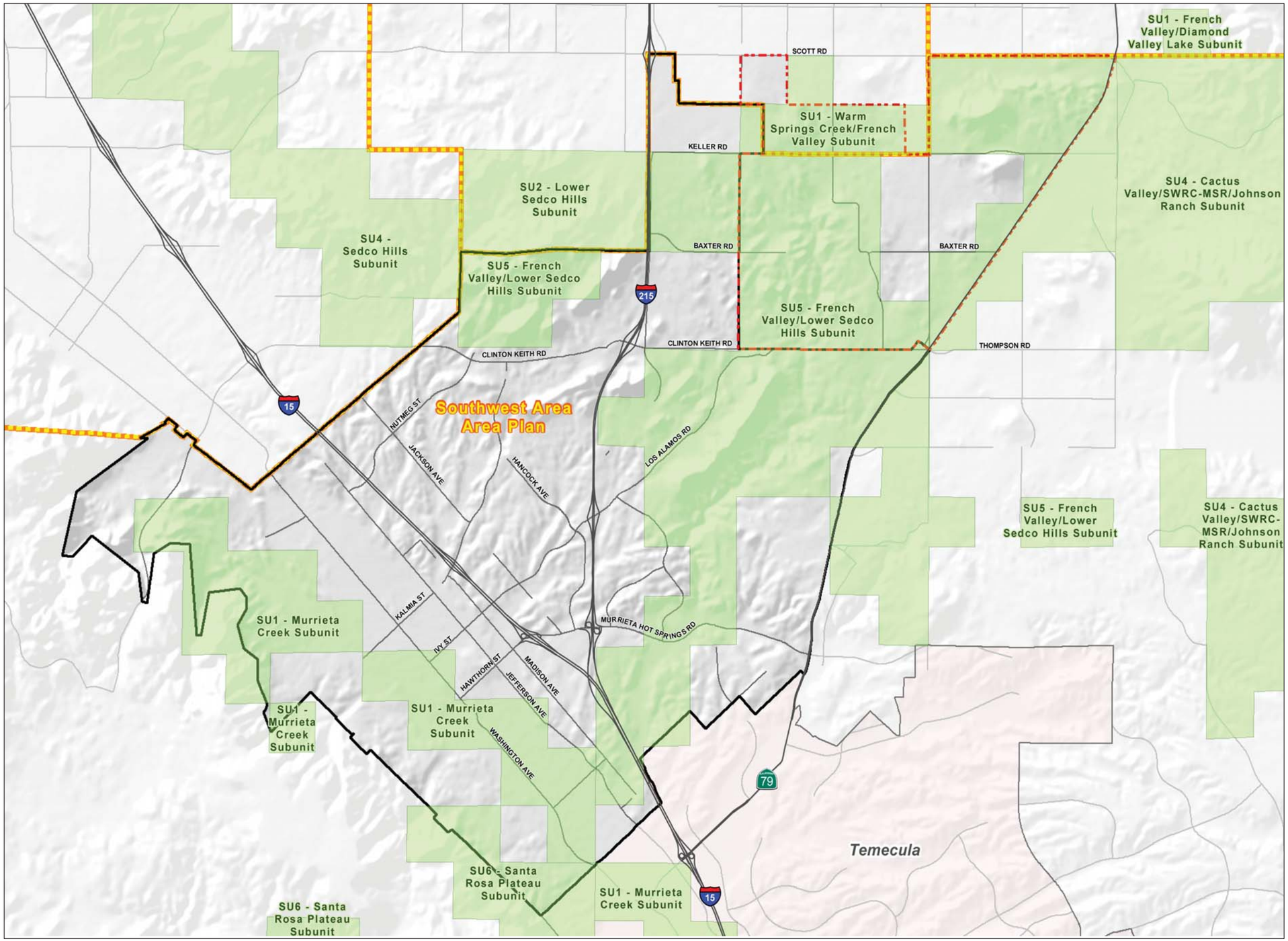
Land parcels within the City are set aside as Conservation Land to the meet land acquisition goals of the MSHCP. *Exhibit 7.2-1*, *MSHCP Area Plans and Subunits*, identifies existing

Conserved Land along with Public/Quasi Public Land and dedicated conservation easements. The Cells are grouped into Area Plans and Subunits for ease of discussion and planning (refer to *Exhibit 7.2-2*, *MSHCP Existing and Proposed Conservation Land*).

The Western Riverside County Regional Conservation Authority (RCA), a joint powers authority, was established to assist the local Permittees with MSHCP implementation. The RCA is responsible for the administration of acquisitions and conservation easement dedication, land management, biological resource monitoring, and MSHCP fee collection and accounting.

The MSHCP Implementation Agreement lists the specific obligations required by the affected cities in order to be active participants in the MSHCP implementation. One of those obligations includes amending General Plans to implement the requirements of the MSHCP for public and private development projects. Other obligations include the following:

1. City representation on the RCA Board of Directors and Reserve Management Oversight Committee (MSHCP Sections 6.6.2 and 6.6.4);
2. Collect Local Development Mitigation Fees and Long-term Stephens' Kangaroo Rat Habitat Conservation Plan (SKR HCP) fees, and transmit to RCA quarterly (MSHCP Section 8.5);
3. Meet the local Reserve Assembly contribution obligations through the Habitat Acquisition and Negotiation Strategy (HANS) for private development projects (MSHCP Section 6.1.1), for public projects at least 1:1 habitat mitigation ratio, and payment of Local Development Mitigation Fees for commercial and industrial development (MSHCP Section 7.0);
4. Comply with Joint Project Review process and annually transmit information on all projects within Criteria Cells (MSHCP 6.6.2);
5. Siting and Design Guidance and Best Management Practices for Covered Activities (MSHCP Section 7.0 and MSHCP Appendix C);
6. Riparian/Riverine and Fairy Shrimp Habitat (MSHCP Section 6.1.2), Narrow Endemic Plants (MSHCP Section 6.1.3), Criteria Area Survey Species (MSHCP Section 6.3.2), and Urban/Wildlands Interface Guidelines (MSHCP Section 6.1.4);
7. Enforce terms of project approvals for public and private projects using applicable land use permit enforcement procedures and practices to ensure compliance with MSHCP, Permits, and Implementation Agreement; and,
8. Manage MSHCP Conservation Area property and conservation easements owned or leased by the City (MSHCP Sections 5.0 and 8.0).



LEGEND

- Sphere of Influence
- City Boundary
- Area Plan Boundary
- Area Plan Sub Units

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Miles

Source: AirPhotoUSA, 2008; County of Riverside, 2006; and City of Murrieta, 2009.

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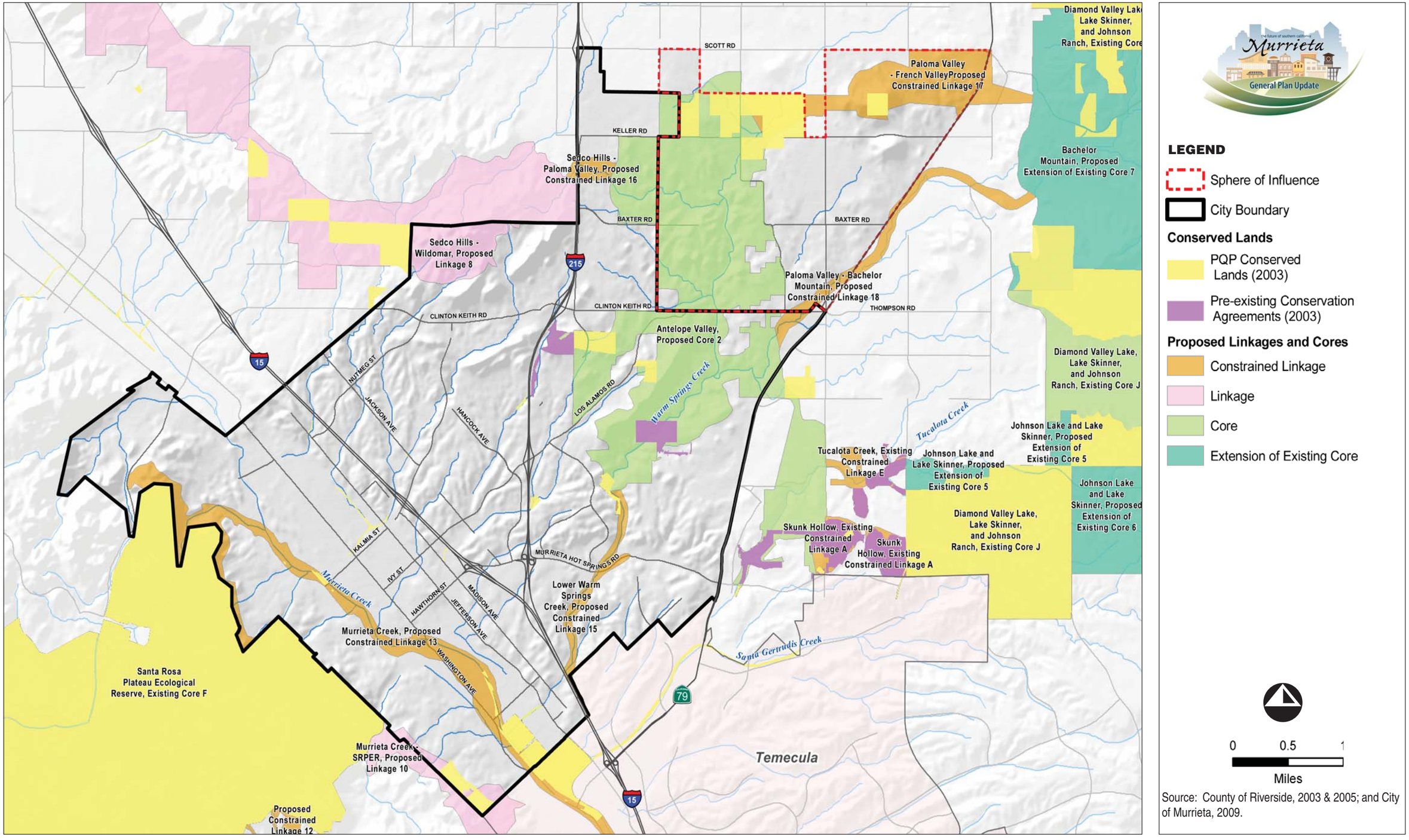
MSHCP Area Plans and Subunits

Exhibit 7.2-1

Back of 11 x 17 page



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MSHCP Existing and Proposed Conservation Land

Exhibit 7.2-2

Back of 11 x 17 page

The conceptual conservation scenario for the MSHCP Reserve Area is based on existing public lands, undeveloped land (Core Areas), and identified potential Linkages between the Core Areas. In order to describe and implement the proposed conservation objectives efficiently, the Reserve Area is subdivided into ¼ quadrants (or 160-acre Cells), based on USGS topographic map sections. The Cells are grouped into Area Plans and Subunits for ease of discussion and planning.

The City of Murrieta generally encompasses the northern half of the MSHCP's Southwest Area Plan Subunit 1: Murrieta Creek and the majority of Subunit 5: French Valley/Lower Sedco Hills. Subunit 6: Santa Rosa Plateau Cells 6658, 6659, 6779, 6780, and 6781 is also located within the City limits. A portion of the Sphere of Influence includes Sun City/Menifee Area Plan Subunit 1: Warm Springs Creek/French Valley (Cells 5066, 5163, 5167, and 5168).

Conservation Goals

The Conservation Goals for the City of Murrieta and the Sphere of Influence (Antelope Valley) focus on Core Areas and wildlife movement Linkages. These include:

1. Proposed Core 2: Antelope Valley
2. Proposed Linkage 8: Sedco Hills/Wildomar
3. Proposed Constrained Linkages
    a. 13: Murrieta Creek
    b. 15: Lower Warm Springs Creek
    c. 16: Sedco Hills-Paloma Valley
    d. 17: Paloma Valley-French Valley
    e. 18: Paloma Valley-Bachelor Mountain

City of Murrieta Development Code – Tree Preservation

Section 16.42, Tree Preservation, of the City of Murrieta Development Code is intended to "provide regulations for the protection, preservation, and maintenance of native Oak, Sycamore, and Cottonwood trees, trees of historic or cultural significance, groves and stands of mature trees, and mature trees in general, that are associated with proposals for development," and to "perpetuate these trees through the replacement of trees removed as a result of a new development."[1] A protected tree includes any of the following:

A. Native Oak with a diameter at breast height of four inches or greater. Smaller trees may also be protected under special circumstances as determined by the Director;

[1] City of Murrieta Development Code, Title 16, Article III – Site Planning and Development Standards, Section 16.42 – Tree Preservation.

B. Trees of historical or cultural significance as identified by Council resolution;

C. Significant groves or stands of trees;

D. Mature trees located on a parcel of one acre or more. Smaller trees may also be protected under special circumstances as determined by the Director; or,

A. Any tree required to be planted or preserved as environmental mitigation for a discretionary permit.

No person is allowed to remove, cut down, or otherwise destroy a protected tree, unless a tree removal permit has been approved by the Director of the Department of Planning. All development projects within the City are required to recognize through project design the desirability of preserving protected trees to the greatest extent feasible. The design of proposed grading and other improvements shall also reflect certain measures such as providing sufficient growing areas, minimizing disruption or removal of root zones, fencing of trees at or beyond the drip line during grading and construction, and minimizing all cutting, filling, or compaction of soils within the drip line, among other measures.

Existing Conditions

CLIMATE

Annual rainfall for the Murrieta area ranges from approximately 9 to 18 inches, depending on the season, with an overall average of approximately 8.7 inches for the year 2009. Average annual temperature ranges from a high of approximately 78 degrees Fahrenheit (°F) to approximately 50°F. The area typically has a Mediterranean type of climate which is represented by cool, moist winters, and hot, dry summers.

TOPOGRAPHY

The City of Murrieta is located in the southern portion of the Riverside Lowlands bioregion. Three foothill ranges surround the Murrieta area and include the Sedco Hills, Tucalota Hills (Bachelor Mountain), and Santa Rosa Plateau. Murrieta Creek and Warm Springs Creek generally flow through the community.

Elevation within the General Plan Study Area ranges from approximately 1,050 feet to 1,550 feet above mean sea level (amsl). The City is located on a series of plateaus, each raising the land elevation by roughly 100 feet beginning from low-lying Murrieta Creek, stepping up at Interstate 15 (I-15), again at Murrieta Hot Springs Road, and ultimately at the Hogbacks.

The "Hogbacks" are a small range of foothills to the northeast of the City, generally trending south to north for approximately two miles, and rising approximately 300 feet above the valley floor. Other natural elements within the General Plan Study Area include numerous freshwater springs and one active geothermal vent (Murrieta Hot Springs). Temecula Hot Springs is also located within the General Plan Study Area; however, the spring is no longer active.

SOILS

The northern portion of the City of Murrieta, east of the I-15, is generally underlain by the Cajalco-Temescal-Las Posas soil association. The Hanford-Tujunga-Greenfield association is located along the I-15 corridor, and the Monserate-Arlington association lies along Murrieta Creek. Along the north-facing slope of the Santa Ana Mountains, below the Santa Rosa Plateau, the Cieneba-Rock Land-Fallbrook and the Friant-Lodo-Escondido associations are present.

Soils with a variety of properties have been identified in the MSHCP as indicative of rare or listed plant and wildlife species. These soils generally fall into three categories: saline-alkali, heavy clays, and vernal pool soils.

The saline-alkali category consists of soils classified by the Natural Resources Conservation Service (NRCS) as saline-alkali [NRCS mapping units Chino silt loam (Cf), Dello (DpB), Domino (Dt, Dv), Grangerville (GpB, GsB, GuB, GvB, GxA), Traver (Tr2, Ts), Willows (Wa, Wb, Wd, Wg, and Wm)] or strongly saline-alkali [NRCS mapping units Chino (Cg), Domino (Dw), Traver (Tt2), Willow (Wc, Wh, and Wn)].

Heavy clays generally consist of soils classified by the NRCS as clays (except alkali clays, which were included in the saline-alkali category). Heavy clays include NRCS mapping units Auld (AaD, AaE2, AaF, AbF, AuC, AuD, AyF), Bonsanko (BfC, BfD), Porterville (PoC, PrD, PsC, PtB, PvD2), and Willows (Wf).

The category of other soils potentially supporting vernal pools (i.e., soils that are known to support vernal pools not already included in the saline-alkali and heavy clays categories) includes NRCS mapping units Las Posas (LaC, LaC2), and Wyman (WyC2). *Table 7.2-1*, *Soils Associations/Soils Types*, describes the soil associations and soil types found within the City of Murrieta and its Sphere of Influence.

Table 7.2-1
Soil Associations/Soil Types

Soil Association	Description	Soil Types of MSHCP Importance
Cajalco-Temescal-Las Posas	Well-drained, undulating to steep, moderately deep to shallow soils that have a surface layer of fine sandy loam and loam; on gabbro and latite-porphyry. The major and minor soils of this association are known for higher clay content.	Auld, Las Posas, Bonsanko, Porterville clay soil types are found mainly in the Sphere of Influence. Willow and Domino soils are also mapped in the northeast corner of the Study Area.
Cieneba-Rock land-Fallbrook	Well-drained and somewhat excessively drained, undulating to steep, very shallow to moderately deep soils that have a surface layer of sandy loam and fine sandy loam; on granitic rock.	None
Friant-Lodo-Escondido	Well-drained and somewhat excessively drained, undulating to steep, shallow to deep soils that have a surface layer of fine sandy loam and gravelly loam; on metamorphosed sandstone and mica-schist.	None
Hanford-Tujunga-Greenfield	Very deep, well-drained to excessively drained, nearly level to moderately steep soils that have a surface layer of sand to sandy loam; on alluvial fans and floodplains. These soils are known to have higher alkalinity.	Grangerville soils (saline-alkali) are found along Murrieta Creek and Warm Springs Creek.
Monserate-Arlington-Exeter	Well-drained, nearly level to moderately steep soils that have a surface layer of sandy loam to loam and are shallow to deep to a hard pan.	None

HABITATS

Habitat patterns within the City of Murrieta and Sphere of Influence have gradually been altered over time. Historically, vegetative cover in the area included a variety of riparian plant communities supporting various species of oak, sycamore, cottonwood, alder and other species, while large expanses of chaparral and sage scrub communities, as well as native grasslands, were present. Historic grazing activities resulted in the replacement of native grasses with non-native species, while other land-clearing activities associated with agricultural production contributed to widespread changes in the existing natural habitat. In addition, fruit orchards, vineyards, olive groves, and other produce crops were established in the area.

Over recent decades, land within the City, and to a lesser extent, the Sphere of Influence has been continually converted from undeveloped and/or agricultural land to a developed state. The majority of remaining fallow agricultural lands presently support non-native grassland communities, with areas where vegetation succession from pasture and cropland back to scrubland is largely evident. Today, excluding agricultural lands, approximately 8,374 acres of undeveloped land with potential wildlife habitat are present within the approximate 26,852-acre General Plan Study Area.

The County of Riverside uses the Wildlife Habitat Relationship (WHR) system of vegetation classification to identify and map land cover and land uses (CDFG 1998). The WHR is a standardized habitat classification scheme for California containing 59 habitats, structural stages for most habitats, and 124 special habitat elements (CDFG 2009b). The majority of plant communities within the General Plan Study Area include annual grassland, coastal sage scrub, chaparral, oak woodland, riparian, and wetland habitat. *Table 7.2-2*, *Wildlife Habitat Within the General Plan Study Area*, below lists specific categories and acreages of the plant communities within the General Plan Study Area; a brief description of each habitat is provided following the table. *Exhibit 7.2-3*, *Vegetation and Land Use*, identifies the location of potential wildlife habitat areas within the General Plan Study Area.

Table 7.2-2
Wildlife Habitat Within the General Plan Study Area

Wildlife Habitat	Wildlife Habitat Mapping Units (Common Name)	Approximate Area (acres)
Annual Grassland	California annual grassland alliance	2,340
Coastal Oak Woodland	Five different plant associations	303
Coastal Scrub	Sixteen different plant associations	3,372
Cropland, Orchard, Vineyard	Agricultural Land Use	5,662
Eucalyptus	Eucalyptus Alliance	35
Fresh Emergent Wetland	Bulrush-cattail	107
Lacustrine	Water mapping unit	128
Mixed Chaparral	Twelve different plant associations	1,636
Riverine/Lacustrine	Sandbars, mud flats, riparian shrubs and trees associated with a river	137
Urban	Five different mapping units	12,816
Valley Foothill Riparian	Nine different plant associations	316
TOTAL		**26,852**

Annual Grassland. Introduced annual grasses are dominant plant species in this habitat, including wild oats, soft chess, rip-gut brome, red brome, and foxtail fescue. Many wildlife species use annual grasslands for foraging along with other habitat features necessary for nesting or roosting or escape cover. Species commonly found in this habitat are western fence lizard, garter snake, western rattlesnake, black-tailed jackrabbit, California ground squirrel, Botta's pocket gopher, coyote, burrowing owl, horned lark, turkey vulture, kestrel, and red-tailed hawk.

Coastal Oak Woodland. Oak woodland may include deciduous and evergreen hardwoods, either dense with closed canopy or widely spaced in a savannah-like setting. Understory may be absent or may be dense coastal scrub and chaparral. Dominant species include Engelmann oak,

coast live oak, interior live oak, and California walnut. Over 60 known species of mammals and 110 known bird species use oak habitats.

Coastal Scrub. Plant associations in coastal scrub are of low- to moderately-sized shrubs with semi-woody stems, woody bases, and shallow root systems known to grow in a moderate moisture climate. Species composition, diversity, and density vary greatly with change in geographic location. California sage brush, California buckwheat, deerweed, brittlebush, black sage, and white sage are common coastal scrub species within the City of Murrieta. The California gnatcatcher, a song bird Federally-listed as threatened, is found exclusively in coastal scrub habitat.

Cropland, Orchard, Vineyard. Croplands in association with orchards and vineyards are established on the most fertile soils in California, which historically supported high wildlife diversity and abundance. Some wildlife species have adapted to agricultural activities, but may be considered agricultural pests, thus their presence in agricultural areas can be managed to reduce loss of crop production.

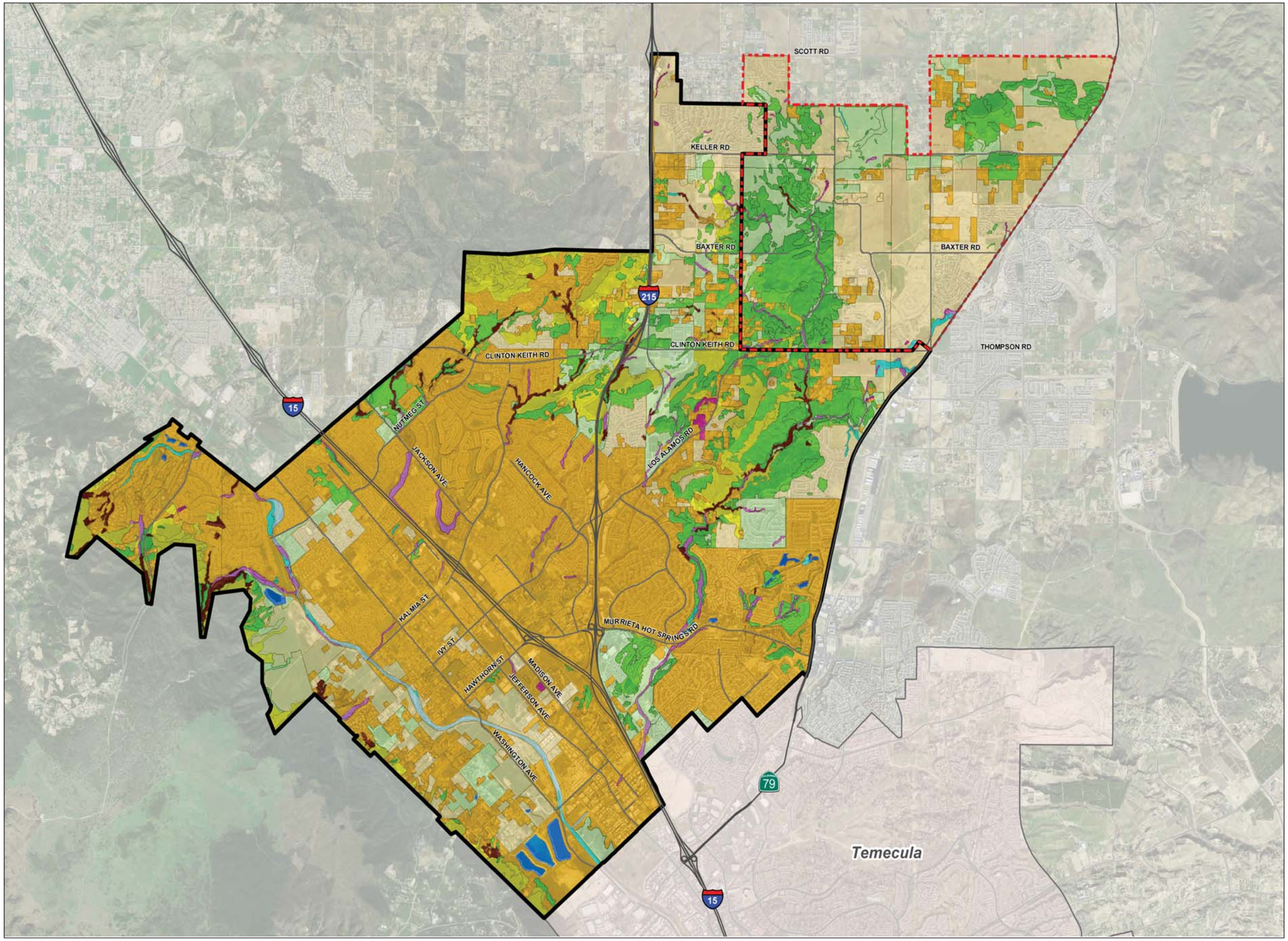
Eucalyptus. Eucalyptus habitats are usually single-species thickets, rows of individual trees, or stands of closed canopy mature trees. These trees provide roosting and nesting habitat for many raptors, such as red-tailed hawk and barn owls, along with crows and ravens. Eucalyptus groves also serve as resting places for migratory song birds, such as tanagers and orioles.

Fresh Emergent Wetland. Emergent wetland is dominated by erect perennial and herbaceous water-loving plants and is one of the most productive wildlife habitats in California. Numerous bird species, reptiles, and amphibians use wetlands as their primary habitat.

Lacustrine. Lacustrine habitat is distinguished by the presence of ponded water in depressions or dammed streambeds with standing water, either present year-round or intermittent and seasonal. Submerged, floating, or emergent vegetation may be present depending upon the depth of the water. Numerous mammals, birds, reptiles, amphibians, crustaceans, and insects use lakes and ponds for food, water, cover, and reproduction.

Mixed Chaparral. Chaparral is a homogenous brushland dominated by thick, stiff shrubs with evergreen leaves in a nearly impenetrable thicket. Chaparral habitat can support numerous species of woody plants. Chaparral supports many animal species known to occur in coastal shrub and forest habitats.

Riverine. This habitat is influenced by intermittent or perennial running water and includes open water, riffle-pool complexes, emergent water-loving plants, and adjacent riparian terrestrial habitat. Waterfowl, eagles, herons, swallows, and flycatchers forage in riverine habitat.



Murrieta
General Plan Update

LEGEND

- Sphere of Influence
- City Boundary

Vegetation and Land Use (2006)

- Annual Grassland
- Coastal Oak Woodland
- Coastal Scrub
- Cropland, Orchard - Vineyard
- Eucalyptus
- Fresh Emergent Wetland
- Lacustrine
- Mixed Chaparral
- Riverine, Lacustrine
- Urban
- Valley Foothill Riparian

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Source: SoilDataMart 2003; County of Riverside, 2005; and City of Murrieta, 2009.

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Vegetation and Land Use

Exhibit 7.2-3

Back of 11 x 17 page

Urban. Vegetation in urban settings typically includes tree groves, street strips, shade trees, lawns, and shrubs. Other classifications may include trees between buildings, parks, open spaces, and ornamental gardens. Common animal species occupying such habitat include mockingbird, scrub jay, acorn woodpecker, house finch, black phoebe, raccoon, opossum, and striped skunk. Suburban areas with large tracts of adjacent natural vegetation have increased wildlife diversity, due to readily available water associated with landscaped lawns.

Valley Foothill Riparian. Valley Foothill Riparian habitat is known for statuesque cottonwoods, sycamores, and willows with either open understory or with shade-tolerant herbaceous or shrub species. Riparian habitat provides food, water, migration and dispersal corridors, escape cover, thermal protection, and reproductive sites.

Rivers, Creeks and Canals

The City of Murrieta and the Sphere of Influence lie within the inland portion of the Santa Margarita River Basin. Murrieta Creek and Temecula Creek are the main tributaries of the Santa Margarita River; Warm Springs Creek is a tributary to Murrieta Creek. Both Murrieta Creek and Warm Springs Creek flow through the General Plan Study Area.

Murrieta Creek flows southeasterly through the Murrieta Valley and is generally bounded by Warm Springs Creek to the east. Murrieta Creek occurs as a natural watercourse that runs from the northern City limit to the southern City limit near Cherry Street. Both creeks have highly variable flows and join Temecula Creek to the south of the City to form the Santa Margarita River, which ultimately drains into the Pacific Ocean near the southern boundary of Camp Pendleton. Both creeks generally remain in a semi-natural state with areas of significant native vegetation occurring along portions of each. Other minor tributaries and intermittent stream courses occur throughout the General Plan Study Area.

Vernal Pools and Seasonal Wetlands

Grasslands within the General Plan Study Area have historically supported vernal pools and seasonal wetlands; however, as development has occurred over the years, much of this habitat has been lost.

Vernal pools are ephemeral wetlands that generally form within shallow depressions where substrate near the surface restricts the percolation of water. Standing rainwater within these depressions often occurs during the fall and winter seasons, which can remain inundated until spring or early summer. These depressions may fill and empty several times during the rainy season, depending on the amount and frequency of precipitation. Vernal pools often support a flowering community, dominated by characteristic wetland plants.

In addition to riparian areas, isolated seasonal wetlands generally occur in topographic depressions within grasslands where soils are sufficiently impermeable to pond water during the rainy season; however, seasonal wetlands differ from vernal pools in that they may not be inundated for as long as vernal pools and generally contain a greater abundance of facultative and grassy species, and few, if any vernal pool endemic species. The final determination of the type of wetland is often ultimately verified by the USACE. The extent to which special-status plant and animal species utilize these habitats varies; however, any species present in vernal pools may also occupy seasonal wetlands. Both vernal pools and seasonal wetlands offer habitat for a variety of plant and animal species listed as threatened or endangered, or that have other special status that require some level of protection. Vernal pool crustaceans, such as vernal pool fairy shrimp and vernal pool tadpole shrimp, along with a variety of plant species, are characteristically present in vernal pools.

Any proposed impacts to permanent or seasonally ponded water bodies or ephemeral, intermittent, or perennial streambeds within the City of Murrieta require preparation of a delineation report and jurisdictional determination by the USACE, RWQCB, and the CDFG.

SPECIAL-STATUS SPECIES

For this section, special-status species include those that are listed as rare, threatened, or endangered by either the CDFG or the USFWS; species that are candidates for either Federal or State listing; species designated as "fully protected" or "Species of Special Concern" by CDFG; and, other species that are tracked by the California Natural Diversity Data Base, but that do not fall into any of the other categories mentioned above. *Table 7.2-3*, *Species of Importance in the City of Murrieta General Plan Study Area (Western Riverside County Multiple Species Habitat Conservation Plan)*, below identifies species used to focus conservation efforts and land acquisitions within the General Plan Study Area. Conservation efforts are largely aimed at species associated with unusual soil types such as heavy clays, strongly saline-alkali loams, and soils with impenetrable layers which provide conditions that support the presence of vernal pools. Special status plant species are likely to occur in habitat areas associated with vernal pools and clay soils, wetlands, and areas supporting chaparral, scrub, and woodlands.

Within the General Plan Study Area, listed species associated with specific soil types include Munz's onion, San Diego ambrosia, spreading navarretia, California Orcutt grass, and Quino checkerspot butterfly. In addition, coastal scrub and chaparral habitat areas are important habitat for the Quino checkerspot butterfly and California gnatcatcher. Annual grassland and coastal scrub habitat are important to listed Stephens' kangaroo rat, while riparian, lacustrine, and emergent wetland habitat are important to listed least Bell's vireo and southwestern willow flycatcher.

Table 7.2-3
Species of Importance in the City of Murrieta General Plan Study Area
(Western Riverside County Multiple Species Habitat Conservation Plan)

Species	Status	Habitat and Description	Activity Period
Plants			
Allium munzii **Munz's onion**	US: FE CA: ST CNPS: 1B MSHCP: S	On clay soils in openings within coastal sage scrub, pinyon juniper woodland, and grassland; 300 to 1,070 meters (1,000 to 3,500 feet) elevation. Known only from western Riverside County in Temescal Canyon, Gavilan Plateau, Bachelor Mountain, and Skunk Hollow areas. Clay soils on mesic exposures or seasonally moist microsites in grassy openings of coastal sage scrub, chaparral, juniper woodland, or valley and foothill grassland.	Blooms April through May (Perennial bulb)
Ambrosia pumila **San Diego ambrosia**	US: FE CA: SP CNPS: 1B MSHCP: S	Occurs in open habitats, usually near drainages or vernal pools, usually in sandy loam or on clay (including upland clay slopes) from 20 to 487 meters (70 to 1,600 feet) elevation. Known from western Riverside and western San Diego Counties. Also occurs in Mexico. Open floodplain terraces on Garretson gravelly fine sandy loams, or in the watershed margins of vernal pools or alkali playas on Las Posas loam in close proximity to Willow silty alkaline soils. Occurs in sparse annual vegetation.	Generally non-flowering (perennial herb)
Atriplex parishii **Parish's brittlescale**	US: – CA: SP CNPS: 1B MSHCP: S	Alkali meadows, vernal pools, chenopod scrub, and playas. Usually on drying alkali flats with fine soils. In California, known from Riverside, San Diego, and Orange Counties. Also occurs in Mexico. Believed extirpated from Los Angeles and San Bernardino Counties. Domino, Willows, and Traver soils in alkali vernal pools, alkali annual grassland, alkali playa, and alkali scrub components of alkali vernal plains.	Blooms June through October (annual herb)
Atriplex serenana var. *davidsonii* **Davidson's saltscale**	US: – CA: SP CNPS: 1B MSHCP: S	Alkaline soils in scrub and herbaceous communities from 10 to 460 meters (30 to 1,500 feet) elevation. In California, known only from Los Angeles, Orange, Riverside, San Diego, San Luis Obispo, and Ventura Counties. Believed extirpated from Santa Barbara and perhaps Los Angeles Counties. Also occurs in Mexico. Domino, Willows, and Traver soils in alkali vernal pools, alkali annual grassland, alkali playa, and alkali scrub components of alkali vernal plains.	Blooms April through October (annual herb)
California macrophylla (*Erodium macrophyllum)* **Round-leaved filaree**	US: – CA: SP CNPS: 1B MSHCP: S	Clay soils in woodland, scrub, and grassland communities from 15 to 1,200 meters (50 to 4,000 feet) elevation. Known from central and south coastal areas and the Central Valley in California. Also occurs in Oregon and Mexico. Clay soils in open cismontane woodland (e.g., oak, juniper woodlands) and valley and foothill grassland. The MSHCP account for this species states that it is restricted to "very friable clay soils. Within the Study Area, two of the mapped localities occur on Bosanko clay soils" and that "this species tends to be associated primarily with wild oats (*Avena fatua*)."	Blooms March through May (annual herb)

Table 7.2-3 (continued)
Species of Importance in the City of Murrieta General Plan Study Area
(Western Riverside County Multiple Species Habitat Conservation Plan)

Species	Status	Habitat and Description	Activity Period
Centromadia pungens ssp. *laevis* **Smooth tarplant**	US: – CA: SP CNPS: 1B MSHCP: S	Alkaline areas in chenopod scrub, meadows, playas, riparian woodland, valley and foothill grassland below 480 meters (1,600 feet) elevation. Known from Riverside and San Bernardino Counties, extirpated from San Diego County. Primarily alkaline soils in alkali scrub, alkali playas, riparian woodland, watercourses, and alkaline grasslands. The MSHCP account for this species states that "Suitable habitat for the smooth tarplant includes alkali scrub, alkali playas, and grasslands with alkaline affinities...smooth tarplant is restricted to clay and alkaline, silty-clay soils."	Blooms April through November (annual herb)
Dudleya multicaulis **Many-stemmed dudleya**	US: – CA: SP CNPS: 1B MSHCP: S	Heavy, often clay soils or around granitic outcrops in chaparral, coastal sage scrub, and grassland below 790 meters (2,600 feet) elevation. Known only from Los Angeles, Orange, Riverside, San Bernardino, and San Diego Counties. Clay soils in barrens, rocky places, ridgelines, and thinly vegetated openings in chaparral, coastal sage scrub, and southern needlegrass grasslands. Visible population size varies considerably year-to-year depending on rainfall patterns. The MSHCP account for this species states that "Many-stemmed dudleya is associated with openings in chaparral, coastal sage scrub, and grasslands underlain by clay and cobbly clay soils of the following series: Altamont, Auld, Bosanko, Claypit, and Porterville."	Blooms April through July (perennial herb)
Lasthenia glabrata ssp. *coulteri* **Coulter's goldfields**	US: – CA: SP CNPS: 1B MSHCP: S	Usually alkaline soils in marshes, playas, vernal pools, and valley and foothill grassland below 1,400 meters (4,600 feet) elevation. Known from Colusa, Merced, Tulare, Orange, Riverside, Santa Barbara, San Diego, San Luis Obispo, and Ventura Counties. Believed extirpated from Kern, Los Angeles, and San Bernardino Counties. Also occurs in Mexico. Traver, Domino or (usually) Willows soils in alkali scrub, alkali playas, vernal pools, and alkali grasslands. The MSHCP account for this species states that "Coulter's goldfields is restricted to clay and alkaline, silty-clay soils."	Blooms February through June (annual herb)
Myosurus minimus ssp. *apus* **Little mousetail**	US: – CA: SP CNPS: 3 MSHCP: S	Alkaline areas in vernal pools at 20 to 640 meters (70 to 2,100 feet) elevation. Known only from the Central Valley of California and the coastal and inland areas of Southern California. Alkaline soils in vernal pools and vernal plains. The MSHCP account for this species states that "little mousetail is found in areas that have semiregular inundation."	Blooms March through June (annual herb)

Table 7.2-3 (continued)
Species of Importance in the City of Murrieta General Plan Study Area
(Western Riverside County Multiple Species Habitat Conservation Plan)

Species	Status	Habitat and Description	Activity Period
Navarretia fossalis **Spreading navarretia**	US: FT CA: SP CNPS: 1B MSHCP: S	In vernal pools, playas, shallow freshwater marshes and similar sites at 30 to 1,310 meters (100 to 4,300 feet) elevation. In California, known only from Los Angeles, San Luis Obispo, Riverside, and San Diego Counties. Also occurs in Mexico. Alkaline soils and southern basaltic claypan in vernal pools. The MSHCP account for this species states that, in Riverside County, it "is found in southern basaltic claypan vernal pools at the Santa Rosa Plateau, and alkaline vernal pools as at Skunk Hollow and at Salt Creek west of Hemet."	Blooms April through June (annual herb)
Orcuttia californica **California Orcutt grass**	US: FE CA: SE CNPS: 1B MSHCP: S	Vernal pools from 15 to 660 meters (50 to 2,200 feet) elevation. In California, known from Los Angeles, Ventura, Riverside, and San Diego Counties. Also occurs in Mexico.	Blooms April through August (annual grass)
Trichocoronis wrightii var. *wrightii* **Wright's trichocoronis**	US: – CA: SP CNPS: 2 MSHCP: S	Alkali meadows, river beds, vernal pools, and lakes at 5 to 435 meters (20 to 1,430 feet) elevation. In California, known from the Central Valley and Riverside County. Also occurs in Texas and Baja California. Alkali soils in alkali playa, alkali annual grassland, and alkali vernal pools. The MSHCP account for this species states that "Wright's trichocoronis is restricted to highly alkaline, silty-clay soils in association with Traver, Domino, and Willows soils..."	Blooms May through September (annual or perennial herb)
Insects			
Euphydryas editha quino **Quino checkerspot butterfly**	US: FE CA: SA MSHCP: C	Meadows or openings within coastal sage scrub or chaparral below about 5,000 feet where food plants (*Plantago erecta* and/or *Orthocarpus purpurascens*) are present. Historically known from Santa Monica Mountains to northwest Baja California; currently known only from southwestern Riverside County, southern San Diego County, and northern Baja California.	January through late April
Reptiles			
Actinemys marmorata (pallida) **Western pond turtle**	US: – CA: CSC MSHCP: C	Inhabits permanent or nearly permanent water below 1,830 meters (6,000 feet) from central California, west of the Sierra-Cascade crest south to north-western Baja California. Absent from desert regions, except in the Mojave Desert along the Mojave River and its tributaries. Requires basking sites such as partially submerged logs, rocks, or open mud banks.	Year-round with reduced activity November through March

Table 7.2-3 (continued)
Species of Importance in the City of Murrieta General Plan Study Area
(Western Riverside County Multiple Species Habitat Conservation Plan)

Species	Status	Habitat and Description	Activity Period
Birds			
Accipiter cooperii (nesting) **Cooper's hawk**	US: – CA: SA MSHCP: C	Forages in a wide range of habitats, but primarily in forests and woodlands. These include natural areas as well as human-created habitats such as plantations and ornamental trees in urban landscapes. Usually nests in tall trees (20–60 feet) in extensive forested areas (generally woodlots of 4–8 hectares with canopy closure of greater than 60%). Occasionally nests in isolated trees in more open areas.	Year-round
Aimophila ruficeps canescens **Southern California rufous-crowned sparrow**	US: – CA: SA MSHCP: C	Steep, rocky coastal sage scrub and open chaparral habitats, particularly scrubby areas mixed with grasslands. From Santa Barbara County to northwestern Baja California.	Year-round, diurnal activity
Ammodramus savannarum (nesting) **Grasshopper sparrow**	US: – CA: CSC MSHCP: P	Grasslands, agricultural fields, prairie, old fields, and open savanna. Uncommon and very local summer resident on grassy slopes and mesas west of the deserts. Only rarely in migration and in winter. Coastal Southern California.	Coastal: Year-round; only casually in migration elsewhere
Amphispiza belli belli **Bell's sage sparrow**	US: – CA: CSC MSHCP: C	Occupies chaparral and coastal sage scrub from west central California to northwestern Baja California.	Year-round, diurnal activity
Athene cunicularia (burrow sites) **Burrowing owl**	US: – CA: CSC MSHCP: S	Open country in much of North and South America. Usually occupies ground squirrel burrows in open, dry grasslands, agricultural and range lands, railroad rights-of-way, and margins of highways, golf courses, and airports. Often utilizes man-made structures, such as earthen berms, cement culverts, cement, asphalt, rock, or wood debris piles. This species avoids thick, tall vegetation, brush, and trees, but may occur in areas where brush or tree cover is less than 30 percent.	Year-round
Buteo swainsoni (nesting) **Swainson's hawk**	US: – CA: ST MSHCP: C	Grassland and agricultural areas; large trees for nesting. Breeds and nests in western North America; winters in South America. In California, nesting is essentially restricted to Central Valley and Modoc Plateau.	Spring and fall (in migration)

Table 7.2-3 (continued)
Species of Importance in the City of Murrieta General Plan Study Area
(Western Riverside County Multiple Species Habitat Conservation Plan)

Species	Status	Habitat and Description	Activity Period
Dendroica petechia brewsteri (nesting) **California yellow warbler**	US: – CA: CSC MSHCP: C	Riparian woodland while nesting in the western U.S. and northwestern Baja California; more widespread in brushy areas and woodlands during migration and winter, when occurring from western Mexico to northern South America. Migrants belonging to other subspecies are widespread and common.	Summer, winter, or year-round, depending on locale
Empidonax traillii extimus **Southwestern willow flycatcher**	US: FE CA: SE MSHCP: S	Rare and local breeder in extensive riparian areas of dense willows or (rarely) tamarisk, usually with standing water, in the southwestern U.S. and northwestern Mexico. Winters in Central and South America.	May through September
Eremophila alpestris actia **California horned lark**	US: – CA: SA MSHCP: C	Open grasslands and fields, agricultural area, open montane grasslands. This subspecies is resident from northern Baja California northward throughout non-desert areas to Humboldt County, including the San Joaquin Valley and the western foothills of the Sierra Nevada (north to Calaveras County). Prefers bare ground such as plowed or fall-planted fields for nesting, but may also nest in marshy soil. During the breeding season, this is the only subspecies of horned lark in non-desert southern California; however, from September through April or early May, other subspecies visit the area.	Year-round interior (inland areas)
Lanius ludovicianus (nesting) **Loggerhead shrike**	US: – CA: CSC MSHCP: C	Open fields with scattered trees or shrubs, open country with short vegetation, pastures, old orchards, cemeteries, golf courses, riparian areas, and open woodlands. Found in open country in much of North America.	Year-round
Polioptila californica californica **Coastal California gnatcatcher**	US: FT CA: CSC MSHCP: C	Inhabits coastal sage scrub in low-lying foothills and valleys in cismontane southwestern California and Baja California.	Year-round
Tachycineta bicolor **Tree swallow**	US: – CA: – MSHCP: C	Riparian scrub, woodland and forest, water, oak woodlands and forest. Nests in older trees and snags.	Year-round

Table 7.2-3 (continued)
Species of Importance in the City of Murrieta General Plan Study Area
(Western Riverside County Multiple Species Habitat Conservation Plan)

Species	Status	Habitat and Description	Activity Period
Vireo bellii pusillus **Least Bell's vireo**	US: FE CA: SE MSHCP: S	Riparian forests and willow thickets. The most critical structural component of least Bell's vireo habitat in California is a dense shrub layer 2 to 10 feet (0.6–3.0 meter) above ground. Nests from central California to northern Baja California. Winters in southern Baja California.	April through September
Mammals			
Dipodomys stephensi **Stephens' kangaroo rat**	US: FE CA: ST MSHCP: C	Found in plant communities transitional between grassland and coastal sage scrub, with perennial vegetation cover of less than 50%. Most commonly associated with *Artemesia tridentata, Eriogonum fasciculatum,* and *Erodium.* Requires well-drained soils with compaction characteristics suitable for burrow construction. Not found in soils that are highly rocky, less than 20 inches deep, or heavily alkaline or clay, or in areas exceeding 25% slope. Occurs only in western Riverside County, northern San Diego County, and extreme southern San Bernardino County, below 915 meters (3,000 feet) elevation. In northwestern Riverside County, known only from east of Interstate 15. Reaches its northwest limit in south Norco, southeast Riverside, and in the Reche Canyon area of Riverside and extreme southern San Bernardino Counties.	Year-round
Lynx rufus **Bobcat**	US: – CA: – MSHCP: C	Chaparral, coastal sage scrub, desert scrub, montane coniferous forest, riparian scrub, woodland and forest, Riversidean alluvial fan sage scrub	Year-round
Perognathus longimembris brevinasus **Los Angeles pocket mouse**	US: – CA: CSC MSHCP: S	Prefers sandy soil for burrowing, but has been found on gravel washes and stony soils. Found in coastal sage scrub in Los Angeles, Riverside, and San Bernardino Counties.	Nocturnal. Active late spring to early fall.

LEGEND	
US: Federal Classifications	
FE	Taxa listed as Endangered.
FT	Taxa listed as Threatened.
CA: State Classifications	
SE	Taxa State-listed as Endangered.
ST	Taxa State-listed as Threatened.
CSC	California Species of Special Concern. Refers to animals with vulnerable or seriously declining populations.
SA	Special Animal. Refers to any other animal monitored by the Natural Diversity Data Base, regardless of its legal or protection status.
SP	Special Plant. Refers to any other plant monitored by the Natural Diversity Data Base, regardless of its legal or protection status.

CNPS: California Native Plant Society Classifications	
1B	Plants considered by CNPS to be rare, threatened, or endangered in California and elsewhere.
2	Plants considered by CNPS to be rare, threatened, or endangered in California, but more common elsewhere.
3	Plants suggested by CNPS for consideration as endangered but about which more information is needed.
MSHCP: Western Riverside County MSHCP Status	
S	Species is adequately conserved under the MSHCP, but surveys are required within indicated habitats and/or survey areas.
C	Species is adequately conserved under the MSHCP.
P	Species is covered but not considered adequately conserved pending completion of MSHCP specified requirements.

The following species are listed as Federally or State Endangered or Threatened or California Species of Special Concern. As such, a more detailed description is provided from that given in *Table 7.2-3*.

Quino checkerspot butterfly. The Quino checkerspot butterfly is a Federally-listed endangered species. Potential habitat in the region includes vegetation communities with relatively open areas that typically include patches of dwarf plantain, purple owl's clover, and nectaring plants. This species generally inhabits meadows or openings within coastal sage scrub or chaparral below approximately 5,000 feet where food plants are present. This species historically occurred from the Santa Monica Mountains to northwest Baja California; however, it is currently known to occur within southwestern Riverside County, southern San Diego County, and northern Baja California.

Southwestern pond turtle. The southwestern pond turtle is designated as California Species of Special Concern. Open mud banks, permanent ponds, irrigation ditches, permanent pools along intermittent streams, and other lakes and streams serve as suitable aquatic habitat.

Grasshopper sparrow. The grasshopper sparrow is listed as a California Species of Special Concern. This species generally resides and breeds in the foothills and lowlands west of the Cascade-Sierra Nevada crest, from Mendocino and Trinity Counties, south to San Diego County. This species occurs in dry, dense grasslands, especially those with a variety of grasses and tall forbs and scattered shrubs for singing perches. In southern California, the grasshopper sparrow occurs primarily on hillsides and mesas within coastal districts. The sparrow feeds primarily on insects and other invertebrates, as well as grass and forb seeds.

Bell's sage sparrow. The Bell's sage sparrow is listed as a California Species of Special Concern. This species is found on the lower slopes of the California and northern Baja coast ranges; on the eastern slopes bordering the Central Valley from the San Francisco Bay Area to Trinity County; and, on the western slopes of the Sierra Nevada from Calaveras to Madera Counties. The Bell's sage sparrow inhabits sunny, dry stands of coastal sage scrub and chaparral, but may occasionally be found in other arid habitats such as cismontane juniper woodland and alluvial fan scrub.

Burrowing owl. The burrowing owl is listed as a California Species of Special Concern. The burrowing owl resides year-round in open, dry grassland and desert habitats, and in grass, forb, and open shrub stages of pinyon-juniper and ponderosa pine habitats, and uses rodent or other burrows for roosting and nesting cover. This species generally perches in open sunlight in early morning and moves to shade or to its burrow when the temperature increases. This species was formerly common in appropriate habitats throughout California, with exception of the humid northwest coastal forests and high mountains; however, the overall population has been markedly reduced over recent decades.

Swainson's hawk. Swainson's hawk is a State-listed threatened species. This species generally breeds in stands with few trees in juniper-sage flats, riparian areas, and within oak savannah, and forages in adjacent grasslands or suitable grain or alfalfa fields, or livestock pastures within the Central Valley. In southern California, this species is largely limited to spring and fall transient patterns, due largely to an overall decline resulting in part from the loss of nesting habitat. Swainson's hawk generally roosts in large trees and feeds primarily on mice, gophers, ground squirrels, rabbits, large arthropods, amphibians, reptiles, birds, and rarely, fish.

California yellow warbler. The yellow warbler is a California Species of Special Concern. The yellow warbler is a fairly stout but long-bodied bird with a relatively short tail and a stout bill (Sibley 2000). This species is approximately five inches long with a wingspan of eight inches. As its name suggests, the body and head of the yellow warbler are yellow. During the breeding season, the male has reddish streaks on the breast. In Riverside County, this migratory bird is a fairly common breeding summer resident and a rare but annual winter visitor that can be found in riparian habitat.

Southwestern willow flycatcher. The southwestern willow flycatcher is a Federally- and State-listed endangered species. The southwestern willow flycatcher is a small (approximately 15 cm), insectivorous bird. The overall appearance of this species is greenish or brownish gray above, with a white throat that contrasts with a pale olive breast, and a pale yellow belly. It is one of four willow flycatcher subspecies and can be distinguished from other willow flycatchers by its distinct "fitz-bew" song (Yard and Brown 2000). It nests and forages in riparian habitats typically dominated by dense willow understory (Federal Register 1993). Other plant species characterizing appropriate flycatcher habitat include mule-fat, arrow weed, coast live oak, and scattered cottonwoods. This species is generally a summer resident, arriving in Riverside County in May and migrating south in August.

The historic breeding range of the southwestern willow flycatcher includes southern California, Arizona, New Mexico, extreme southern portions of Nevada and Utah, and western Texas. Currently, the southwestern willow flycatcher is declining in most states where it was found historically. The species was proposed for Federal endangered status in July 1993.

Loggerhead shrike. The loggerhead shrike is a California Species of Special Concern. This species inhabits most of the continental U.S. and Mexico and is a year-round resident of southern California. The loggerhead shrike prefers open habitat with perches for hunting and fairly dense shrubs for nesting (Small 1994). In southern California, this bird inhabits grasslands, agricultural fields, chaparral, and desert scrub (Unitt 1984). Loggerhead shrikes feed on small reptiles and insects that they often impale on sticks or thorns before eating (Robbins et al. 1983). Loggerhead shrike populations are declining, likely due to urbanization and loss of habitat.

Coastal California gnatcatcher. The coastal California gnatcatcher is Federally-listed as threatened and is a California Species of Special Concern. The coastal California gnatcatcher is non-migratory and can be found on the coastal slopes of southern California from Ventura County southward through Los Angeles, Orange, Riverside, and San Diego counties into Baja California, Mexico (Atwood and Bontrager 2001). Coastal California gnatcatchers are found in coastal sage scrub, chaparral, and grassland, or in riparian habitats adjacent to coastal sage scrub. Breeding occurs from February through August, and nests are constructed most often in California sagebrush. The coastal California gnatcatcher's diet consists mainly of leafhoppers, spiders, beetles, and true bugs (Atwood and Bontrager 2001). The primary cause of the decline of coastal California gnatcatchers is habitat loss and degradation.

Least Bell's vireo. Least Bell's vireo is a Federally- and State-listed endangered species. The least Bell's vireo is a small, olive-gray songbird that nests and forages almost exclusively in riparian woodland habitats. Nesting habitat typically consists of riparian woodland with well-developed overstories, understories and low densities of aquatic and herbaceous cover. The understory often consists of dense thickets composed of narrowleaved willow, mule-fat, and saplings of arroyo willow, Goodding's black willow, or one of several possible herbaceous species.

Stephens' kangaroo rat. The Stephens' kangaroo rat is a State-listed threatened and Federally-listed endangered species that has a limited distribution within southern California. This species is restricted to western Riverside County, southern San Bernardino County, and central and northern San Diego County. Stephens' kangaroo rat habitat includes dry open spaces within grassland, fallow agricultural fields, and sparse coastal sage scrub communities. Suitable topography is generally flat to moderately sloping with sandy or gravelly soils.

Los Angeles pocket mouse. The Los Angeles pocket mouse is designated as a California Species of Special Concern. This mammal occupies lower elevation grassland and coastal sage habitat that generally extends inland to San Bernardino and the Cabazon–Hemet-Aguanga area.

CRITICAL HABITAT

The term "Critical Habitat" applies to areas designated by the USFWS to be of biological importance to Federally-listed species. Critical habitat is represented by a specific geographic area that is considered to be essential for the conservation of a threatened or endangered species

and, as such, may require special management and long-term protection. Areas that are not presently occupied by a Federally-listed species may be considered as critical habitat as such habitat may be necessary for the recovery of the species. An area is designated as "critical habitat" following publication of a proposed Federal regulation in the Federal Register and receipt and consideration of public comments on the proposal. The final boundaries of the critical habitat area are published in the Federal Register.

Federal agencies are required to consult with the USFWS on actions they carry out, fund, or authorize in order to ensure that such actions will not result in the destruction or adverse modification of established critical habitat. As such, areas designated as critical habitat are provided protection for the long-term conservation of the species; however, a critical habitat designation has no effect on actions where a Federal agency is not involved (i.e. federal funding or permitting).

Currently, there is no designated or proposed critical habitat within the City of Murrieta or Sphere of Influence.

Findings

- As identified in the Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP), Biological Issues and Considerations for the Southwest (SW) and Sun City/Menifee (SCM) Area Plan Subunits within the City of Murrieta and the Sphere of Influence are as follows:

    1. Murrieta Creek (SW1) and Santa Rosa Plateau (SW6) - Maintain habitat function as riparian and aquatic species live-in habitat and large mammal movement linkage.

    2. French Valley/Lower Sedco Hills (SW5) and Warm Springs Creek/French Valley (SCM1) - Maintain habitat Core for narrow endemic plants (saline/alkali and clay), Quino checkerspot butterfly, Riverside fairy shrimp, Los Angeles pocket mouse, western pond turtle, and habitat linkages through the City limits (east-west and north-south) for wildlife movement and plant dispersal.

- Pursuant to Section 16.42, Tree Preservation, of the City's Development Code, no person is allowed to remove, cut down, or otherwise destroy a protected tree, unless a tree removal permit has been approved and issued by the Director of the Department of Planning.

- Continue to protect and maintain Murrieta Creek and Warm Springs Creek as important natural features within the General Plan Study Area for biotic and aesthetic value. Such features support wildlife movement within the General Plan Study Area and should be

protected in perpetuity as future development occurs to allow for continued wildlife migration, as well as the preservation of wetland resources.

- Continue to provide buffer areas between sensitive habitat and future development by establishing adequate setbacks.

- Ongoing net loss of habitat due to the implementation of the General Plan will contribute to the regional loss of habitat on a cumulative level.

- For each impact identified with future development in the General Plan Study Area, changes or alterations will be required in, or incorporated into, project designs to mitigate or avoid potentially significant effects on the environment and sensitive habitats.

- Future development within the subregion will cumulatively impact biological resources in the area. Increased population and an undetermined amount of associated development will result in an incremental loss of habitat and decrease of biological diversity in the subregion and could result in a loss of plant and animal species including officially listed species and their habitats.

Significance Thresholds

The following thresholds for determining the significance of impacts related to biological resources are taken from the environmental checklist form contained in Appendix G of the most recent update of the *California Environmental Quality Act (CEQA) Guidelines*, and will be used in the Environmental Impact Report. Impacts related to biological resources are considered significant if implementation of the General Plan would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Services;

- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Services;

- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;

- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;

- Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or,

- Conflict with provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

Sources Cited

Biological Resources Assessment. Prepared by LSA Associates. January 2010.

City of Murrieta Development Code, Title 16, Article III – Site Planning and Development Standards, Section 16.42 – Tree Preservation.

California Environmental Quality Act (CEQA) Guidelines - Appendix G. 2009.

City of Murrieta Final EIR for the General Plan. Certified June 1994.

City of Murrieta General Plan. Adopted June 1994.

City of Murrieta General Plan – Master Environmental Assessment. October 1992.

City of Murrieta General Plan - Existing Conditions Report. Conservation and Open Space Technical Report.

Western Riverside County Multiple Species Habitat Conservation Plan (MSHCP). Adopted June 23, 2003.

Introduction

This section is primarily based on information provided in the Cultural Resources Assessment prepared by LSA Associates, Inc. in January 2010. Additional information was taken from the City of Murrieta General Plan, adopted June 1994, and the City of Murrieta Final EIR for the General Plan, certified June 1994, as well as the City of Murrieta General Plan – Master Environmental Assessment (October 1992) and the City of Murrieta General Plan - Existing Conditions Report, Conservation and Open Space Technical Report. The following discussion is intended to identify known cultural and historical resources that exist within the boundaries of the General Plan Study Area to provide a baseline of existing conditions. This section has been prepared in consideration of California Environmental Quality Act (CEQA) Guidelines Section 15064.5, which considers potential impacts on prehistoric, historic, and paleontological resources.

Regulatory Context

FEDERAL

National Historic Preservation Act

Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, established a national policy of historic preservation, and encourages such preservation. The NHPA established the Advisory Council on Historic Preservation (ACHP) and provided procedures for the agency to follow if a proposed action affects a property that is included, or that may be eligible for inclusion, on the National Register of Historic Places (NRHP). The NRHP was developed as a direct result of the NHPA.

Section 106 requires that the head of any Federal agency having direct or indirect jurisdiction over a proposed Federal or Federally-assisted undertaking in any state, and the head of any Federal department or independent agency having authority to license any undertaking, shall, prior to the approval of the expenditure of any Federal funds on the undertaking or prior to the issuance of any license, take into account the effect of the undertaking on any district, site, building, structure, or object that is included in or eligible for inclusion in the National Register. The head of any such Federal agency is required to allow the ACHP a reasonable opportunity to comment with regard to such undertaking.

National Register of Historic Places

The National Register of Historic Places is the official list of properties that have been recognized for their significance and worthiness of long-term preservation. The National Register Criteria for Evaluation establishes guidelines utilized by Federal, State, and local governments, private groups, and citizens to assess the significance of cultural resources and to

identify those properties that should be considered for protection from demolition, destruction, or alteration. To be listed in the NRHP, or deemed eligible for listing, properties must meet certain criteria for historic or cultural significance. Qualities of significance may be found in aspects of American history, architectural design or theme (interpreted in the broadest sense to include landscape architecture and planning), archaeology, engineering, or culture. The following criteria are used to determine the eligibility of properties for listing on the NRHP:

- **Criterion A** – It is associated with events that have made a significant contribution to the broad patterns of our history.
- **Criterion B** – It is associated with the lives of persons who are significant in our past.
- **Criterion C** – It embodies the distinctive characteristics of a type, period, or method of construction, or it represents the work of a master or possesses high artistic values or represents a significant and distinguishable entity whose components may lack individual distinction.
- **Criterion D** – It has yielded, or may be likely to yield, information important in prehistory and history.

Each resource eligible for listing on the NRHP must demonstrate qualities of integrity, measured by the degree to which the resource retains its historic location, design, setting, materials, workmanship, feeling, and/or association. To be considered for listing, the resource must (generally) be a minimum of 50 years of age; however, some exceptions and overriding considerations to this requirement do occur. Listing on the NRHP does not in and of itself provide protection for a historic resource. Listing on the NRHP instead allows owners of such resources eligibility for financial and tax incentives to assist in the rehabilitation or preservation of such resources.

Criteria Considerations. The National Register does not typically consider cemeteries, birthplaces, or graves of historical figures; properties owned by religious institutions or used for religious purposes; structures that have been moved from their original locations; reconstructed historic buildings; properties primarily commemorative in nature; or, properties that have achieved significance within the past 50 years as eligible for the National Register; however, such properties may qualify if they are integral parts of districts that are determined to meet the criteria, or if they fall within any of the following categories:

- A religious property deriving primary significance from architectural or artistic distinction or historical importance;
- A building or structure removed from its original location but which is significant primarily for architectural value, or which is the surviving structure most importantly associated with a historic person or event;
- A birthplace or grave of a historical figure of outstanding importance if there is no appropriate site or building directly associated with his or her productive life;

- A cemetery which derives its primary significance from graves of persons of transcendent importance, from age, from distinctive design features, or from association with historic events;
- A reconstructed building when accurately executed in a suitable environment and presented in a dignified manner as part of a restoration master plan, and when no other building or structure with the same association has survived;
- A property primarily commemorative in intent if design, age, tradition, or symbolic value has invested it with its own exceptional significance; or,
- A property achieving significance within the past 50 years if it is of exceptional importance.

Integrity. Integrity involves the ability of a resource to convey its cultural or historical significance. In order to be eligible for inclusion on the National Register, a property or resource must be shown to be significant consistent with National Register criteria, as well as demonstrating integrity. Evaluation of integrity can be subjective; however, it must always be fundamentally grounded in an understanding of a property's physical features and how such features relate to its overall significance.

The National Register criteria recognize seven aspects or qualities that define integrity. To retain historic integrity, a property needs to possess several (and usually most) of these aspects. Knowing why, where, and when a property is significant is essential in determining which of these aspects is most important to a particular property. The National Register considers the following aspects in evaluating the level of integrity of a particular resource:

1. Location is the place where the historic property was constructed or the place where the historic event occurred.
2. Design is the combination of elements that create the form, plan, space, structure, and style of a property.
3. Setting is the physical environment of a historic property.
4. Materials are the physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property.
5. Workmanship is the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory.
6. Feeling is a property's expression of the aesthetic or historic sense of a particular period of time.
7. Association is the direct link between an important historic event or person and a historic property.

California Historical Resource (CHR) Status Codes

In order to be considered as significant, a resource must meet at least one of the above-listed criteria and retain enough integrity to support its period of significance and association within a historical context. A resource is assigned a CHR status code following evaluation to identify its significance level. The following general categories represent the status codes assigned to such resources considered for significance:

1. Properties listed in the National Register or the California Register.
2. Properties determined eligible for listing in the National Register or California Register.
3. Appears eligible for National Register or California Register through survey evaluation.
4. Appears eligible for National Register or California Register through other evaluation.
5. Properties recognized as historically significant by local government.
6. Not eligible for listing or designation as specified.
7. Not evaluated for National Register or California Register or needs re-evaluation.

Generally, resources that are assigned a CHR code of 6 are determined ineligible for designation under any criteria and are not considered historical resources for the purposes of CEQA or the Murrieta Cultural Resource Preservation Ordinance; however, several subcategories exist within each of the status codes that allow for various exemptions, such as whether or not a resource contributes to a Historic District.

Historic Rehabilitation and Tax Credits Program

The National Park Service (NPS) and the Internal Revenue Service (IRS), in partnership with State Historic Preservation Office (SHPO), are responsible for administering the Historic Rehabilitation Tax Credits program. This program rewards private financial investment in the rehabilitation of historic buildings that are listed in the National Register of Historic Places. Properties must be income-producing and must be rehabilitated according to rehabilitation standards set by the Secretary of the Interior for historic properties.

STATE

California Environmental Quality Act

Pursuant to CEQA Guidelines Section 15064.5, the Lead Agency is required to evaluate whether a proposed project would have a significant adverse effect on unique historical or archaeological resources. CEQA Guidelines Section 15064.5(b) states that a substantial adverse change means physical demolition, destruction, relocation, or alteration in the resource, such that the resource is "materially impaired." An historical resource is considered to be materially impaired when a

project demolishes or materially alters the physical characteristics that justify the determination of its significance.

In addition, under CEQA Guidelines Section 15064.5(b)(3), a project that seeks to improve an historic resource in accordance with either of the following publications will be considered as mitigated to a level of less-than-significant:

- Secretary of the Interior's Standards for Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings
- Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings

California Register of Historical Resources

The California Office of Historic Preservation (OHP) established the California Register as an authoritative guide to historical resources in the State of California. Criteria used for inclusion of properties on this listing are as follows:

> "While the significance criteria for the California Register are similar to those used by the NRHP this new California Register will document the unique history of the Golden State."

To qualify for listing in the California Register, the resource must retain integrity and meet at least one of the following criteria:

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
2. Is associated with the lives of persons important in our past;
3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual or possesses high artistic values; or,
4. Has yielded, or may be likely to yield, information important in prehistory or history.

Integrity is defined in the NRHP program as a property's ability to convey its significance. Evaluation of integrity may be a somewhat subjective judgment; however, it must be founded on "an understanding of a property's physical features and how they relate to its significance."

California Historic Building Code

The California Historic Building Code (CHBC) provides guidelines for the preservation, restoration, rehabilitation, relocation, and reconstruction of buildings or structures designated as qualified historical buildings or properties by a local, State, or Federal jurisdiction, as defined by Sections 8-218 of the CHBC. The CHBC provides guidelines for long-term preservation efforts

of qualified historical buildings or properties in order to allow owners to make improvements for access for persons with disabilities; to provide a cost-effective approach to preservation; and, to ensure overall safety of affected occupants or users.

As defined by the CHBC, a "qualified historical building" is "any building, site, structure, object, district, or collection of structures, and their associated sites, deemed of importance to the history, architecture, or culture of an area by an appropriate local, State, or Federal governmental jurisdiction. This includes designated buildings or properties on, or determined eligible for, official national, State, or local historical registers or official inventories, such as the National Register of Historic Places, California Register of Historical Resources, State Historical Landmark, State Points of Historical Interest, and officially adopted city or county registers, inventories, or surveys of historical or architecturally significant sites, places, or landmarks."[1]

LOCAL

City of Murrieta Historic Preservation Advisory Commission

The City of Murrieta Historic Preservation Advisory Commission (HPAC) acts in an advisory capacity to the City Council with regard to the preservation of cultural and archaeological resources within the City's boundaries. Through the City Planner or Community Development Director, the HPAC makes recommendations to the City Council for the designation of cultural resources. Such resources may include individual properties, archaeological districts, or historic preservation districts within the City. In addition, the HPAC is responsible for maintaining the register of cultural resources within the City; reviewing land use, redevelopment, municipal improvement and other planning matters and programs undertaken by the City with regard to cultural resources; providing recommendations to the City Council on the use of available Federal, State, local and private funding sources for protection of the City's cultural resources; and, reviewing applications for certificates of appropriateness related to demolition permits and development plan approval, in compliance with the City's Development Code for designated cultural resources.

City of Murrieta General Plan

The General Plan includes the Conservation and Open Space Element, which establishes goals and policies that pertain to the long-term preservation of cultural and historic resources within the City. Such policies and goals are intended to promote the preservation of historically and architecturally significant sites, structures, and landscape features within the community and to encourage proper adaptive reuse of historic structures and sites to prevent disuse, disrepair, and

[1] California Historic Building Code (Sections 18950 to 18961 of Division 13, Part 2.7 of California Health and Safety Code).

demolition. Development projects within the City are required to demonstrate conformance with the General Plan.

City of Murrieta Development Code

Section 16.26, *Cultural Resource Preservation*, of the City of Murrieta Development Code (Municipal Code, Title 16, Article III, Section 16.26) is intended to "implement the provisions of the Conservation and Open Space Element of the General Plan" with regard to cultural and historic resources. Section 16.26 is intended to "establish a mechanism by which community resources such as buildings, structures and sites within the City of Murrieta, which are of pre-historic or historic interest or value, or which exhibit special elements of the City's architectural, cultural, or social heritage may be identified, protected, enhanced, perpetuated and used in the interest of the public's health, safety, welfare, and enrichment."[2] The provisions of Section 16.26 are applicable to any cultural or archaeological resource, archaeological district, or historic preservation district located within the City's boundaries.

Murrieta Municipal Code §16.26.050: Designation Criteria for Cultural Resources, Archaeological Districts, and Historic Districts. Section 16.26.050 of the Development Code allows for an improvement or natural feature to be designated a cultural resource by the City Council, and any area within the City may be designated as an archaeological district or historic preservation district by the City Council, if it meets any of the following criteria:

- **Individual Resource Designation**
  1. It exemplifies or reflects special elements of the City's cultural, architectural, aesthetic, social, economic, political, artistic and/or engineering heritage;
  2. It is identified with persons, a business use or events significant in local, state or national history;
  3. It embodies distinctive characteristics of style. type, period or method of construction or is a valuable example of the use of indigenous materials or craftsmanship;
  4. It is representative of the notable work of a builder, designer or architect; or,
  5. Its unique location or singular physical characteristic represents an established and familiar visual feature of a neighborhood, community or the City.

- **Local District Designation**

  A geographic area may be designated as a local archaeological district or historic preservation district if the City Council, after hearing(s), finds that all of the requirements set forth below are met. Concurrent with the designation of a historic preservation district, design guidelines shall be developed and shall apply to all properties within the historic preservation district.

[2] City of Murrieta Municipal Code. Adopted 1995.

- **Archaeological District**
  a. The area is a geographically definable area.
  b. The area possesses either:
     1. A significant concentration or continuity of archaeological resources; or,
     2. The area is associated with the prehistory of Murrieta.
  c. The designation of the geographic area as an archaeological district is reasonable, appropriate, and necessary to protect, promote, and further the goals and purposes of the ordinance codified in this chapter and is not inconsistent with other goals and policies of the City.

- **Historic Preservation District**
  a. The area is a geographically definable area:
  b. The area possesses either:
     1. A significant concentration or continuity of buildings unified by past events or aesthetically by plan or physical development; or,
     2. The area is associated with an event, person, or period significant or important to Murrieta history.
  c. The designation of the geographic area as a historic preservation district is reasonable, appropriate, and necessary to protect, promote, and further the goals and purposes of the ordinance codified in this chapter and is not inconsistent with other goals and policies of the City.
  d. Determining Factors: In determining whether to designate a historic preservation district, the following factors shall be considered:
     1. District should have integrity of design, setting, materials, workmanship, and association; and,
     2. The collective value of the buildings and structures in a district taken together may be greater than the value of each individual building or structure.

Historic Murrieta Specific Plan

The Historic Murrieta Specific Plan is a tool for implementing the Murrieta General Plan and is intended to provide a vision for future development within the area; establish guidelines for land use decisions; improve the area's physical and economic environment; and, establish City goals for quality development within Historic Murrieta. The Historic Murrieta Specific Plan Area is generally bounded by Kalmia Street to the north; Ivy Street to the south; Hayes Avenue to the west; and, Jefferson Avenue to the east. The Specific Plan establishes a vision for development

within the area and provides design guidelines for future projects to ensure that the overall vision is achieved and maintained. Guidelines for land use patterns, tree preservation, gateways, streetscape, infrastructure, parking, streets, and alleyways, among other elements, are discussed within the Specific Plan. In addition, the Specific Plan identifies 10 Land Use Districts within the Specific Plan Area to allow for implementation of the overall Plan vision and goals, consistent with goals and policies of the General Plan.

Existing Conditions

NATURAL SETTING

The City of Murrieta is located on the eastern margin of Temecula Valley. To the north lies the Hogbacks Ridge. The average elevation within the City is approximately 1,110 feet above mean sea level (AMSL). The project region is characterized by a semi-arid climate with dry, hot summers and moderate winters. Annual rainfall ranges from approximately 12 to 16 inches annually, usually occurring in the form of winter rain with occasional warm monsoonal showers in late summer.

The City of Murrieta is located within the Lower Sonoran Life Zone, which ranges from below sea level to approximately 3,500 feet AMSL. This Zone is represented by cismontane valleys and low mountain slopes covered with chaparral (Jaeger and Smith 1971). Oak, scrub oak, California buckwheat, cacti, chaparral, tule, mustard, hare oats, and various grasses commonly occur within the Murrieta area. Coyotes, rabbits, rodents, raptors, vultures, reptiles, and insects represent typical animal species within the area; however, natural biological resources within the area have been extensively disrupted by historical development over past decades. The majority of the surface of the General Plan Study Area has been disturbed or destroyed with historic construction of the hot springs, which occurred during the 1930s, combined with the periodic flooding of Warm Springs Creek.

CULTURAL SETTING

Prehistoric and Historic Archaeological Background

The description of various prehistoric stages, or chronologies, to explain cultural evolution in southern California has been attempted numerous times; however, no single description is universally accepted. The varying chronologies are primarily based on changes in artifact styles, the introduction of new artifact types, and changes in the way raw materials are utilized. The presence of trade artifacts or raw material from distant sources is also considered as a temporal indicator. Variation exists among the chronologies, due primarily to differences in material items recovered from sites over time, which serve the foundation for the formation and understanding of patterns that are variously interpreted. The stages outlined in *Table 7.3-1*, *Cultural Chronology of Riverside County*, indicate a general relationship between the chronologies.

Table 7.3-1
Cultural Chronology of Riverside County

Mojave and Colorado Desert			Western Riverside County		
Period	Chronological Range	Diagnostic Artifacts	Period Name	Chronological Range	Diagnostic Artifacts/Features
Proto-historic	AD 1200–1850	Desert Side-notched	Late Prehistoric	AD 500–Historic	Ceramics, Cottonwood Triangular and Desert side-notched projectile points (arrow points), cremations
Saratoga Springs	AD 500–1200	Rosegate series; pottery	Intermediate	2000 BC–AD 500	Mortars, pestles, discoidals, abundant (dart) projectile points, land and sea mammal bone
Gypsum	2000 BC–AD 500	Elko, Gypsum, Humboldt series; T-shaped drills, occasional large scraper planes, mortar and pestle	Milling Stone	6500–2000 BC	Metates, manos, cogstones, discoidals, core tools, paucity of projectile points, inhumations
Pinto	5000–2000 BC	Pinto series; large keeled-scrapers, flat milling stones	Early Man	9000 BC?–6500 BC	Large, often fluted, points, such as Clovis and Folsom types in association with extinct fauna
Lake Mojave	7000–5000 BC	Lake Mojave series; well-made bifacial knives and other cutting tools, large domed or keeled scrapers	—	—	—
Sources: Wallace 1955, 1962; Warren 1984, 1986.					

HISTORICAL BACKGROUND

In California, the historic era is generally divided into three periods: the Spanish Period (1769 to 1821), the Mexican Period (1821 to 1848), and the American Period (1848 to present). Early exploration within Riverside County was generally limited until Lieutenant Pedro Fages, then the military governor of San Diego, crossed through the San Jacinto Valley in 1772. On January 8, 1774, the Juan Bautista de Anza expedition entered California. Bautista de Anza's second excursion into Riverside County brought members who would form the new community at the Presidio of San Francisco (Beattie 1925). With the Spanish intrusion of the late 18th century came a drastic change in lifestyle for the natives of southern California. Incorporation of the indigenous populations into the mission system generally led to the disruption of native cultures and changes in subsistence and land use practices (Harley 1988). In 1821, Mexico overthrew Spanish rule, and the missions began to decline. By 1833, the Mexican government passed the Secularization Act, and the missions, reorganized as parish churches, lost their vast land holdings. In 1834, a prominent group of Californians, including the Lugos, the Vallejos, the

Picos, and the Ortegas, coerced Governor Figueroa to create the "Provisional Regulations." These regulations made mission lands available for their occupation (Beattie and Beattie 1939). Sixteen ranchos were granted in Riverside County during the Mexican Period (1821 to 1848), with great tracts of land used for grazing. Until the Gold Rush of 1848, livestock and horticulture dominated the economics of California (Ingersoll 1904; Beattie 1925; Beattie and Beattie 1951).

As travel along the Santa Fe Trail and Southern Emigrant trails during the early American Period brought more settlers, settlement occurred along the Santa Ana and San Jacinto waterways. The Southern Pacific Railroad line from Los Angeles through the San Gorgonio Pass was completed in 1876. In 1883, the California Southern Railway allowed for travel through the Cajon Pass and down to San Diego through western Riverside County. The trains were eventually used to transport settlers into the area, creating a period of agricultural and land development, ultimately resulting in the establishment of Riverside County in 1893. Transportation, agriculture, and the control of water have continued to be central themes in the settlement, development, and growth of Riverside County (Robinson 1979).

Locally, the Murrieta area was originally included in Mission San Luis Rey's lands as part of Rancho Temecula. After secularization, other ranchos were carved from the Temecula Rancho, including the Pauba, La Laguna, and Little Temecula Ranchos. By the mid-19th century, Murrieta's land area was bisected by the Southern Emigrant Trail, which ran through western Riverside County in a similar alignment to the current I-15. The trail, which also served as the route of the Butterfield stage, went through a major stop called "Alamos," located near the present-day intersection of Cherry and Jefferson Avenues in Murrieta. Another branch of the Southern Emigrant Trail veered northward from Temecula to Box Springs near present-day Moreno Valley, roughly following the present-day route of I-215 (Lech 2004).

The City of Murrieta was named after Don Juan Murrieta, a Spaniard who originally settled in the Merced region of the San Joaquin Valley. Don Juan Murrieta eventually drove his herds of sheep southward to southern California, and after bringing 100,000 sheep to southwestern Riverside County (along with several business partners), purchased 52,000 acres of the Temecula and Pauba ranchos from Vincent de Laveaga of San Francisco in 1873. Juan and his brother Ezekiel Murrieta deeded a right-of-way to the California Southern Railway in 1882 and soon thereafter announced their plans to subdivide a town called "Murrietaville" along the railroad (Garrison 1963; Lech 2004).

In 1884, before they could make their plans a reality, the Murrieta brothers were bought out by the Temecula Land and Water Company, which immediately subdivided a portion of its new holdings near the Alamo stage stop, which had in the previous year also become a stop along the new California Southern Railway. The subdivided lands included 14,500 lots that were generally 40 acres in size, as well as some larger tracts ranging from 200 to 4,000 acres each for large-scale agriculture (Garrison 1963). At the heart of the subdivision was the Murrieta town site which consisted of 160 acres divided into 537 lots near the railroad depot. The original grid

layout of streets included Kalmia, Juniper, and Ivy Streets which ran northeast to southwest; and, Washington, Clay, and Hayes Streets, which ran northwest to southeast. The town increased rapidly during the boom years that affected many railroad-adjacent towns in southern California in the late 1880s (Lech 2004).

By 1886, the town included a post office, depot, large hotel, restaurant, newspaper, two general stores, a hardware and furniture store, school, livery stable, lumber yard, butcher shop, laundry, blacksmith shop, a church, a newspaper called *The Era*, and two physicians. By 1890, the town had a population of 800 (Garrison 1963). When Riverside County was formed in 1893, Murrieta was designated one of 12 original judicial townships and the 40th election precinct (Gunther 1984).

The Santa Fe Railroad acquired California Southern Railway after a wet winter in 1883–1884 had ruined a large stretch of their newly-created railway through the Temecula Valley. The connection was reconstructed; however, their purchase was not financially profitable. After they completed a line through the San Jacinto Valley, the California Southern alignment became somewhat redundant as well. In 1891, after a wet winter flooded and washed out the California Southern tracks in Temecula Valley, Santa Fe drastically curtailed rail service through Murrieta. Instead of repairing the flood-prone line through Fallbrook, Elsinore, and Corona, the route was realigned through the Pechanga Valley and connected to the Santa Fe line up through Perris. Murrieta became the end of a rail spur from Corona and not a stop along any major thoroughfare (Garrison 1963). This, in addition to the broader southern California real-estate bust in the 1890s dampened Murrieta's growth as a town. After a short-lived attempt in the 1890s to attract "gentleman planters" to the area with an irrigation district aimed at supporting widespread groves of deciduous fruits, the area settled into a more bucolic existence (Lech 2004). Daily train service continued into Murrieta until 1935, after automobile use had become a well-established alternative to train travel in southern California (Garrison 1963).

From the 1890s through the late 20th century, Murrieta's land use and local economy was largely based on dry-farming grains (barley, wheat, and oats). Murrieta's identity was largely influenced by established farms of vast rolling fields of seasonal grasses. Murrieta was largely a town consisting of grain farmers who drove huge teams of horses pulling combine harvesters over the fields of the Antelope Valley, the Santa Rosa Plateau, and the Alamos district. Murrieta farmers also grew potatoes, alfalfa, vegetables, and grape vineyards, as well as orchards of olive, cherry, pear, apple, fig, and nectarine trees (Alter et al. 2005).

One exception to the community's dominant agricultural identity was the regionally-popular Murrieta Hot Springs. Located along present Murrieta Hot Springs Road just east of I-215, the mineral-rich springs have been used by people for thousands of years. The Luiseño called the springs *Cherukanukna Hakiwuna* and their extensive use of the springs is reflected in the numerous habitation sites and artifacts identified nearby. Non-Indian visitors in the late 19th century determined that the springs had healing properties, and Murrieta Hot Springs became part of a rapidly growing network of Southern California destinations for health-seekers. In

1887, a Pasadena syndicate bought the hot springs, along with over a thousand acres of land. After several years of new owners, Murrieta Hot Springs was purchased by Fritz Guenther in 1902. It prospered under the family's ownership for nearly 70 years, expanding from 200 acres of ranch land and a few decrepit buildings into over 500 acres of prime resort spa, complete with bathhouses, tiled pools, hotels, great halls, stables, gardens, and hiking trails; however, by 1969, profits declined due to laws prohibiting gambling, and affordable air travel enticed families to take their vacations elsewhere. Murrieta Hot Springs was sold again, continuing its decline over the years until the spa was closed in 1990 and the resort was auctioned off (Boyce 1995).

Renewed residential growth in Murrieta began in the 1980s with the improvement of I-15 and I-215 and subsequent migration of thousands of San Diego and Orange County residents farther inland in search of affordable suburban housing. The 1980 Census recorded approximately 2,200 residents in Murrieta; however, by 1990, the population had soared to over 24,000 residents. This rapid residential growth between 1980 and 1990 led Murrieta to incorporate as a general law City in 1991. Since incorporation, residential growth has continued to expand rapidly to approximately 44,280 people in 2000 to approximately 101,714 in 2009, making Murrieta the fifth largest city in Riverside County (City of Murrieta 2009).

CULTURAL RESOURCES

Cultural resources are represented by the material remnants of human activity in an area and can be either prehistorical (aboriginal/native American) or historical (European and Euro-american). Although not necessarily of cultural significance per CEQA, cultural remains are considered to be of cultural concern if they are at least 45 years or older. Such resources may include midden (ashy or greasy dark soil indicating former occupation); ground stone tools and milling features; rock shelters; rock art (petroglyphs); rock features (cairns, stone walls); quarries; trails; and, ecofactual material (faunal remains, fire-affected rocks). Other indicators of former occupancy may include pottery, human skeletal remains, and body adornments (i.e. shell or bone beads, jewelry).

In November 2009, LSA Associates, Inc. conducted a records search at the Eastern Information Center (EIC), located in the Department of Anthropology at the University of California, Riverside. The search included a review of all recorded historic and prehistoric archaeological sites, as well as a review of known cultural resource surveys and excavation reports generated from projects located within the General Plan Study Area.

The results of the records search indicate that 330 cultural resource studies have been conducted within the General Plan Study Area, resulting in the identification of a total of 199 documented cultural resources. Previous studies within the General Plan Study Area consist mainly of cultural resource assessments, survey reports, and archaeological test excavations. The documented resources within the General Plan Study Area include more than 75 separate milling features in bedrock, 36 milling artifacts, 53 sites with lithic artifacts (flakes, points, debitage), five sites with rock art, nine possible prehistoric campsites or habitation sites, three possible

prehistoric quarries, seven built resources, and 11 historic archaeological sites (trash scatters, habitation remains). The significance of each of these resources was not identified by LSA, and instead requires consideration on a site- or resource-specific basis.

HISTORIC RESOURCES

As noted above, LSA Associates, Inc. conducted a records search at the EIC in November 2009. The search included a review of all recorded historic and prehistoric archaeological sites, the National Register, and documents and inventories from the California Office of Historic Preservation, including the lists of the California Register, California Historical Landmarks, California Points of Historical Interest, and the Inventory of Historic Structures. LSA also reviewed historic maps, conducted online and secondary source research, and contacted the EIC for additional information on resources within the General Plan Study Area.

A review of the Historic Properties Directory (HPD) revealed that an additional 73 properties have been documented and evaluated; refer to *Table 7.3-2*, *Evaluated Resources in the Historic Properties Directory*. Several of these resources have been demolished. Eleven of them are part of the Murrieta Hot Springs complex, which was incorporated into a Christian conference center in 1995.

Table 7.3-2
Evaluated Resources in the Historic Properties Directory

Address	Name	Date of Construction	CHR Status Code
24695 1st Avenue	Old Cheney Place, Holiness Parsonage	1900	5S2
24903 1st Avenue	Bradford Place/Houston Place	1890 (demolished)	5S2
24995 1st Avenue	Freeman House	1915	5S2
24628 2nd Avenue		1920	5S2
24646 2nd Avenue		1930 (demolished)	5S2
24675 2nd Avenue	Murrieta Elementary School	1920 (ruins)	3S
24790 2nd Avenue		1922	3S
24770 2nd Avenue	R.W. Bollen Place, Chrisman Place	1910	3S
42011 A Street	Methodist Parsonage/MT Auto Parts	1910	5S2
24260 Adams Avenue	Jake Lambert House Site	1900	7R
24370 Adams Avenue	Deering Home, Sawyer House	1930	7R
24460 Adams Avenue	Judge Thorn House, Curtis Thompson	1900	5S2
25549 Adams Avenue	Brown House	1885	3S
25701 Adams Avenue	Roy Southard Place	1894 (demolished)	3S
41919 C Street	Frank Lloyd House	1920	5S2
42086 C Street	Frank Thorn House	1898	3S

Table 7.3-2 (continued)
Evaluated Resources in the Historic Properties Directory

Address	Name	Date of Construction	CHR Status Code
24711 Clay Avenue	Lambert House	1900 (demolished)	7R
24737 Clay Avenue	Fountain House Hotel Site	1936	7R
42036 D Street	Cora Stoller House	1910	5S2
24120 Hayes Avenue	Sykes House	1905 (demolished)	5S2
24916 Hayes Avenue	Williams Ranch/Mefferd	1920	5S2
41833 Ivy Street		1920	5S2
41950 Ivy Street	Hedges House/Rail House	1900	5S2
42835 Ivy Street	Matteson Ranch/Olive Hill Ranch	1930	7R
Jefferson Avenue	Burnham House/Drucker Ranch	1932	5S2
25679 Jefferson Avenue	Merrill House/Provolt House	1900	5S2
25751 Jefferson Avenue	Raleigh Brown Place	1910 (demolished)	5S2
41958 Juniper Street	Doolittle House/Cruz House	1885	5S2
41539 Kalmia Street	Austin Warner House, Hite House	1913 (demolished)	5S2
37100 Los Alamos Road		1947 (demolished)	7R
37201 Los Alamos Road	James Place	1915 (demolished)	5S2
40851 Los Alamos Road	Yoder Ranch	1900 (demolished)	5S2
41301 Los Alamos Road	Ross Rail House	1916 (demolished)	7R
41621 Magnolia Street	Cornwell Place, Morrow Place	1920 (demolished)	5S2
39401 Murrieta Hot Springs Road	Murrieta Hot Springs, Hotel	1915	3B
39401 Murrieta Hot Springs Road	Murrieta Hot Springs, Bungalows	1905	3B
39401 Murrieta Hot Springs Road	Murrieta Hot Springs, California	1908	3B
39401 Murrieta Hot Springs Road	Murrieta Hot Springs, Alive Polari	1908	3S
39401 Murrieta Hot Springs Road	Murrieta Hot Springs, Steam Plants	1925	3D
39401 Murrieta Hot Springs Road	Murrieta Hot Springs, Offices	1928	3D
39401 Murrieta Hot Springs Road	Murrieta Hot Springs, Bath House	1929	3B
39401 Murrieta Hot Springs Road	Murrieta Hot Springs, Plunge	1929	3B
39401 Murrieta Hot Springs Road	Murrieta Hot Springs, New Hotel	1926	3B

Table 7.3-2 (continued)
Evaluated Resources in the Historic Properties Directory

Address	Name	Date of Construction	CHR Status Code
39401 Murrieta Hot Springs	Murrieta Hot Springs, Landscape	1910	3D
39401 Murrieta Hot Springs Road	Murrieta Hot Springs, Dining Room	1910	3B
39405 Murrieta Hot Springs	Guenther's Murrieta Hotsprings	1926	7J
40030 Murrieta Hot Springs Road	Temecula Hot Springs		5S2
92362 Murrieta Hot Springs Road	Murrieta Hot Springs, Memorial Hall	1913	3B
39755 Murrieta Hot Springs Road			6Y
New Clay Avenue	Grain Elevator	1919	3S
24721 Clay Avenue	Manse House	1931	5S2
24912 Plum Avenue	B.W. Tarwater House	1888	3S
42670 Tenaja Road	McCool House	1920 (demolished)	5S2
10250 Verdugo Road	Wheeler Ranch, Ranch Home	1910 (demolished)	3B
10250 Verdugo Road	Wheeler Ranch, Rancho Viejo de Car	1910 (demolished)	3S
10250 Verdugo Road	Wheeler Ranch, Root Cellar	1910 (demolished)	3B
10250 Verdugo Road	Wheeler Ranch, Barn	1910 (demolished)	3B
10250 Verdugo Road	Wheeler Ranch, Bunk House #1	1910 (demolished)	3D
10250 Verdugo Road	Wheeler Ranch, Bunk House #2	1910 (demolished)	3D
24190 Washington Avenue	Schupe's Log Cabin, Anderson's Café	1920 (demolished)	3S
24264 Washington Avenue	Paul Thompson Place	1937	5S2
24280 Washington Avenue	U.S. Soil Conservation Office	1934 (demolished)	5S2
24490 Washington Avenue	Thompson House	1914	5S2
24629 Washington Avenue	George Cocking House, Kane House	1920 (demolished)	5S2
24641 Washington Avenue	Sam Barnes House	1920 (demolished)	5S2
24770 Washington Avenue	Lakeman's Restaurant/Ray's Café	1900	5S2

Table 7.3-2 (continued)
Evaluated Resources in the Historic Properties Directory

Address	Name	Date of Construction	CHR Status Code
24792 Washington Avenue	Lakeman House/Bezanson House	1885 (demolished)	5S2
24854 Washington Avenue	Hamilton House	1925	5S2
24890 Washington Avenue		1930	5S2
24973 Washington Avenue	Cliff Thompson House	1917 (demolished)	5S2
25190 Washington Avenue	Dodd House, Stoner House	1885	5S2
25229 Washington Avenue	Buchanan House	1885	5S2
25440 Washington Avenue	Hutchison House	1885	3S
92362 Washington Avenue	Thompson House, A.K. Small House	1900	5S2

Properties Listed in the City Historic Resources Inventory

As shown in *Table 7.3-3*, *Properties Listed in the City of Murrieta Historic Resources Inventory*, 59 historic resources were included in the 2005 Murrieta Historic Resources Survey Update (Alter et al. 2005). Many of these resources were initially documented by the Riverside County Historical Commission in a 1982 survey. This 1982 survey was submitted to the EIC and added to the Riverside Historic Properties Directory; however, the 2005 survey was submitted to EIC in February 2007. Therefore, some of the properties listed in *Table 7.3-3* also appear in the HPD list in *Table 7.3-2*.

Table 7.3-3
Properties Listed in the City of Murrieta Historic Resources Inventory

Address	Name	Date of Construction	CHR Status Code
24635 1st Street	H.P. Zimmerman Property	1920	6Z
24643 1st Street	I.O. and Marion O. Rail Property/ Gagnon House	1930	6Z
24695 1st Avenue	Old Cheney Place, Holiness Parsonage	1900	5S2
24757 1st Street	Lotta Matteson Property/Westrem House	1950	6Z
24903 1st Avenue	Bradford Place/Houston Place	1890 (demolished)	5S2

Table 7.3-3 (continued)
Properties Listed in the City of Murrieta Historic Resources Inventory

Address	Name	Date of Construction	CHR Status Code
24920 1st Street	Frank G. Thorne Property/Steely House	1925	6Z
24995 1st Avenue	Freeman House	1915	5S2
24620-24646 2nd Street		1910	5S2
24628 2nd Avenue		1920	5S2
24646 2nd Avenue		1930 (demolished)	5S2
24675 2nd Avenue	Murrieta Elementary School	1920 (ruins)	3S
24770 2nd Avenue	R.W. Bollen Place, Chrisman Place	1910	3S
24790 2nd Avenue		1922	3S
24815 2nd Street	Fred & Cora Cooper Property/ Boyd/Jones House	1930	6Z
24993 2nd Street	Charles Provost Property/ Alvarado-Luz House	1920	6Z
42011 A Street	Methodist Parsonage/MT Auto Parts	1910	5S2
24260 Adams Avenue	Jake Lambert House Site	1900	7R
24370 Adams Avenue	Deering Home, Sawyer House	1930	7R
24460 Adams Avenue	Judge Thorn House, Curtis Thompson	1900	5S2
24960 Adams Avenue			
25549 Adams Avenue	Brown House	1885	3S
41919 C Street	Frank Lloyd House	1920	5S2
41940 C Street	Fire Station No. 1	1948	5S2
42086 C Street	Frank Thorn House	1898	3S
24711 Clay Avenue	Lambert House	1900	7R
24721 Clay Avenue	Manse House	1931	5S2
24737 Clay Avenue	Fountain House Hotel Site	1936	7R
42036 D Street	Cora Stoller House	1910	5S2
24120 Hayes Avenue	Sykes House	1905 (demolished)	5S2
24916 Hayes Avenue	Williams Ranch/Mefferd	1920	5S2
41529 Ivy Street		(demolished)	
41541 Ivy Street			
41763 Ivy Street	Nancy Lee Gossett Property	1940	6Z
41833 Ivy Street		1920	5S2
41950 Ivy Street	Hedges House/Rail House	1900	5S2
24413 Jefferson Avenue	Bessie Wickerd Property	1930	5S2
24831 Jefferson Avenue		1920	5S2

Table 7.3-3 (continued)
Properties Listed in the City of Murrieta Historic Resources Inventory

Address	Name	Date of Construction	CHR Status Code
25580 Jefferson Avenue	Charles Charnock Property	1930	5S2
41810 Juniper Street			
41958 Juniper Street	Doolittle House/Cruz House	1885	5S2
41539 Kalmia Street	Austin Warner House, Hite House	1913 (demolished)	5S2
37100 Los Alamos Road	George Hind/ Gentry Family Property	1945	5S2
37201 Los Alamos Road	James Place	1915 (demolished)	5S2
40798 Los Alamos Road		1930	6Z
40851 Los Alamos Road	Yoder Ranch	1900 (demolished)	5S2
41223 Madison Avenue		1930	5S2
41886 Magnolia Street	H.B. Lashlee Property/ Railroad Workers Dormitory	1942	5S2
41908 Magnolia Street	H.B. Lashlee Property	1906	5S2
New Clay Avenue	Grain Elevator	1919	3S
24901 New Clay Street	Norma Jean Cunnington Property/ Isham House	1978	6Z
21945 Plum Street		1935	5S2
24912 Plum Avenue	B.W. Tarwater House	1888	3S
24980 Plum Street	D.H. and Sarah J. Turnbeaugh Property	1930	6Z
24264 Washington Avenue	Paul Thompson Place	1937	5S2
24280 Washington Avenue	U.S. Soil Conservation Office	1934 (demolished)	5S2
24490 Washington Avenue	Thompson House	1914	5S2
24629 Washington Avenue	George Cocking House, Kane House	1920 (demolished)	5S2
24641 Washington Avenue	Sam Barnes House	1920 (demolished)	5S2
24741 Washington Avenue			
24770 Washington Avenue	Lakeman's Restaurant/Ray's Café	1900	5S2
24785-24791 Washington Avenue			
24792 Washington Avenue	Lakeman House/Bezanson House	1885 (demolished)	5S2
24854 Washington Avenue	Hamilton House	1925	5S2
24861 Washington Avenue			
24890 Washington Avenue		1930	5S2
24935 Washington Avenue			
24973 Washington Avenue	Cliff Thompson House	1917 (demolished)	5S2

Table 7.3-3 (continued)
Properties Listed in the City of Murrieta Historic Resources Inventory

Address	Name	Date of Construction	CHR Status Code
25069 Washington Avenue			
25190 Washington Avenue	Dodd House, Stoner House	1885	5S2
25229 Washington Avenue	Buchanan House	1885	5S2
25440 Washington Avenue	Hutchison House	1885	3S

Potential Historic Landscape Features and Heritage Trees

In addition, a number of historic landscape features and heritage trees are noted within the General Plan Study Area and are listed within the *City of Murrieta General Plan Existing Conditions Report – Conservation/Open Space Technical Report*. These features include a variety of tree species that contribute to the visual character of the Murrieta area and include landmark oak, sycamore, cottonwood, willow, cypress, juniper, and eucalyptus trees, as well as olive groves and pecan trees. Other such resources with aesthetic and historic value include various palms and trees at the Murrieta Hot Springs Resort, conifers dating from pre-World War I along Murrieta Hot Springs Road, and a landmark cottonwood tree associated with a former ceremonial ground and trail route located near Lemon Street. These features have been inventoried and are provided protection under Section 16.42, *Tree Preservation*, of the City of Murrieta Development Code, as well as measures given in the Historic Murrieta Specific Plan and other regulations aimed at protection of the City's historic resources.

PALEONTOLOGICAL RESOURCES

Paleontological resources are the fossil remains or traces of past life forms, including both vertebrate and invertebrate species, as well as plants. The Murrieta area is generally underlain by highly fossiliferous rock units that include the Pauba formation and Unnamed Sandstone formation. The San Bernardino County Museum Earth Sciences Division has classified the majority of the General Plan Study Area as having a high potential for containing significant, nonrenewable paleontological resources.

Three major fossiliferous Pleistocene age sedimentary rock units are exposed along the Elsinore fault zone within the General Plan Study Area. These units are as follows:

> Unnamed Sandstone (middle Pleistocene, may span 200,000 years between 850,000 and 650,000 years before present). Paleontologic localities in the Unnamed Sandstone portions of the General Plan Study Area contain diverse Ice Age fauna. The Unnamed Sandstone localities within the General Plan Study Area are among the most important late Irvington Land Mammal Age (middle Pleistocene) sites in California and have produced at least 45

vertebrate taxa and additional invertebrate taxa. This formation has a high potential for containing significant, nonrenewable paleontologic resources.

Pauba Sandstone (early to late Pleistocene, less than 700,000 years before present). This formation provides an important record of early Rancholabrean taxa which is rarely represented in California and has yielded at least 24 taxa of fossil vertebrates including fossil Pleistocene horse. This formation is considered to have a high potential for containing significant, nonrenewable paleontologic resources.

Quaternary Old Alluvium (late Pleistocene, 10,000 years before present). To the northeast of the General Plan Study Area near Lake Skinner, fossil horse has been discovered, and therefore, this formation is considered conducive to fossil preservation; however, no resources have been recorded within the General Plan Study Area within this formation.

According to the *Master Environmental Assessment* prepared for the City of Murrieta (October 1992), formations in the Murrieta area have yielded extensive fossil remains that include mammoth, mastodon, ground sloth, dire wolf, short-faced bear, saber-toothed cat, tapir, camel, llama, and pronghorn. Known deposits have also yielded smaller vertebrate fossils that contribute significant data which assist in deciphering temporal constraints under which sediments were deposited. Smaller vertebrate fossils found in the area include rabbit, rodent, bat, shrew, bide, amphibian, lizard, tortoise, and turtle.

To ensure that unknown paleontological resources within areas of the City designated or known to have high paleontologic sensitivity are not disturbed or destroyed with future development, all future development projects should be required to complete a standard paleontologic resource mitigation program. Consistent with CEQA Guidelines and recommendations made by the Society of Vertebrate Paleontology, future development proposals within the General Plan Stidu Area should be required to evaluate the paleontological sensitivity of a given project site. Monitoring and/or salvage of unknown fossils during grading and excavation activities, recovery and identification of specimens, and curation of specimens in a museum repository with retrievable storage shall be required with all future development projects to ensure that such resources are identified and protected and not lost as buildout of the General Plan Study Area occurs.

Findings

- A total of 199 documented cultural resources have been identified within the General Plan Study Area. Review of future development projects within or in close proximity of areas designated as highly sensitive or moderately sensitive resources areas would require additional on-site review, testing, and assessment by qualified archaeologists as a part of environmental review of a proposed project.

- The use of the (U.S.) Secretary of the Interior's rehabilitation, reconstruction, restoration, and preservation treatments, and the California Historic Building Code in reviewing proposed development projects involving historic resources has assisted in maintaining the historic character of the City while achieving local and regional growth goals.

- The San Bernardino County Museum Earth Sciences Division has classified the majority of the General Plan Study Area as having a high potential for containing significant, nonrenewable paleontological resources. All future development should be required to prepare a standard paleontological resource mitigation program to protect unknown resources during grading and/or excavation activities.

- Continue to provide protective measures for the City's Historic Downtown District and Los Alamos area, as well as other historically and architecturally significant sites, structures, and landscape features throughout the community that enhance and/or reinforce the City's rich history and character.

Significance Thresholds

According to Public Resources Code Section1(j), an "historical resource" includes, but is not limited to, "any object, building, site, area, place, record, or manuscript which is historically or archaeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California." CEQA Guidelines state that the term "historical resources" applies to any such resources listed in, or determined to be eligible for listing, the California Register of Historical Resources; included in a local register of historical resources; or, determined to be historically significant by the Lead Agency (Title 14 CCR Section15064.5(a)(1)-(3)).

CEQA Guidelines require that "a resource shall be considered by the lead agency to be 'historically significant' if the resource meets the criteria for listing in the California Register of Historical Resources" (Title 14 CCR Section15064.5(a)(3)). A resource may be listed in the California Register if it meets any of the following criteria:

- Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
- Is associated with the lives of persons important in our past;
- Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or,
- Has yielded, or may be likely to yield, information important in prehistory or history (PRC §5024.1(c)).

The following thresholds for determining the significance of impacts related to cultural resources are taken from the environmental checklist form contained in Appendix G of the most recent update of the *California Environmental Quality Act (CEQA) Guidelines*, and will be used in the Environmental Impact Report. Impacts related to cultural resources are considered significant if implementation of the General Plan would:

- Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5;
- Cause a substantial adverse changed in the significance of an archaeological resource pursuant to Section 15064.5;
- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature; or,
- Disturb any human remains, including those interred outside of formal cemeteries.

Sources Cited

California Environmental Quality Act (CEQA) Guidelines - Appendix G. 2009.

California Historic Building Code (Sections 18950 to 18961 of Division 13, Part 2.7 of California Health and Safety Code). January 1, 2008.

City of Murrieta Final EIR for the General Plan. Certified June 1994.

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City of Murrieta General Plan - Existing Conditions Report. Conservation and Open Space Technical Report.

City of Murrieta Historical Resources Inventory Update. Prepared by Archaeos. May 2004.

Resources Assessment. Prepared by LSA Associates. January 2010.

Historic Murrieta Specific Plan. Prepared by Urban Design Studio. Adopted October 3, 2000.

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7.4 Agricultural Resources

Introduction

The following section is generally based upon information provided in the *City of Murrieta General Plan*, adopted June 1994, and the *City of Murrieta Final EIR for the General Plan*, certified June 1994. Additional information was obtained from available County of Riverside and City of Murrieta GIS data. The discussion is intended to identify and discuss known (or planned) agricultural resources and lands on a regional and local basis in order to provide a baseline of existing conditions.

Regulatory Context

STATE

Agricultural Soil Classification

To determine the potential of a soil's productivity, the Natural Resources Conservation Service (NRCS) uses the Soil Capability Classification (SCS) system. This system identifies the absence of soil limitations. If limitations are present, the application of management techniques (e.g., drainage, leveling, special fertilizing practices) would be required to enhance agricultural production.

Soils classes range from Class I soils, which are favorable for agricultural production, to Class VIII soils, which are generally unsuitable for agricultural use. As the ratings of the capability classification system increase, overall potential yield of crops and their economic return are reduced.

- Class I Soils have few limitations that restrict their use.
- Class II Soils have moderate limitations that reduce the choice of plants or that require moderate conservation practices.
- Class III Soils have severe limitations that reduce the choice of plants that require special conservation practices, or both.
- Class IV Soils have very severe limitations that reduce the choice of plants that require very careful management, or both.
- Class V Soils are not likely to erode but have other limitations, impractical to remove, that limit their use largely to pasture, range, woodland, or wildlife habitat.
- Class VI Soils have severe limitations that make them generally unsuitable for cultivation and that limit their use largely to pasture or range, woodland, or wildlife habitat.

- Class VII Soils have very severe limitations that make them unsuitable for cultivation and that limit their use largely due to pasture or range, woodland, or wildlife habitat.

California Department of Conservation, Division of Land Resource Protection - Farmland Mapping and Monitoring Program (FMMP)

The Farmland Mapping and Monitoring Program (FMMP) was established in 1982. The FMMP was created as a means of evaluating the location and quantity of agricultural lands and conversion of these lands to non-agricultural uses. The FMMP guides decision makers in planning the present and future use of California's agricultural land resources.

The California Department of Conservation and the California Association of Resource Conservation Districts use the Soil Conservation Service soil classifications, discussed above, to translate soil survey data into Important Farmland Maps for agricultural counties within the State. California *Government Code* Section 65570 requires the FMMP to report land use acreage and conversion data by June 30 of each even-numbered year. Many Important Farmland Maps were initially mapped in 1984; the base year for areas introduced to the FMMP inventory since 1984 is the even-numbered year closest to their compilation date. The results are published in the biennial *Farmland Conversion Report*, which identifies County land use acreage by category and the type of conversion that occurred during each two-year cycle.

This classification system is applied to those lands that have recently supported agricultural uses. Land not recently farmed is not shown on the Important Farmland Maps. In the Farmland Conversion Report published in June 1994, the method by which unfarmed agricultural lands are removed from their important farmland maps was clarified. Before removing unfarmed land from the maps, the Department of Conservation now waits two mapping cycles (4 years), allowing the Department to more easily record the conversion of such lands.

The Important Farmland Mapping Categories Map is prepared by the California Resources Agency under the FMMP, which maps important farmland on agricultural lands. The FMMP considers United States Department of Agriculture (USDA) Soil Survey information in combination with Important Farmland categorization to assess the potential for lands to be utilized as agricultural land resources. The minimum mapping unit for each category is 10 acres, unless otherwise noted.

Farmland types are defined within *A Guide to the Farmland Mapping and Monitoring Program, Appendix B: Mapping Categories and Soil Taxonomy Terms*, from the California Department of Conservation FMMP. The following are definitions of the Farmland Mapping Categories:

A. Prime Farmland

"Land with the best combination of physical and chemical features able to sustain long-term production of agricultural crops. This land has the soil quality, growing season, and moisture

supply needed to produce sustained high yields. Land must have been used for agricultural production of irrigated crops at some time during the [past four years]."

B. Farmland of Statewide Importance

"Land similar to Prime Farmland that has a good combination of physical and chemical characteristics for the production of agricultural crops. This land has minor shortcomings, such as greater slopes or less ability to store soil moisture than Prime Farmland. Land must have been used for production of irrigated crops at sometime during the [past four years]."

C. Unique Farmland

"Unique Farmland is land which does not meet the criteria for Prime Farmland or Farmland of Statewide Importance, that has been used for the production of specific high economic value crops at some time during the two update cycles prior to the mapping date. It has a special combination of soil quality, location, growing season, and moisture supply needed to produce sustained high quality and/or high yields of a specific crop when treated and managed according to current farming methods. Examples of such crops may include oranges, olives, avocados, rice, grapes, and cut flowers. It does not include publicly owned lands for which there is an adopted policy preventing agricultural use."

D. Farmland of Local Importance

"Land that meets all the characteristics of Prime and Statewide, with the exception of irrigation. Farmlands not covered by the above categories but are of significant economic importance to the County. They have a history of good production for locally adapted crops. The soils are grouped in types that are suited for truck crops (such as tomatoes, strawberries, cucumbers, potatoes, celery, squash, romaine lettuce, and cauliflower) and soils suited for orchard crops (avocados and citrus)."

Farmland of Local Importance is land of importance to the local agricultural economy, as defined by each County's Board of Supervisors and a local advisory committee. Farmland of Local Importance in Riverside County includes the following:

- Soils that would be classified as Prime and Statewide, but lack available irrigation water. Lands planted to dry land crops of barley, oats, and wheat.
- Lands producing major crops for Riverside County, but that are not listed as Unique crops. These crops are identified as returning one million or more dollars on the 1980 Riverside County Agriculture Crop Report. Crops identified are permanent pasture (irrigated), summer squash, okra, eggplant, radishes, and watermelons.
- Dairy lands, including corrals, pasture, milking facilities, and hay and manure storage areas if accompanied with permanent pasture or hay land of 10 acres of more.

- Lands identified by City or County ordinance as Agricultural Zones or Contracts, which includes Riverside City "Proposition R" lands. Lands planted to jojoba, which are under cultivation and are of producing age.

E. Other Land

Other Land and Built-Up Land are lands that do not qualify for one of the above classifications. These lands are generally disturbed or developed lands with no agricultural value or significance.

F. Grazing Land

Grazing Land is land on which the existing vegetation is suited to the grazing of livestock. The minimum mapping unit for this category is 40 acres.

California Land Conservation (Williamson Act)

The California Land Conservation Act of 1965, also known as the Williamson Act, is legislation intended to afford property tax relief to farmers and ranchers and allows for Agricultural Preserves between local governments and private landowners to be created. The basic intent of the Act is to encourage the preservation of the state's agricultural lands in view of the increasing trends toward their "premature and unnecessary" urbanization. To preserve agricultural uses, the Williamson Act established an agricultural preserve contract procedure by which counties or cities within California can tax landowners at a lower rate by using a scale based on the actual use of the land for agricultural purposes, instead of its unrestricted market value. In return, the owners are required to guarantee that these properties will remain under agricultural production for a period of 10 years.

Williamson Act Cancellation Fees

All properties that terminate their encumbered contract status early are subject to a cancellation fee, per the requirements of the Williamson Act. The cancellation fee is equal to 12.5 percent of the full market value of the property without encumbered status.

Farmland Security Zone Contract

The California Department of Conservation passed the Farmland Security Zone legislation (*Government Code* Section 51296) in 1998 to allow counties to establish a program for farmlands to enter into contracts with the State. This legislation allows landowners whose land is under a Williamson Act contract to petition to the appropriate County Board of Supervisors to annul the Williamson Act contract for a Farmland Security Zone Contract. A Farmland Security Zone Contract is a 20-year contract that allows the property owner to receive 35 percent more in tax savings than a Williamson Act contract.

Both the Williamson Act Contract and the Farmland Security Zone Contract require that lands be within an established Agricultural Preserve. As agricultural lands that are not protected within a preserve face a greater threat of conversion to non-agricultural uses, they are assessed higher property taxes, due to their proximity to urbanization.

LOCAL

City of Murrieta General Plan

Land uses within the City of Murrieta corporate boundaries and the Sphere of Influence (SOI) are regulated by the current General Plan, which contains goals and policies for guiding future development. Although the General Plan does not include a separate Agricultural Element, goals and policies pertaining to agricultural resources are given in the Land Use Element and Open Space Conservation Element for the long-term management of agricultural lands occurring within the General Plan Study Area.

Existing Conditions

STATE OF CALIFORNIA

California is the most agriculturally productive state in the United States. The State produces over 400 commodities, generating over $36.6 billion in direct farm sales in the year 2007, or approximately 12.8 percent of the nation's total value of agricultural production.[1] California produces approximately 50 percent of the fruit, nuts, and vegetables grown in the United States, including more specialized crops such as olives, grapes, tomatoes, lettuce, and almonds. However, milk represents the number one farm commodity produced in the State.

During the years 2008-2009, the State of California supported an estimated 75,000 farming operations, according to the California Department of Food and Agriculture during the period of 2008 to 2009. In 2008, California land in farms totaled approximately 25,400,000 million acres, with an estimated 81,500 farms in operation statewide. In the United States, the average farm size was an estimated 418 acres in the year 2008; for the State of California, the average farm size was approximately 313 acres.[2]

RIVERSIDE COUNTY

Agricultural uses have long influenced the historic character of Riverside County and served as a major component of the County's economic strength, as agricultural production remains one of the largest industries with regard to dollar value in the County. The County supports a diversity

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1 California Department of Food and Agriculture. http://www.cdfa.ca.gov. Accessed November 2009.

2 U.S. Department of Agriculture – National Agricultural Statistics Service. http://www.agcensus.usda.gov. Accessed November 2009.

of agricultural crops, with commodities sold competitively on a national and global market level. Agricultural uses provide a significant number of jobs within the County and continue to contribute to the long-standing history and unique character of many agricultural-based communities.

Potential land use conflicts between existing or planned land uses and adjacent agricultural operations continue to occur within the County in areas where rapid growth or expansion is underway. In communities economically based on agricultural production, conditions may occur in which agricultural lands that are less productive become particularly susceptible to conversion to other uses, especially when more sensitive land uses (i.e. schools or residential uses) are planned or allowed to develop nearby. These more sensitive land uses may adversely affect agricultural uses that are less economically viable and speed up the conversion of such lands to other uses, or encourage subdivision activities that further divide the land for sale or for future development. This trend, which is evident within the State, and in particular, within Central and Southern California, is an ongoing occurrence. In 2004, urbanization of agricultural lands was largely concentrated in a smaller number of counties; however, between 2002 and 2004, the top ten counties comprised roughly 65 percent of new urban lands. This percentage increased to 74 percent during 2006, with Riverside County alone accounting for 23 percent of newly developed lands.[3]

The County's General Plan Land Use Element includes a designation of Agriculture (AG), which is intended to support the long-term conservation of viable agricultural lands within the County. The County has made a commitment to ensuring that agricultural uses remain an integral part of its future and has established measures to support the conservation of land areas appropriate for agricultural use and related services, as well as to minimize potential conflicts between agricultural uses and future development that is proposed.

CITY OF MURRIETA

Although agricultural production in Murrieta and the surrounding region has been an important part of the area's history, a large portion of the City is presently built out and today, supports a more urban, developed landscape. Over the last 30 years, the amount of land utilized for agricultural crop production has decreased, as urbanization, speculative investment in agricultural land, and overall economic viability of crop production on certain lands has occurred. At the time of approval of the City's first General Plan in 1994, land designated as Agriculture/Farm/Mining totaled approximately 2,234 acres, or 7.8 percent, of the total land area within the Plan boundaries.[4]

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[3] California Department of Conservation, Division of Land Resource Protection. California Farmland Conversion Report 2004-2006. http://redirect.conservation.ca.gov/dlrp/fmmp/pubs/2004-2006/FCR/main%202004-06%20FCR.pdf. Accessed December 9, 2009.

[4] City of Murrieta General Plan, June 1994.

Farmland Types

Within the City boundaries, a number of parcels are designated as Farmland of Local Importance, as shown on *Exhibit 7.4-1*, *Important Farmland*. The majority of these lands are concentrated within the southwestern portion of the City, west of Interstate 15 (I-15), or in the northeastern portion of the City, near the lands included in the SOI. Lands designated as Grazing Lands are concentrated in the northeastern portion of the City. Additionally, several isolated parcels classified as Farmland of Statewide Importance or Prime Farmland are located in the southern portion of the City, west of I-15. Several parcels classified as Unique Farmland are also present in the northwestern area of the City, both west and east of Interstate 215 (I-215).

Within the SOI, larger acre parcels more suitable for agricultural uses are present. The majority of land within the SOI is designated as either Grazing Land or Farmland of Local Importance; refer to *Exhibit 7.4-1*, *Important Farmland*.

Table 7.4-1, *Farmland Mapping Categories*, provides a breakdown of the acreage of lands within each Farmland Mapping Category for the City and the SOI.

Table 7.4-1
Farmland Mapping Categories

Farmland Type	Total in Acres
City of Murrieta	
Urban Built Out Land	11,348
Grazing Land	1,540
Farmland of Local Importance	3,207
Prime Farmland	65
Farmland of Statewide Importance	28
Unique Farmland	81
Other Land	5,242
Sphere of Influence	
Urban Land	442
Grazing Land	1,164
Farmland of Local Importance	2,581
Other Land	1,155
Source: City of Murrieta GIS Data. December 2009.	

Williamson Act Lands

According to the California Department of Conservation, no Williamson Act encumbered properties are located within the City of Murrieta.

Approximately 58 acres of encumbered acreage are located outside of the City boundary within the SOI. Of this land, approximately 10 acres are designated as Non-Prime Agricultural land, and approximately 48 acres are designated as Prime Agricultural Land by the FMMP; refer to *Exhibit 7.4-2*, *Williamson Act Farmland (2006)*. None of these contracts are in non-renewal status with the State.

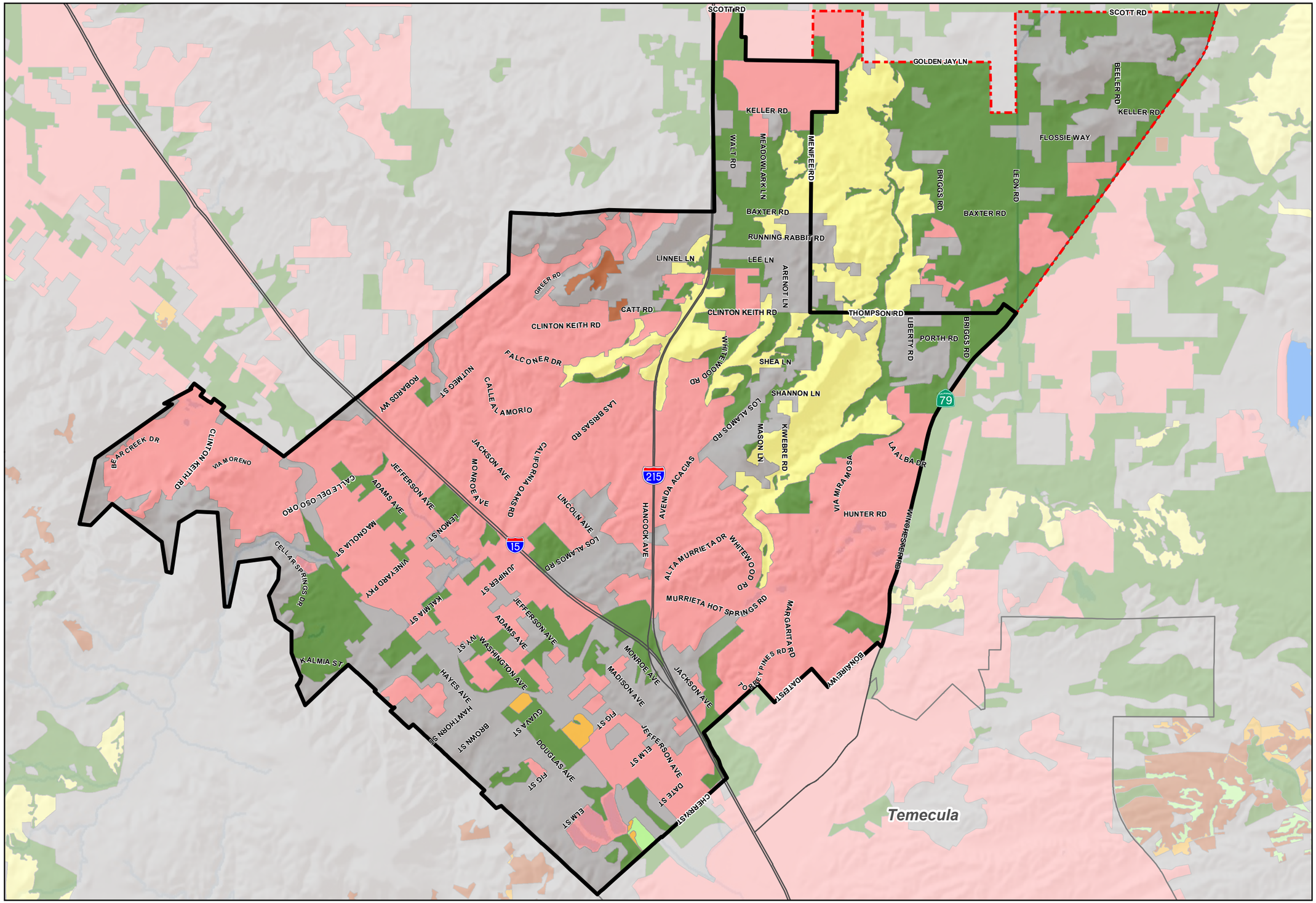
Findings

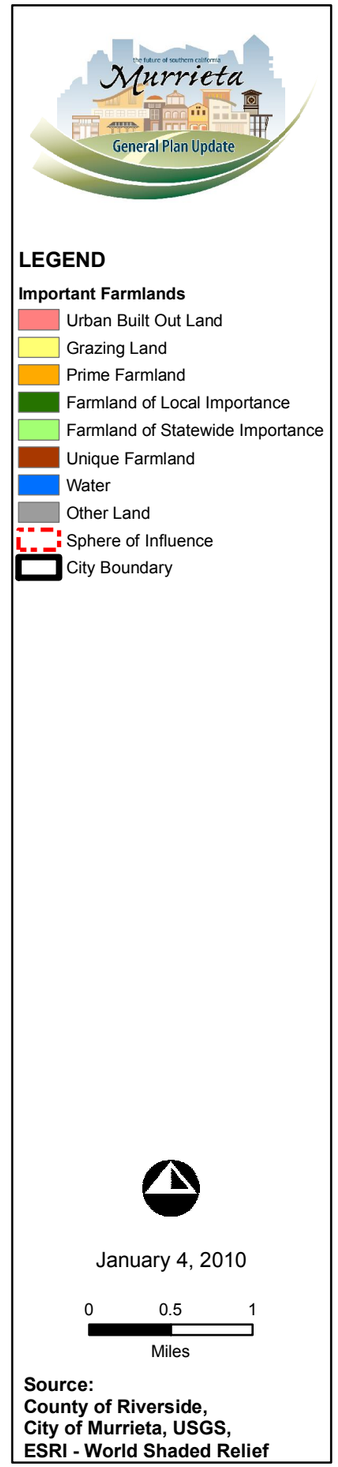
- Ongoing conversion of agricultural lands within the City of Murrieta and, in particular, the SOI will have the potential effect of fueling the conversion of other adjacent agricultural lands to the General Plan Study Area, further exacerbating future regional loss of agricultural lands.

- Residences or farms/ranches with existing horses or livestock in areas that allow the keeping of animals shall be presumed to have pre-existing rights to maintain such animals in the same manner barring health and safety issues. New development shall bear the responsibility for providing any buffers or setbacks between the existing development and the new development. Where applicable, new development shall be encouraged to provide buffer zones.

- In the remaining areas of the City and SOI where active agricultural uses or lands designated for agricultural use remain present, maintain such lands as a high community priority and minimize conflicts with new land uses on surrounding lands.

- Voluntary removal of a property from Williamson Act encumbered status is an expensive and time-consuming process. It is likely that a property owner who forfeits the favorable tax assessment status, along with incurring a significant cancellation penalty (12.5 percent of unencumbered fair market value), intends on seeking a more lucrative land use designation for the property, and has likely considered the development potential of the land.





RBF CONSULTING

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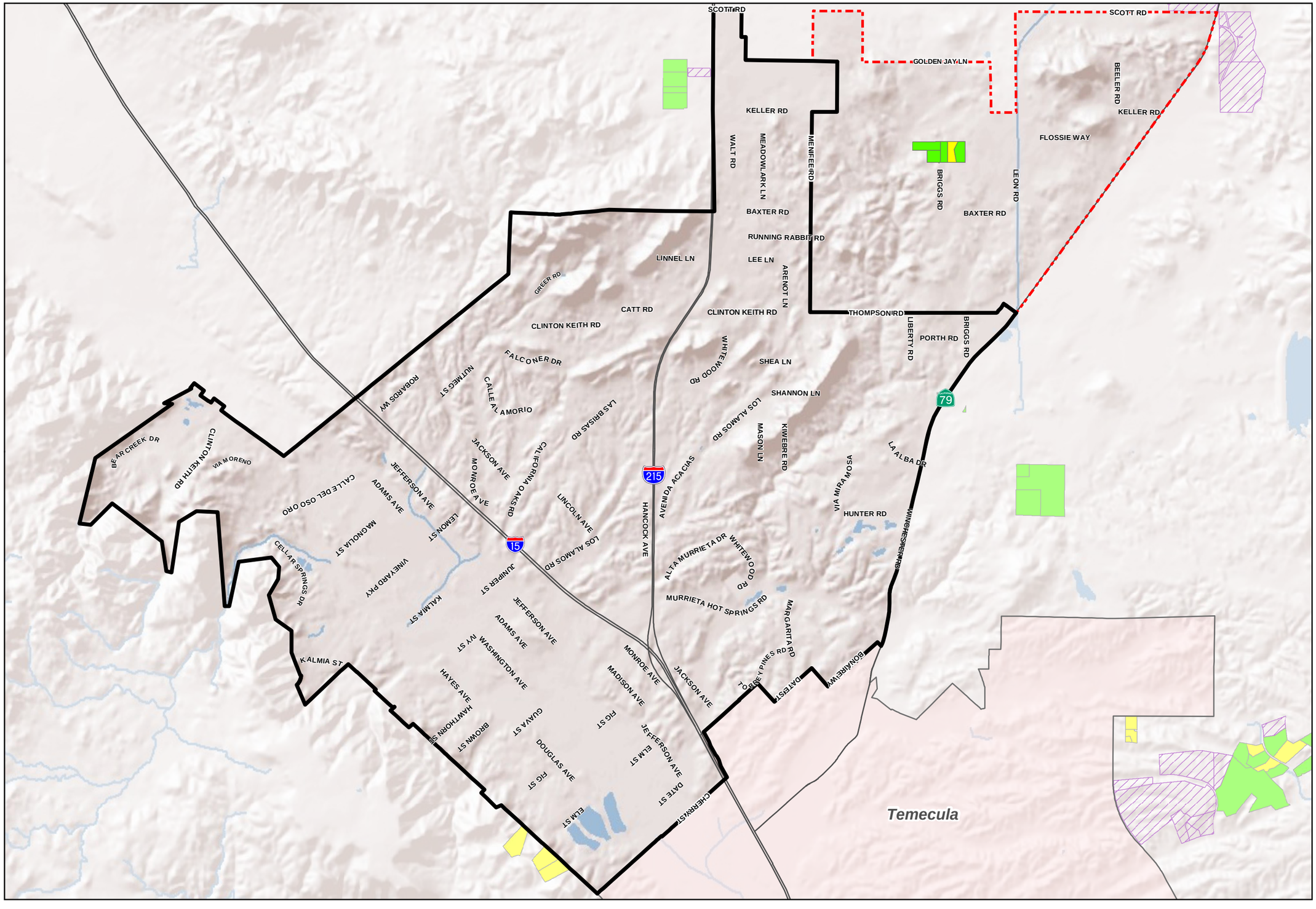
Important Farmlands

Exhibit 7.4-1

Back of 11 x 17 exhibit page.



LEGEND

2006 Williamson Act Lands

- Non-Prime Agricultural Land
- Prime Agricultural Land
- Land in Non-Renewal
- Sphere of Influence
- City Boundary

January 8, 2010

0 0.5 1
Miles

Source:
County of Riverside,
City of Murrieta,
California Dept of Conservation

RBF CONSULTING

12/09 JN 10-106976 Williamson_Act_Farmland.mxd

Williamson Act Farmland (2006)

Exhibit 7.4-2

Back of 11 x 17 exhibit page.

Significance Thresholds

The following thresholds for determining the significance of impacts related to agricultural resources are taken from the environmental checklist form contained in Appendix G of the most recent update of the *California Environmental Quality Act (CEQA) Guidelines*, and will be used in the Environmental Impact Report. Impacts related to agricultural resources are considered significant if implementation of the General Plan would:

- Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?
- Conflict with existing zoning for agricultural use, or a Williamson Act contract?
- Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use?

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Introduction

The following section is primarily based upon information provided in the *City of Murrieta General Plan*, adopted June 1994, *City of Murrieta Final EIR for the General Plan*, certified June 1994, and the City of Murrieta General Plan Technical Reports – Conservation and Open Space. Additional data was provided by the City of Murrieta Geographic Information Systems (GIS) Services Department and the California Department of Conservation - Division of Mines and Geology. The following discussion is intended to identify known and potential mineral resources that may potentially exist within the City boundaries and Sphere of Influence (SOI) in order to provide a baseline of existing conditions with regard to minerals.

Regulatory Context

FEDERAL

There are no Federal regulations applicable to mineral resources. Activities related to mining and mine reclamation are regulated by the State.

STATE

Surface Mining and Reclamation Act of 1975

The State Mining and Reclamation Act of 1975 (SMARA) required that the California State Geologist implement a mineral land classification system to identify and protect mineral resources of regional or statewide significance in areas where urban expansion or other irreversible land uses may occur, thereby potentially restricting or preventing future mineral extraction on such lands. It is also the intent of this process, through the adoption of general plan mineral resource management policies, that this information be considered in local land use planning activities (California *Public Resources Code* Section 2762). The California State Mining and Geology Board (SMGB) classifies such urban and non-urban lands according to a priority list, or when the Board is otherwise petitioned to classify a particular land area.

As mandated by SMARA, aggregate mineral resources within the State are classified by the SMGB through application of the Mineral Resource Zone (MRZ) System. The MRZ is used to map all mineral commodities within identified jurisdictional boundaries, with priority given to areas where future mineral resource extraction may be prevented or restricted by land use compatibility issues, or where mineral resources may be mined during the 50-year period following their classification. The MRZ classifies lands that contain mineral deposits and identifies the presence or absence of substantial sand and gravel deposits and crushed rock source areas (i.e., commodities used as, or in the production of, construction materials). The State Geologist classifies MRZs within a region based on the following factors:

- MRZ-1: Areas where adequate information indicates that no significant mineral deposits are present, or where it is judged that little likelihood exists for their presence.
- MRZ-2: Areas where adequate information indicates that significant mineral deposits are present, or where it is judged that a high likelihood exists for their presence.
- MRZ-3: Areas containing mineral deposits for which the significance cannot be determined from available data.
- MRZ-4: Areas where available information is inadequate for assignment of any other MRZ category.

Mining operations and mine reclamation activities are required to be performed in accordance with laws and regulations adopted by the SMGB, as contained in Section 3500 et seq. of *Title 14* of the *California Code of Regulations* (CCR). The State Department of Conservation's Office of Mine Reclamation (OMR) oversees reclamation requirements.

Division of Oil, Gas, and Geothermal Resources

The California State Department of Conservation maintains the Division of Oil, Gas, and Geothermal Resources (DOGGR). The DOGGR is responsible for monitoring the drilling, operation, maintenance, and abandonment of oil, gas, and geothermal wells with the intention of environmental protection, public health and safety, and general environmental conservation methods. The DOGGR is also responsible for collecting groundwater, oil, gas, and geothermal resource data for maintaining a record of all drilled and abandoned well locations.

Division of Mines and Geology

The California Division of Mines and Geology (DMG) operates within the Department of Conservation. The DMG is responsible for assisting in the utilization of mineral deposits and the identification of geological hazards.

State Geological Survey

Similar to the DMG, the California Geological Survey is responsible for assisting in the identification and proper utilization of mineral deposits, as well as the identification of fault locations and other geological hazards.

LOCAL

City of Murrieta Municipal Code

Title 16 Development Code, Article IV – Administration, Section 16.68, *Surface Mining Permits*, of the City of Murrieta Development Code provides guidelines for the review of surface mining permit applications that are intended to create and maintain an effective surface mining and

reclamation policy, as authorized by the California Surface Mining and Reclamation Act of 1975 (*Public Resources Code*, Section 2710 et seq.). Section 16.68 gives provisions for the regulation of surface mining operations in order to prevent or minimize potentially adverse effects resulting from surface mining operations. In addition, this Section includes provisions for the reclamation of mined lands in a manner in which the continued mining of valuable materials is not precluded, and that such lands are returned to a usable condition that is readily adaptable for alternative land use. In addition, Section 16.68 gives provisions for the production and conservation of minerals, with consideration given to range and forage, recreation, watershed, wildlife, and aesthetic enjoyment, and the elimination of potential residual hazards to public convenience, health, safety, and general welfare.

Existing Conditions

MINERAL RESOURCES

The General Plan Study Area lies within the Temescal Valley Area within Riverside County. Within this area, mineral lands are classified as metallic (hydrothermal and sedimentary), and sedimentary), industrial, and aggregate. Within the Temescal Valley Area, existing mineral extraction activities and commodities produced primarily consist of clay, specialty sands, and specialty stone. Construction aggregate (crushed rock, sand, and gravel) also represents a valuable mineral commodity. Sand, gravel, and clay are generally used for fill purposes and for the construction of roads and highways within urban and suburban development and for other infrastructure purposes such as canals, aqueducts, etc. With the production of these commodities over recent years, the Temescal Valley Area has become a major area for mining.

Five resource mines are identified within the City of Murrieta. These mines support clay; sand and gravel (construction); feldspar; feldspar/silica; and, gold. One geothermal resource is also identified within the City boundaries (refer to *Exhibit 7.5-1*, *Mineral Resources*). Three additional mines are identified within the SOI. These mines support feldspar; gold; and, stone (crushed/broken).

As stated above, SMARA directs the State Geologist to classify non-fuel mineral resources of the State to show where economically significant mineral deposits occur and where they are likely to occur, based upon the best available scientific data.

The majority of the City and SOI are classified as MRZ-4, or as an area of unknown mineral resource significance for metallic mineral resources. For industrial materials, the General Plan Study Area is classified as an area of unknown mineral resource significance (MRZ-4). For aggregate resources, the overall classification is as an area containing known mineral occurrences of undetermined mineral resource significance (MRZ-3a), with exception of the area which lies west of I-15. This area is classified as an area of no mineral resource significance (MRZ-1).

OIL

According to the State of California Department of Conservation DOGGR, no underlying oil fields are present in the General Plan Study Area, or in outlying areas.[1] Well data maintained by the DOGGR indicate that four exploratory wells have been previously drilled within the City. None of the wells indicated the presence of oil or gas. These wells have since been plugged and abandoned.

Findings

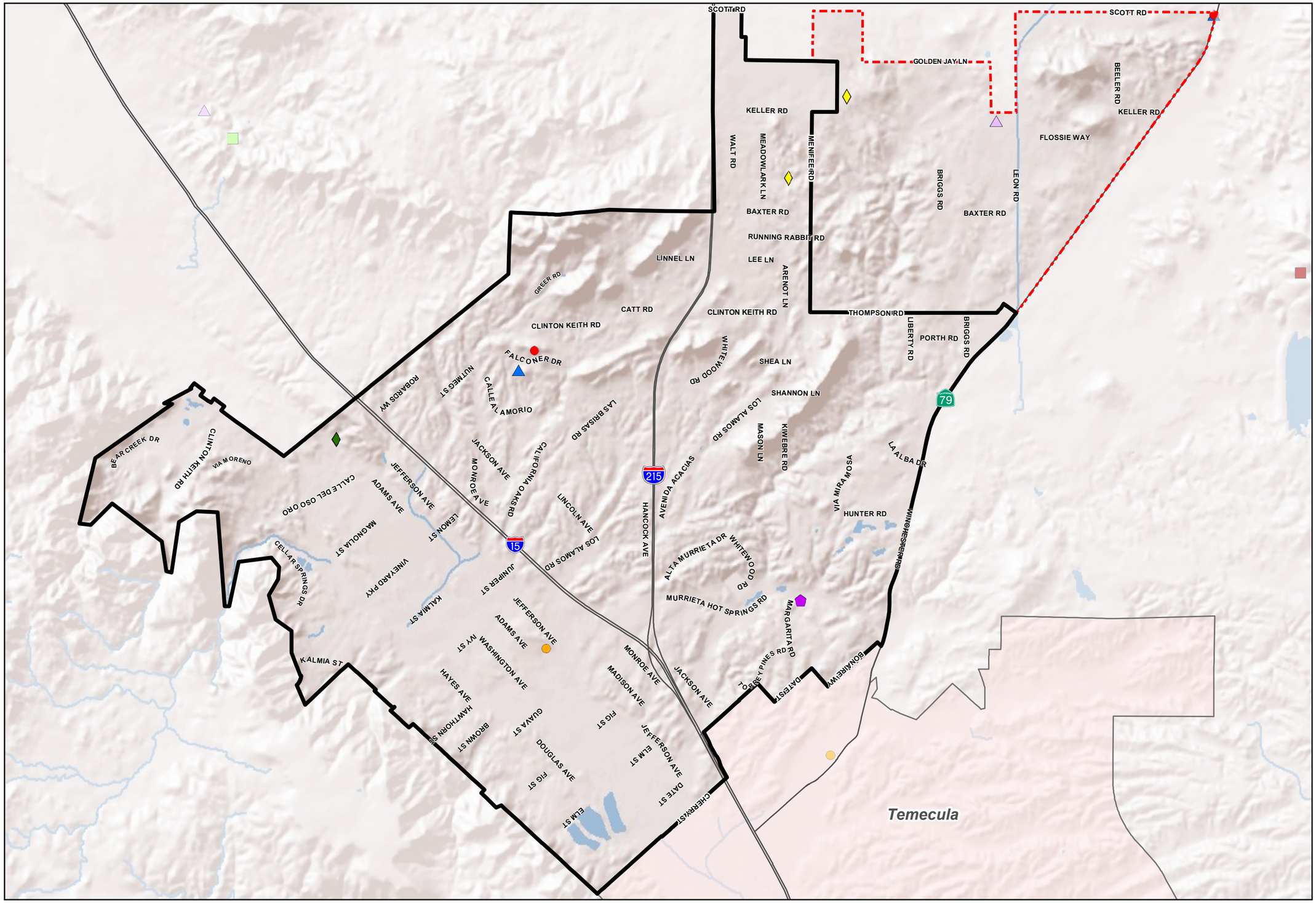
- Mining has become a major industry within the Temescal Valley Area as the result of construction aggregate production. The economic value of existing mining areas and facilities should be recognized and potential land use conflicts addressed.
- Mineral resource production in the City and SOI is generally limited to small areas of clay and sand and gravel (construction), among other resources.
- No active oil or gas wells exist in the City or SOI.

Significance Thresholds

The following thresholds for determining the significance of impacts related to mineral resources are taken from the environmental checklist form contained in Appendix G of the most recent update of the *California Environmental Quality Act (CEQA) Guidelines*, and will be used in the Environmental Impact Report. Impacts related to mineral resources are considered significant if implementation of the General Plan would:

- Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?
- Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?

[1] State of California Department of Conservation, Division of Oil, Gas and Geothermal Resources. ftp://ftp.consrv.ca.gov/pub/oil/maps . Accessed December 10, 2009.



LEGEND

Mineral Resources

- Clay
- Copper
- Feldspar
- Feldspar, Silica
- Geothermal
- Gold
- Iron
- Sand and Gravel, Construction
- Stone, Crushed/Broken
- Sphere of Influence
- City Boundary

January 4, 2010

0 0.5 1
Miles

Source:
County of Riverside,
City of Murrieta,
California Dept of Conservation

RBF CONSULTING

1/10 JN 10-106976 Moneral_Resources.mxd

Mineral Resources

Exhibit 7.5-1

Back of 11 x 17 exhibit page.

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City of Murrieta Municipal Code. Title 16 Development Code, Article IV – Administration, Section 16.68, *Surface Mining Permits.* Adopted 1995.

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Introduction

Information in this section is primarily based on information from the *City of Murrieta General Plan*, adopted June 1994, the *City of Murrieta Final General Plan EIR*, certified June 1994, the Thomas Guide 2003 Riverside County Street Guide, and available aerial photography. This section establishes a baseline of the existing aesthetic and visual environment, both within the General Plan Study Area (City and Sphere of Influence [SOI]), as well as within the surrounding area. Public scenic vistas and views and scenic resources are described, as well as sources of light and glare.

Regulatory Context

STATE

The State of California Department of Transportation (Caltrans) maintains its State Scenic Highways and Historic Parkways Program, through which segments of the State highway system are designated as being of particular scenic value or interest. Interstates, state highways, byways, and parkways are eligible for designation or for recognition as eligible for designation.

Section 263 of the California *Streets and Highways Code* allows the California State Legislature the authority to identify highways as eligible for designation as a scenic highway. The government with jurisdiction over land abutting a highway considered to be scenic is required adopt a "scenic corridor protection program" that restricts development, outdoor advertising, and earthmoving activities along the affected segment or corridor. Caltrans must also indicate that the highway segment meets established criteria in order for the roadway or segment to be designated as scenic. Highways designated as scenic are identified by signage indicating a California poppy, which is the State flower, within a rectangle (for state highways) or a pentagon (for county highways).

LOCAL

County of Riverside General Plan

The County of Riverside General Plan addresses the regulation of scenic corridors within the Land Use Element. The Plan identifies the importance of the County's natural visual resources, and acknowledges that views of these features are frequently experienced by travelers along the County's roadways. Several roadways within the County have been officially recognized as either Eligible or Designated State or County Scenic Highways. The General Plan provides policies to conserve the County's significant scenic resources along designated scenic highways for the long-term and to guide future development along these roadways to avoid disruption of or detraction from the existing scenic quality.

In addition, the Land Use Element includes goals, objectives, and policies aimed at hillside protection to ensure that the design and appearance of proposed landscaping, structures, equipment, signage, and grading are compatible with the surrounding visual setting, and to provide long-term protection of the County's hillsides as an important aesthetic resource. Foothills and mountainous areas are visible from many locations within the County and create a varied visual background within many local communities, including Murrieta. The General Plan acknowledges that hillside development requires careful siting, grading, and/or design measures to minimize potential hazards (i.e. unstable slopes, landslides, etc.) and to maintain and enhance the scenic quality of the County's aesthetic resources.

City of Murrieta General Plan

The City of Murrieta General Plan addresses the preservation of scenic and historic resources within the Conservation and Open Space Element. Goals, objectives, and policies are given to provide for the protection of such resources and to ensure that the importance of maintaining significant visual resources that contribute to the unique visual and historic character of the General Plan Study Area and the surrounding environment is reinforced as future development occurs.

City of Murrieta Municipal Code

The City of Murrieta *Municipal Code*, adopted 1995, contains a number of development standards and procedures for protecting the character of the City's visual resources. Section 16.16, *Combining and Overlay Districts*, includes the Scenic Highway Overlay (SHO) District, which applies the SHO designation to the I-15 and I-215 corridors. The SHO overlay designation is aimed at the long-term protection of scenic qualities of historic significance with appropriate conservation plans. The SHO is also consistent with the Scenic Highway/Special Corridor designation given in the City's General Plan Conservation and Open Space Element.

In addition, Section 16.24, Hillside Development, of the *Municipal Code* establishes guidelines for future development proposed along the City's hillsides. Section 16.24 provides measures for the long-term protection of existing natural topography and scenic character whenever feasible through the regulation of grading activities, intensity, and density of development proposed, structural massing, building height, and other characteristics in order to minimize potential impacts on the existing viewshed.

Section 16.26, Cultural Resource Preservation, of the *Municipal Code* provides measures intended to "establish a mechanism by which community resources such as buildings, structures, and sites within the City of Murrieta, which are of pre-historic and historic interest or value or which exhibit special elements of the City's architectural, cultural, or social heritage may be identified, protected, enhanced, perpetuated and used in the interest of the public's health, safety, welfare and enrichment." The Cultural Resource Preservation Ordinance applies to any cultural

and archaeological resource, archaeological district, and/or historic preservation district within the City's boundaries.

LIGHTING

General zoning regulations pertaining to lighting and glare standards for exterior building and site lighting, parking lots, and sign illumination are given in the City of Murrieta *Municipal Code* (Section 16.18, General Property Development and Use Standards; Section 16.34, Off-Street Parking and Loading Standards; and, Section 16.38, Sign Standards). The Code provides design measures to minimize potential light and glare effects by controlling the spillover of artificial lighting beyond property boundaries, requiring shielding techniques or the directing of light downward, and restricting lighting and material types, among other measures.

Due to the City's proximity to the Mount Palomar Observatory, specific lighting standards have been established to reduce potential adverse effects on the night sky as the result of development. Riverside County Ordinance No. 655 provides measures to avoid or minimize potential light impacts on the Observatory. These measures, which address specific standards for lamp type, shielding, and time of operation based on the designated class of lighting for different sensitivity zones A, B and C (based on the distance from the Observatory), are currently implemented by the City. The Ordinance identifies the three following classes of lighting:

- Class I: All outdoor lighting used for, but not limited to, outdoor sales or eating areas, assembly or repair areas, outdoor advertising displays and other signs, recreational facilities, and other similar applications when color rendition is important.

- Class II: All outdoor lighting used for, but not limited to, illumination of walkways, private roadways and streets, equipment yards, parking lots, and outdoor security.

- Class III: Lighting not needed for Class I or Class II purposes and used for decorative effects for the illumination of flag poles, trees, fountains, statuary, and building walls.

Existing Conditions

EXISTING SCENIC VIEWS AND VISTAS

The natural setting of the Murrieta area offers a number of views and vistas of scenic value. The region supports a variety of rolling hillsides, mountain ranges, the Valley floor, and varied natural vegetation that contributes to the unique visual character of the General Plan Study Area, as well as the surrounding region. Elevations within the General Plan Study Area range from approximately 1,030 above mean sea level (amsl) feet along the Valley floor to approximately 2,121 feet amsl in the highland areas in the northern portion of the City, allowing for a variety of scenic views and vistas.

Extensive views of the Murrieta Valley to the southeast and north are afforded from the hillsides located within the northwest portion of the City. The Santa Ana Mountains extend to the south, with views of other mountain ranges located to the south and east at a greater distance.

The Hogbacks represent a prominent visual feature within the Murrieta landscape and can be seen from many vantage points within the General Plan Study Area. This ridgeline crosses the eastern portion of the General Plan Study Area and supports areas of relatively undisturbed natural vegetation along the western slope.

Views to the Santa Rosa Plateau occur along Interstate I-15 and I-215, as well as from lands located to the west of the Hogbacks. Views from these locations also include the largely undisturbed ridgelines that extend to the north and south of the Plateau, combined with hillside areas supporting chaparral habitat. Oak woodland habitat and a variety of canyons are also present along the foothills of the Santa Ana Mountains and add to the existing visual character.

Views along Murrieta Creek and Warm Springs Creek also contribute to the scenic value of the General Plan Study Area. Murrieta Creek forms the western boundary of the historic core of Downtown Murrieta and represents a major recreational open space corridor with areas of established riparian vegetation. In addition, Warm Springs Creek flows through the eastern portion of the City and supports a natural environment considered to be of high scenic value.

The area to the west/southwest of Washington Avenue and Hayes Avenue is largely built out; however, views of rolling hillsides, undeveloped lands, and tree groves are visible, with mountains providing a backdrop. The western portion of the City also supports views of hillsides, canyons, and ridgelines, adding to the scenic quality. In addition, the Los Alamos Road corridor generally supports low-density residential development combined with rock outcroppings and tree groves set amongst the rolling hillsides and is considered to be of scenic value.

NATURAL ELEMENTS

The City of Murrieta lies within the southern portion of the Murrieta Valley. Surrounding rolling hillsides and steep mountain slopes are visible within the regional setting surrounding the community of Murrieta and influence development patterns within the General Plan Study Area. To the east lies the San Jacinto range, and to the south lie the Santa Margarita and Agua Tibia ranges. To the west lie the Santa Rosa Plateau and Santa Ana Mountains, which largely dominate the existing visual setting. The east wall of the Santa Rosa Plateau lies within the General Plan Study Area and is cut by a number of drainage canyons. In addition, the wall is cut by the Antelope Hills highlands area, as well as the Hogbacks. The San Jacinto Mountains lie approximately 33 miles to the east of the City.

Murrieta Creek and Warm Springs Creek and their tributaries lie within the General Plan Study Area. Within the western portion of the City, Murrieta Creek generally flows from north to

south as a natural, scenic, and recreational corridor, contributing to the visual character of the General Plan Study Area. Warm Springs Creek flows through the eastern portion of the City and supports a natural environment considered to be of high scenic value.

Native vegetation in undeveloped areas of the General Plan Study Area generally consists of chaparral, coastal sage scrub, and riparian scrub and forest. More concentrated areas of natural vegetation occur along the foothills and canyons in the western portion of the City, in the northern portion of the City along the northeastern hillsides, along Murrieta and Warm Springs Creeks, and along the slopes and base of the Hogbacks.

Agricultural activities have historically influenced the visual setting within the City and surrounding areas. As the General Plan Study Area continues to be developed, and lands are converted from agricultural uses to non-agricultural uses, areas that once supported extensive croplands have been significantly reduced and replaced by urban land uses and ornamental landscaping. Many lands that formerly supported agricultural activities presently lay fallow, and vegetative succession of pasture land and cropland back to some form of scrubland is evident in some areas.

MANMADE ELEMENTS

Building and Structures

In the older portions of the General Plan Study Area, a number of historic structures and landmarks are present. The most historically significant areas of the City generally occur along Washington Avenue, west of I-15, and Los Alamos Road, east of I-215.

Historic Resources and Landmarks

Refer to Section 7.3, Cultural Resources, for a more detailed description of historic resources.

The *Historic Murrieta Specific Plan*, October 2000, provides a framework for the future enhancement and preservation of Historic Downtown Murrieta. The Specific Plan Area is bounded by Jefferson Avenue to the north; Ivy Street to the east; Hayes Avenue to the south; and, Kalmia Street to the west. The Specific Plan sets forth guidelines for design of appropriate development including architectural characteristics, site planning, parking, landscaping, and signage. The Specific Plan also identifies several gateways to Historic Murrieta of visual prominence, including Kalmia Street and Ivy Street, as well as Washington Avenue and Jefferson Avenue. Other elements contributing to the historic character of the area include a variety of large, mature trees, particularly along Washington Avenue.

A number of improvements are planned or have been made in recent years within Historic Downtown Murrieta. These improvements include design elements to enhance the overall historic theme and character, infrastructure and street improvements, recreational resources (i.e. parks), and improvements to various City facilities.

SCENIC HIGHWAYS

Based on the California Scenic Highway Mapping System, there are no State-designated scenic highways located within or surrounding the General Plan Study Area; however, I-15 is identified in the Master Plan of State Highways as Eligible for Official Scenic Highway Designation. The City is required to process an application through Caltrans in order to officially designate I-15 as an Official Scenic Highway.

In addition, I-215 is included on the County's Master Plan of Scenic Highways as eligible for official designation as a County Scenic Highway. The City is required to process an application through the County in order to achieve the Official County Scenic Highway Designation.

The Riverside County Comprehensive General Plan also identifies State Route 79 (Winchester Road), which runs along the easterly boundary of the City, as an eligible County Scenic Highway.

ROADWAYS

A number of roadways within the General Plan Study Area have been identified as potentially contributing to the historic character of Murrieta. The historic value of Los Alamos Road has been recognized by the Murrieta City Council. Similarly, the Riverside County Historical Commission recommended that the segment of Los Alamos Road between Via Santee and Winchester Road (approximately four miles in length) be designated as a County Historic Route.

LIGHT AND GLARE

Within the City of Murrieta, potential light sources generally include buildings, recreational facilities (i.e. sports fields), and lighting along roadways and parking lots. Interior light emanating from a structure; exterior light sources (i.e. security lighting); or, lighting to illuminate features for safety or decorative purposes may be visible within the existing landscape. Similar light sources are located within the SOI, but to a lesser extent.

Sunlight reflecting off of a reflective surface can result in glare effects and unsafe visual conditions that may interfere with the vision of motorists operating vehicles in the proximity or that may otherwise generally degrade scenic views. Few structures within the General Plan Study Area presently exhibit highly reflective materials (i.e. high rise buildings with extensive glazing), and therefore, potential glare effects are not considered to be of major concern. To ensure that this condition is maintained, the use of potentially reflective building materials and

surfaces should considered in the design of future structures, as buildout of the General Plan Study Area is achieved.

Sensitive receptors in and around the General Plan Study Area are generally represented by residential uses, natural wildlife habitat areas and wildlife corridors, and open space lands adjacent to existing or planned development. In addition, the Mount Palomar Observatory, located approximately 25 miles to the southeast of the City, represents a sensitive receptor, the operation and viewing capabilities of which are highly sensitive to light generated within the surrounding region.

Findings

- As urbanization of lands continues to occur, the permanent change in visual landscape from vacant land to developed should be carefully considered to protect the City's natural and valued scenic resources for the long-term.

- Maintain existing (rural) community character through implementation of design, glare reduction, erosion control, habitat protection, buffering, and climate control measures.

- Consider compatibility at City boundaries with adjacent uses to maintain visual character.

- Due to proximity to the Mount Palomar Observatory, future land uses should continue to consider potential dark sky effects. Preservation of the night sky is also a valued characteristic, particularly in the more rural areas of the SOI and surrounding lands.

- Sensitive natural features, including Murrieta Creek and Warm Springs Creek and their tributaries; Hogbacks; hillsides; and, chaparral, sage, and riparian habitats, among other resources, are present within the General Plan Study Area. Future land development would be allowed to replace some of these features, such as natural drainages or areas of riparian habitat, thereby resulting in a permanent loss of such resources. Future development along the existing hillside areas would also result in the substantial modification of the natural landform, potentially resulting in adverse visual effects.

- Consider formal designation of scenic highways and roads within the City.

Significance Thresholds

The following thresholds for determining the significance of impacts related to scenic resources are contained in the environmental checklist form contained in Appendix G of the most recent update of the *California Environmental Quality Act (CEQA) Guidelines*, and will be used in the Environmental Impact Report. Impacts related to scenic resources are considered significant if implementation of the General Plan would:

- Have a substantial adverse effect on a scenic vista?
- Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?
- Substantially degrade the existing visual character or quality of the site and its surroundings?
- Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?

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County of Riverside General Plan. Adopted 2003.

7.7 Water Resources and Quality

Introduction

The following section is generally primarily based upon information provided in the *City of Murrieta General Plan*, adopted June 1994, and the *City of Murrieta Final EIR for the General Plan*, certified June 1994. Data was also obtained from the *City of Murrieta General Plan Master Environmental Assessment* (October 1992) and the *City of Murrieta General Plan – Existing Conditions Technical Reports.* Additional data was obtained from each of the four affected water districts that provide water service to the General Plan Study Area.

The following section describes existing surface water and groundwater resources within the General Plan Study Area, as well as the quality of these resources. In addition, Federal, State, and local regulations pertaining to water resources and quality are provided. Additional information pertaining to the City's water infrastructure and available water supply can be found in Section 9.1.

Regulatory Context

FEDERAL

Clean Water Act

The Clean Water Act (CWA) is a Federal law intended to protect surface waters of the United States (U.S.), which include lakes, rivers, coastal wetlands, and "waters of the U.S." The CWA regulates all discharges to waters, which are considered illegal unless authorized by an appropriate permit. Discharge of dredged and fill materials, construction-related storm water discharges, and other activities that may result in discharges of pollutants to waters of the U.S. are regulated by the permit. If waters of the U.S. are located on a project site, the project is likely to discharge to them, due to site topography and/or drainage characteristics. Potential discharges to such waters would be considered an impact, and the applicant would be required to obtain a CWA Section 401 Water Quality Certification from the appropriate Regional Water Quality Control Board (RWQCB).

National Pollutant Discharge Elimination System

The National Pollutant Discharge Elimination System (NPDES) program is administered by the Environmental Protection Agency (EPA), which provides oversight in California to the Regional Water Quality Control Boards. The CWA established the NPDES permit system to regulate discharges to surface waters of the U.S. from municipal and industrial sources. The NPDES permit is required to identify limits on allowable concentrations and mass emissions of pollutants contained in discharges. General requirements regarding NPDES permits are given in Sections

401 and 402 of the CWA. Section 307 identifies certain criteria that the EPA must consider in establishing effluent limits for priority pollutants.

In 1987, the CWA was amended to require NPDES permits for non-point sources (i.e., stormwater) pollutants in discharges. The NPDES regulations are intended to improve stormwater quality discharged to receiving waters to the "maximum extent practicable" (MEP) through the implementation of structural and non-structural Best Management Practices (BMPs). BMPs may range from regulatory measures (local design requirements for drainage facilities); public policy measures (labeling of storm drain inlets to notify public of potential impacts on receiving waters caused by dumping); public education (educational campaigns or posted signage); and/or, structural measures (installation of grass swales or detention ponds).

The NPDES program provides general permits and individual permits. General permits are required for construction projects that disturb more than one acre of land. The general permit requires the applicant to file a public notice of intent (NOI) to discharge storm water and to prepare and implement a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP is to include a site map, description of proposed activities, demonstration of compliance with applicable ordinances and regulations, and a description of BMPs that would be implemented to reduce erosion and discharge of construction-related pollutants.

Safe Drinking Water Act

The Safe Drinking Water Act (SDWA) was originally passed by the U.S. Congress in 1974 to protect public health by regulating the nation's public drinking water supply. Amendments to the SDWA were adopted in 1986 and 1996 to protect drinking water and its sources, including rivers, lakes, reservoirs, springs, and ground water wells. SDWA applies to all public water systems in the U.S.

SDWA authorizes the United States Environmental Protection Agency (US EPA) to establish national health-based standards for drinking water to protect against both naturally-occurring and man-made contaminants that may occur in drinking water. The US EPA, individual states, and water systems coordinate to ensure that the established standards are met. The SDWA originally focused primarily on water treatment as the means of providing safe drinking water at the tap; however, the 1996 amendments enhanced the existing law by recognizing source water protection, operator training, funding for water system improvements, and public information as important components of safe drinking water. This approach ensures the quality of drinking water by protecting it from its source to the tap.

STATE

Impaired Water Bodies

California is required to establish the beneficial uses of its State waters and to adopt water quality standards to protect those beneficial uses, per the CWA Section 303(d) and the Porter-Cologne Water Quality Control Act. Aquatic ecosystems and underground aquifers provide many different benefits to the public. The Regional Water Quality Control Board (RWQCB) is charged with protecting these uses from pollution and nuisances that may result from waste discharges within the region.

Total Maximum Daily Load (TMDL) is established by Section 303(d), which represents the maximum quantity of a particular contaminant that a water body can maintain without experiencing adverse effects. This standard is intended to guide the application of State water quality standards. Section 303(d) also requires the State to identify "impaired" streams (water bodies affected by the presence of pollutants or contaminants) and to establish the TMDL for each stream.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act acts in cooperation with the CWA to establish the State Water Resources Control Board (SWRCB). The SWRCB is divided into nine regions, each overseen by a RWQCB. The SWRCB, and thus each RWQCB, is responsible for protecting California's surface waters and groundwater supplies.

The Porter-Cologne Water Quality Control Act develops Basin Plans that designate the beneficial uses of California's rivers and groundwater basins. The Basin Plans also establish narrative and numerical water quality objectives for those waters. Basin Plans are updated every three years and provide the basis of determining waste discharge requirements, taking enforcement actions, and evaluating clean water grant proposals. The Porter-Cologne Water Quality Control Act is also responsible for implementing CWA Sections 401-402 and 303(d) to SWRCB and RWQCBs.

Drinking Water Quality

Implementation of the Federal Safe Drinking Water Act of 1974 and its updates, as well as California statutes and regulations related to drinking water, is the responsibility of the California Department of Health Services (DHS). The DHS is responsible for the inspection and regulation of public drinking water systems within California.

All public drinking water supplies are subject to the regulatory requirements listed in Title 22 of the California Code of Regulations for primary maximum contaminant levels (MCLs). Operators of public water systems are responsible for ongoing maintenance and monitoring of

their drinking water sources to identify potential microbiological, chemical, and radiological contaminants. Such contaminants include approximately 80 identified inorganic (i.e. aluminum and arsenic) and organic contaminants, as well as six identified radiological contaminants (i.e. Uranium and Radium).

Operators of public water systems are also responsible for the monitoring of certain aesthetic properties of drinking water, which are influenced by secondary MCLs, or qualities generally associated with the taste, odor, and appearance of drinking water. Within the State of California, secondary standards are legally enforceable for all new drinking water systems and new drinking water resources developed by existing public water suppliers.

Groundwater resources are largely regulated by the California Department of Toxic Substances (DTSC) through the Department's Hazardous Waste Management Program and Site Mitigation Programs. These programs are aimed at maintaining and protecting groundwater resources through hazardous waste facility permitting and design; oversight of hazardous waste handling; removal and disposal; oversight of remediation of hazardous cleanup of illegal drug labs; cleanup of abandoned hazardous waste sites; oversight of the closure of military bases; and, pollution prevention, among other efforts.

In addition, the sale and use of pesticides is regulated by the California Department of Pesticide Regulation (DPR). Measures have been established for the protection of the environment and for purposes of protecting public health through various regulations on the extent of use and through permitting by local county agricultural commissioners.

LOCAL

Riverside County Water Quality Management Plan for Urban Runoff

The Riverside County Water Quality Management Plan (WQMP) for Urban Runoff addresses post-construction urban runoff from new development and redevelopment projects within the Santa Margarita River Region. The WQMP provides guidelines for the management of urban runoff quantity and quality and the protection of receiving waters through identification and implementation of source control and structural BMPs on a regional and subregional level. Design criteria for treatment control BMPs are also given for application on a project-level basis to minimize potential impacts of urban runoff.

Final Integrated Regional Water Management Plan for the Upper Santa Margarita Watershed Planning Region

The *Final Integrated Regional Water Management Plan (IRWMP) for the Upper Santa Margarita Planning Region* is a planning and management tool to facilitate efficient use of water resources and to develop effective water conservation measures, using a regional and watershed based approach. The intent of the IRWMP is to enable greater watershed-wide coordination and

management of water resources within the Santa Margarita Watershed as a whole, as well as adjoining watershed and regional planning and funding efforts. Through the IRWMP, regional water agencies, flood control districts, counties, cities, Federal, State and local agencies, and other stakeholder groups actively collaborate across jurisdictional boundaries to implement water resource management projects. The IRWMP also provides opportunities to identify and evaluate information on present and future needs within the watershed for consideration in the California Water Plan.

Development of the IRWMP for the Upper Santa Margarita Watershed represents a cooperative effort on the part of three agencies that have authority for planning and implementation of water management strategies within the watershed:

- Rancho California Water District (RCWD)
- Riverside County Flood Control and Water Conservation District (RCFC)
- County of Riverside

Water Quality Control Plan for the San Diego Basin 9 (Basin Plan)

The General Plan Study Area is located within the San Diego Basin, or Planning Region 9, which is governed by the California Water Quality Control Board. The San Diego Regional Board's Basin Plan is designed to preserve and enhance water quality within the Basin and to protect the beneficial uses of all regional waters. The Basin Plan: (1) designates beneficial uses for surface and ground waters; (2) establishes narrative and numerical objectives to be achieved and/or maintained in order to protect designated beneficial uses and to conform to California's anti-degradation policy; (3) describes implementation measures for the protection of the beneficial uses of all waters in the region; and, (4) identifies surveillance and monitoring activities to evaluate the effectiveness of the Basin Plan [California Water Code Sections 13240 thru 13244, and Section 13050(j)]. The Basin Plan is consistent with all applicable State and Regional Board plans and policies.

The goal of the San Diego Regional Board is to balance water demand for water of varying quality within the Basin by competing uses of surface and ground waters. The Basin Plan establishes or designates beneficial uses and water quality objectives for all groundwater and surface waters within the Region. Beneficial uses are "the uses of water necessary for the survival and well being of man, plants and wildlife," and "serve to promote the tangible and intangible economic, social, and environmental goals of mankind."[1] The Basin Plan establishes a program to identify measures for implementation by the Regional Board and others, as appropriate, in order to achieve and maintain the designated beneficial uses and water quality objectives of the Region's ground and surface waters.

[1] *Water Quality Control Plan for the San Diego Basin (9)*. September 8, 1994, with amendments effective prior to April 25, 2007.

Western Municipal Water District, Urban Water Management Plan

The Western Municipal Water District (WMWD) provides wholesale water to the cities of Corona, Norco, and Riverside, other unincorporated areas, and the water agencies of Elsinore Valley and Rancho California. The District consists of approximately 510 square miles within western Riverside County.

The WMWD Urban Water Management Plan (UWMP) identifies existing conditions within the District's retail water service area and addresses the long-term management of regional water supplies and ability to meet projected demands. Measures are identified for the long-term protection and provision of both potable and non-potable water to users within WMWD's General District.

Western Municipal Water District, Integrated Regional Water Management Plan

The Integrated Regional Water Management Plan (IRWMP) for the WMWD's service area addresses long-range water quantity, quality, and environmental planning needs within the District's service area. The IRWMP is intended to identify and evaluate water management strategies that could increase local water supply, thereby improving water supply reliability; address local and regional water quality, environmental, and disadvantaged community issues; identify regional planning efforts that impact water management within the WMWD's service area; estimate water demands by member agencies; identify water supplies (e.g. local groundwater, recycled water, surface water, imported water) available to the agencies; and, coordinate investments in water management, as appropriate, between agencies.

Eastern Municipal Water District, Urban Water Management Plan

The Eastern Municipal Water District (EMWD) Urban Water Management Plan (UWMP) was prepared to comply with the Urban Water Planning Act and provides assessment and verification of available water supply for areas served by the District, as required by Senate Bills 610 and 221 of 2001. The UWMP provides guidance and management measures for delivery of imported water to supplement local groundwater; groundwater production; desalination; water filtration; wastewater collection and treatment; and, regional water recycling.

City of Murrieta Storm Water Management Plan

The City of Murrieta Storm Water Management Plan (SWMP) describes urban runoff management programs and activities to be implemented in order to ensure compliance with requirements of the municipal separate storm sewer system (MS4) Permit issued to the Riverside County Permittees by the San Diego RWQCB in 2004. The SWMP describes measures to be implemented to achieve compliance with the MS4 Permit and to reduce pollutants in urban runoff to the maximum extent practicable. The SWMP provides details of the programs described in the Riverside County Drainage Area Management Plan (DAMP), which identifies

the overall urban runoff management strategies being implemented, or planned to be implemented, by the Permittees in the Santa Ana and Santa Margarita Regions of Riverside County.

Urban storm water runoff is defined in the Permit as including storm water runoff, dry weather surface runoff, wash water related to street cleaning or maintenance, infiltration, and drainage related to storm events. The Permit regulates the discharge of all wet and dry weather urban storm water runoff and requires the City to implement BMPs to reduce pollutants in storm water. The BMPs may include, but are not limited to: (1) public educational programs on the impacts of potentially harmful chemicals dumped into storm water drainage systems; (2) implementing landscape maintenance measures including minimization of the use of fertilizers and pesticides and training of personnel to properly implement BMPs and recognize prohibited discharges into the storm drain system; and (3) implementing good housekeeping principles for the clean up and proper handling and storage of potential contaminants in the maintenance and repair of vehicles and equipment.

City of Murrieta Municipal Code - Construction Dewatering

Section 8.36.230B, NPDES Permit for Industrial, Construction, and Dewatering Activities, of the *Municipal Code* states that "Any person associated with industrial, construction, dewatering or other activities and discharges subject to any NPDES permit issued by the US EPA, the SWRCB, or the San Diego RWQCB, shall comply with all requirements of such permits. Such dischargers shall specifically comply with the requirements outlined in the respective State General Permits. Proof of compliance with said NPDES general permits may be required in a form acceptable to the City Engineer, prior to issuance of any City grading, building, or occupancy permits (Ord. 97 5 1 (part), 1993; Ord. 3 5 1 (part), 1191; prior Code 5 8.12.100.816)."

Existing Conditions

PRECIPITATION

Precipitation within the General Plan Stud Area generally occurs in the form of rain, with some low-lying areas experiencing occasional frost in the winter and rare occurrences of snow or hail. The majority of rainfall typically occurs during the months of December through March, averaging approximately 2.22 inches, with an average of 0.3 inches falling over the drier months of April through November. Data collected for the year 2009 indicate a low of 0.04 inches of rainfall during the months of both June and July, with a high of approximately 2.86 inches during the month of February (Sun City Weather Station located approximately 11.1 miles from Murrieta Hot Springs).

SURFACE WATER RESOURCES

The City of Murrieta and the Sphere of Influence (SOI) are located within the inland portion of the Santa Margarita River Basin, which is comprised of approximately 750 square miles. Murrieta Creek and Temecula Creek collect water from the upper watershed and represent the main tributaries to the Santa Margarita River.

Murrieta Creek generally runs through the Murrieta Valley, slowing southwesterly through the older areas of the City between Interstate 15 and the base of the Santa Rosa Plateau. Murrieta Creek generally runs from the northern limits of Murrieta to the southern City limit near Cherry Street, along the Rancho Temecula Line. Murrieta Creek joins with Temecula Creek near Temecula Canyon, southwest of Temecula, to form the Santa Margarita River. From this point, the Santa Margarita River flows to the Pacific Ocean.

Murrieta Creek extends approximately 14 miles and drains an area approximately 220 square miles, or 37percent of the upper watershed.[2] Stream courses occur intermittently throughout the area and transport seasonal runoff from area slopes and valleys to the Creek. Major tributaries to the Creek include Santa Getrudis Creek, Tucalota Creek, and Warm Springs Creek. Storm water runoff represents the primary source of surface water within the Murrieta Creek Basin. Additional sources of surface water include groundwater from springs, runoff from agricultural uses, and snowmelt. Streamflow within the Murrieta Creek Basin is generally ephemeral, although various sections occur where streamflow is perennial flow with visible standing or flowing waters; however, stream flow within the Creek is highly variable, both on a seasonal and annual basis.

Warm Springs Creek extends approximately 21 miles and drains extensive valley and upland areas. The Creek generally flows southwest from its headwaters in the Domenigoni Valley, through the Murrieta Hot Springs area, to its confluence with Murrieta Creek in the southern portion of the City. The Creek is generally without improvements, with exception of the Warm Springs Channel which runs from Murrieta Creek to Interstate 15 (I-15).

In addition, Diamond Valley Lake, operated by the Metropolitan Water District of Southern California (MWD), is a reservoir located at the northernmost portion of the Santa Margarita Watershed. The MWD also operates a reservoir located at Lake Skinner, located approximately seven miles to the northeast of Murrieta. Lake Skinner Reservoir provides storage for imported water at a capacity of approximately 44,000 acre-feet. The Diamond Valley Lake, constructed in the Domenigoni Valley approximately four miles southwest of the City of Hemet, provides an additional 810,000 acre-feet of water storage.[3]

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[2] City of Murrieta General Plan Technical Reports – Chapter V. Conservation/Open Space.

[3] Metropolitan Water District of Southern California. http://www.mwdh2o.com/index.htm. Accessed January 8, 2010.

SURFACE WATER QUALITY

Within the Santa Margarita Watershed, constituents of concern include nitrate (surface and groundwater), sediment, indicator bacteria, and total dissolved solids (TDS) in groundwater. Specific activities or uses affecting the quality of surface water include agricultural activities, orchards, livestock, domestic animals, septic systems, use of recycled water, and urban runoff.

Surface water quality within Murrieta Creek is generally good; however, high concentrations of TDS occur intermittently during times of low flow. Occasional exceedances of nitrate and phosphate levels also occur. Murrieta Creek is also listed as impaired under the 303(d) list for iron, manganese, nitrogen, and phosphorous. Beneficial uses for Murrieta Creek and Warm Springs Creek are identified as agricultural supply, industrial process and service supply, recreation, warm freshwater habitat, and wildlife habitat.[4]

Urban Runoff

A number of physical conditions may influence the overall quantity and quality of storm water runoff in urban areas, including the amount and frequency of rainfall, underlying surface features (i.e. paved vs. natural or pervious surfaces), land use (i.e. residential vs. industrial), and vehicular travel.

As is typical of southern California, rainfall in the Murrieta area is infrequent, with many relatively dry months occurring during the spring, summer, and fall. As such, pollutants associated with vehicle use, such as emissions from exhaust, tire wear, and internal fluids may accumulate on and along roadsides and adjacent areas. These pollutants are then introduced into the storm water system through runoff during periods of rainfall, resulting in an increase in pollutant concentrations within downstream water bodies, which generally are at their highest levels at the initial runoff or "first flush" of a storm event. Wet weather runoff (runoff generated during the rainy season, primarily by precipitation) generally results in higher measured concentrations of heavy metals versus levels occurring during dry months when rainfall is less frequent (landscape irrigation, street washing, etc.).

As described in Section 9.3, Storm Drainage, stormwater drainage infrastructure within the City of Murrieta consists of a network of natural and improved streams, storm channels, storm drains, and catch basins. These facilities and their necessary maintenance are provided by the Riverside County Flood Control and Water Conservation District (RCFCWCD) and the City. Regional master planned facilities (over 36 inches in diameter) are owned and maintained by the RCFCWCD, and all non-master planned facilities smaller than 36 inches in diameter are maintained by the City.

[4] *Water Quality Control Plan for the San Diego Basin (9).* September 8, 1994 (with amendments effective prior to April 25, 2007).

To minimize the potential effects of storm water runoff, the City of Murrieta implements its Storm Water Management Plan (SWMP) to reduce pollutants in urban runoff to the Maximum Extent Practicable. The SWMP identifies methods to reduce potential storm water runoff and contribution of pollutants to the storm drain system. Best Management Practices (BMPs) for industrial and commercial, as well as residential sources, are identified for consideration and implementation to reduce potential discharges to the MEP. Construction activities, including grading, clearing, and excavation, as well as other activities, are likely to increase the potential for pollutants to enter the storm water system. Landowners proposing construction activities within the General Plan Study Area are required to file a NOI and to pay appropriate fees for to the State Water Resources Control Board. Such development projects require preparation of a SWPPP to identify potential pollutant sources that may affect the quality of discharges of storm water associated with construction activity. Land owners are required to identify, construct, and implement storm water pollution prevention measures (i.e. BMPs) in order to reduce such pollutants. As part of the SWPPP, an Erosion and Sediment Control Plan is also required. Proper inspection of proposed storm water pollution prevention measures is mandatory, along with development and implementation of a monitoring plan.

GROUNDWATER RESOURCES

Groundwater is water contained within natural underground water systems below the Earth's surface wherein the water flows through porous formations called aquifers. Groundwater recharge is an important source of water supply to each of the retail water purveyors that serve the General Plan Study Area. Numerous wells have been drilled within the groundwater basins to allow for the extraction of water from the underlying reservoirs.

Groundwater Basins

Major groundwater basins underlying the General Plan Study Area include the Murrieta-Temecula Basin and the French Basin. The Murrieta-Temecula Basin is the largest groundwater basin in the hydrologic unit assigned to the area drained by the Santa Margarita River. The Murrieta-Temecula Basin underlies approximately 60,000 acres and has an estimated storage capacity of 1.2 million acre-feet.[5] The Basin extends from the Murrieta graben in the north to the base of the Aqua Tibia Mountains in the south, and east from the Santa Rosa Plateau to the mesa and valley areas. The Basin underlies all of portions of the Murrieta Creek channel, Warm Springs Creek, Pechanga, and Temecula Creeks, which serve as important sources of groundwater recharge for the underlying aquifers. Water flows from the Basin to the Lake Elsinore area in the northwest and to the Santa Margarita River to the southwest. Many wells extracting groundwater from this Basin are present within the Murrieta area.

[5] *City* of Murrieta General Plan Technical Reports – Chapter V. Conservation/Open Space.

In addition, from the northeast, the French Basin extends into the General Plan Study Area and is recharged by underflow from Auld Basin and other surface streams. The Basin underlies approximately 3,500 acres and discharges to Warm Springs Creek.

Groundwater quality varies within the Murrieta and French Basins. In general, water that is extracted at higher elevations and from deeper unconfined aquifers is typically of higher quality.

Hydrogeologic Information

Quaternary alluvium is estimated to exceed 2,500 feet in thickness and is the water-bearing material within the Basin. Groundwater is generally unconfined. In addition, Holocene alluvial deposits consist of unconsolidated gravel, sand, silt, and clay that generally range from 100 to 125 feet in thickness (DWR 1956), but reach up to 200 feet in thickness in some areas (DWR 1967). The Pleistocene age Temecula Arkose, an alluvial deposit composed of arkosic sand with some marl, tuff, and silt, is present and is at least 1,400 feet thick (DWR 1967). Groundwater is also extracted from residuum and fractured rocks that occur within the underlying aquifer.

Groundwater Levels

Groundwater within the General Plan Study Area generally flows to the southeast under Murrieta and Temecula Valleys to the southwestern part of the Basin. In the central portion, measurements have indicated that the water level in one well rose approximately 12 feet from 1990 through 1993. In the southwestern portion, the water level in one well was recorded to have declined approximately 60 feet from 1980 to 1993, recovered approximately 50 feet during 1993, and then declined again approximately 15 feet from 1994 through 2000. The hydrograph of a third measured well in the southwestern portion has also indicated varied seasonal variations in water levels.[6] In the southwestern portion of the General Plan Study Area, areas of shallow groundwater occur, where levels have historically reached between 10 to 30 feet below the ground surface (bgs).

Recharge

Groundwater recharge generally occurs via natural percolation from rainfall or surface water bodies, or from the application of reclaimed, imported, and flood waters to recharge areas. Recharge of the local aquifer system generally occurs along active river and stream channels where sand and gravel deposits exist. Sources of recharge within the General Plan Study Area include inflow of groundwater generally from the northeast; subsurface recharge from fractured geologic formations to the east; deep percolation from applied surface water; precipitation on open space areas; and, small streams. Natural recharge of the underlying alluvium occurs from

[6] California Department of Water Resources, *California's Groundwater Bulletin 118, Temecula Valley Groundwater Basin*, Updated February 27, 2004.

direct precipitation and percolation in the Warm Springs, Tucalota, Santa Gertrudis, Murrieta, and Pechanga Creeks, as well as the Temecula River.[7]

Groundwater surface elevations may change with groundwater recharge, discharge, and/or extraction rates. Natural recharge may occur at locations where a hydraulic connection occurs between existing surface rivers or streams and the underlying aquifer. As such, the slope or gradient of the groundwater surface may be influenced where a hydraulic connection exists. A higher recharge rate from surface water into the aquifer would result where a steeper gradient away from the stream occurs.

Where no hydraulic connection occurs between a stream and the groundwater surface, the rate of recharge from streams is generally unaffected by changes in groundwater elevations or gradients, particularly in smaller streams where the groundwater surface is located far below the streambed and surface water instead percolates through the unsaturated zone to the groundwater. Percolation is influenced by the aquifer materials underlying the streambed, as well as water level in the surface stream. Infiltration rates under such conditions are not controlled or influenced by elevation changes in the underlying groundwater.

Groundwater Quality

Groundwater in the basins of the San Diego subregion has mainly calcium and sodium cations and bicarbonate and sulfate anions. Local impairments by nitrate, sulfate, and TDS are present.[8] Groundwater in the General Plan Study Area is largely sodium bicarbonate in character. Sodium-calcium bicarbonate, sodium-calcium sulfate, calcium bicarbonate, and sodium chloride waters are also present. TDS concentration ranged from 220 to 984 milligrams per liter (mg/L) in 1956; however, water samples taken from 50 public supply wells indicated a range from 240 to 1,500 mg/L (average of 476 mg/L). Such groundwater supplies are largely suitable for domestic and irrigation uses; however, groundwater is generally rated inferior for domestic use locally near Murrieta and Murrieta Hot Springs, due to high nitrate or fluoride content. In addition, groundwater is rated marginal to inferior for irrigation use locally near Murrieta Hot Springs, because of chloride content and percent sodium. Sulfate, chloride, magnesium, and nitrate concentrations are locally high for domestic use; TDS content is also locally high for domestic and irrigation use.[9]

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7 California Department of Water Resources, *California's Groundwater Bulletin 118, Temecula Valley Groundwater Basin*, Updated February 27, 2004.

8 California Department of Water Resources, *California's Groundwater Bulletin 118*, October 2003, page 150.

9 California Department of Water Resources, *California's Groundwater Bulletin 118, Temecula Valley Groundwater Basin*, Updated February 27, 2004.

Groundwater Sources

Four water districts provide water service to the General Plan Study Area: Western Municipal Water District (WMWD), Eastern Municipal Water District (EMWD), Rancho California Water District (RCWD), and Elsinore Valley Municipal Water District (EVMWD).

Western Municipal Water District

The WMWD imports a limited amount of groundwater from the Riverside/San Bernardino area. The WMWD does not own any wells intended for groundwater production.

Eastern Municipal Water District

Approximately 25 percent of EMWD's potable water demand is supplied by EMWD groundwater wells. The majority of the groundwater produced by EMWD comes from its wells in the Hemet and San Jacinto area. Some of these wells have limited production as a result of the Fruitvale Judgment and Decree. EMWD also maintains wells in the Moreno Valley, Perris Valley, and Murrieta areas.

Rancho California Water District

Groundwater supplies (29 percent) for the RCWD come from large underground aquifers. Untreated import water is also recharged into the groundwater basin and recovered for later use (21 percent). Surface water from Vail Lake is used to replenish underground aquifers, when available.

Elsinore Valley Municipal Water District

The EVMWD has eight active municipal wells that provide drinking water from a deep underlying aquifer. Several additional wells are planned. Groundwater represents 40 to 50 percent of drinking water supplies in the EVMWD.

Localized Impacts of Groundwater Extraction

To ensure the long-term availability of groundwater supplies, the extraction of groundwater is generally controlled so that safe yields are not exceeded. Groundwater supplies may be replenished through natural rainfall or stream percolation, or the application of flood, reclaimed, or imported water to recharge areas. Typically, the natural groundwater recharge of an area is decreased as urbanization occurs over time, with increases in storm water runoff and drainage collection in concrete channels, as well as an increase in impervious surfaces. In addition, the demand on local water resources is generally increased as the population grows.

As groundwater is extracted from a single well, a localized cone of depression is formed around the well, with the shape and depth of the localized cone of depression dependent on several factors. These factors may include, but not be limited to, the following: (1) the rate of extraction; (2) the presence of nearby sources of recharge and extraction; (3) the rate of water transmitted through the aquifer; and (4) the "confined" or "unconfined" state of the aquifer (i.e., storage coefficient). Over time, extraction of groundwater from an unconfined aquifer can de-water the aquifer around the well; however, when extraction ceases, the water level within the aquifer generally returns its original condition, prior to extraction. In a confined or semi-confined aquifer, conditions may differ, as the groundwater is under pressure from a recharge source. A change in confining pressure may occur as a result of extractions, and instead of de-watering the aquifer, the aquifer remains saturated. In a confined aquifer, the pressure decline is more dramatic than in an unconfined aquifer; however, recovery to conditions prior to extraction activities typically occurs more rapidly.

Regional Impacts of Groundwater Extraction

In areas where multiple groundwater extraction wells are actively operating, large regional cones of depression can form. Over a number of years, fluctuations in regional cones of depression may result from changes in the rates or amount of recharge as well as from changes in extractions from increasing and decreasing water demand. For example, during dry years, the amount of natural recharge to the underlying aquifer may decrease, while coinciding groundwater extraction may increase due to a shortage in surface water supplies, thereby creating a potential imbalance between natural recharge and extractions. As a result, groundwater elevations may decrease in response to the imbalance between recharge and extraction. Over time, the shape and location of an aquifer's regional cone of depression may fluctuate. As a number of groundwater extraction wells occur within and adjacent to the General Plan Study Area and provide water for the various water districts that serve Murrieta, the potential for fluctuation in large regional cones of depression exists and may become evident.

DRINKING WATER

Drinking water for the City of Murrieta is provided by the WMWD, EMWD, RCWD, and EVMWD. Additional discussion pertaining to potable water sources for each of the districts is provided in Section 9.1, Water.

Western Municipal Water District

Potable water sources for the WMWD include Metropolitan Water District of Southern California State Water Project (SWP) water and supplemental water purchased from the City of Riverside on an emergency or off-season basis from its water supply system of over 40 domestic quality groundwater wells. Additional sources of water are anticipated from various planned and future projects.

Drinking water quality for the WMWD is generally good and in 2008, met or exceeded all Federal and State drinking water quality standards.[10] Drinking water obtained from SWP was identified as having a salinity of less than 300 mg/L and not of a significant concern.[11] Other factors identified as affecting SWP water were total organic carbon, bromide, pathogenic microbes and other unknown contaminants; however, the 2005 UWMP indicated that there were no significant constraints due to water quality, particularly with the assumption that a series of planned projects (Delta Improvement Package) aimed at improving water quality, environmental protection, and long-term management would be implemented.

Eastern Municipal Water District

Approximately 75 percent of EMWD's potable water demand is met by imported water supplies from MWD through its Colorado River Aqueduct and its connections to the SWP. The EMWD treats all water from these sources at the Robert A. Skinner Filtration Plant. In addition, approximately 25 percent of EMWD's potable water demand is supplied by EMWD groundwater wells, the majority of which are located in the Hemet and San Jacinto area, with other wells located in the Moreno Valley, Perris Valley, and Murrieta areas.

The EMWD published its *Water Quality 2008 Consumer Confidence Report* in July 2009. The report states that 58,000 field and laboratory tests on 8,700 water samples were conducted for the year 2008. Tests conducted indicated that the EMWD's drinking water met or exceeded all applicable Federal and State drinking water standards.[12]

Rancho California Water District

Water sources for the RCWD include native groundwater supplies (29 percent); untreated imported water recharged into the groundwater basin and recovered for later use (21 percent); and treated imported water (45 percent) from MWD.

The RCWD published its C*onsumer Confidence Report – Monitoring Data and Test Results from Calendar Year 2008.* According to the report, the District's drinking water supplies have a high safety ranking. The RCWD's drinking water is tested extensively and routinely indicates that regulated contaminants are not detected or occur in amounts that are far below the limits permitted by Federal and State drinking water standards. Over 2,000 samples were evaluated for the year 2008 for water quality, all of which met or exceeded established Federal and State drinking water standards.[13]

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10 *Annual Drinking Water Quality Report - 2009*. Western Municipal Water District. Published for the Year 2008.

11 Western Municipal Water District - Urban Water Management Plan. 2005.

12 Water Quality – Eastern Municipal Water District. *2008 Consumer Confidence Report.* Issued July 2009.

13 Rancho California Water District, *Consumer Confidence Report – Monitoring Data and Test Results from Calendar Year 2008.* https://www.ranchowater.com/files/billinginsert.pdf. Accessed January 11, 2010.

Elsinore Valley Municipal Water District

Potable water sources for the EVMWD include imported water from MWD, local groundwater from Elsinore Basin, Temescal Valley Basin, San Bernardino Bunker Basin, Rialto-Colton and Riverside-North Basin, and Coldwater Basin, surface water from Canyon Lake, and imported, untreated water from MWD via WMWD.

In 2008, the EVMWD conducted more than 12,604 water quality tests for 165 contaminants from 139 routine sample locations and 121 non-routine locations, for a total of 260 locations throughout the District. Results indicated that EVMWD's water met or surpassed established Federal and State drinking water standards in all of the tests.[14]

Findings

- Water management will continue to be a challenging venture as the City and region continue to grow and demand for water resources increases concurrently.

- The Eastern Municipal Water District, Rancho California Water District, and Elsinore Valley Municipal Water District continue to rely on groundwater resources to meet a portion of potable water needs within the region. Such resources shall continue to be protected and carefully managed to reduce the need for increased reliance on imported water resources in future years.

- Groundwater recharge and conservation efforts will be a vital part of water management strategies well into the 21st century. As future urbanization can reduce groundwater recharge (generally through a change from pervious to non-pervious surfaces), recharge enhancements such as recharge ponds, injection points, or storm water retention ponds may need to be implemented as part of new development.

- As development within the General Plan Study Area continues to occur, measures should be taken for continued protection of the groundwater by ensuring that groundwater recharge potential is not decreased, thereby reducing the available water supply. Potential impacts should be reduced by preserving natural drainage courses, encouraging the use of pervious surfaces in new development, and decreasing surface runoff.

- Policies proposed in the General Plan, in combination with existing regulations and future environmental review, should be implemented to ensure that new development projects do not adversely affect water quality within the General Plan Study Area or within the San Diego Basin.

[14] Elsinore Valley Municipal Water District, *2008 Water Quality Report/Consumer Confidence Report.* http://www.evmwd.com/ Accessed December 11, 2010.

Significance Thresholds

The following thresholds for determining the significance of impacts related to water resources and water quality are taken from the environmental checklist form contained in Appendix G of the most recent update of the *California Environmental Quality Act (CEQA) Guidelines*, and will be used in the Environmental Impact Report. Impacts related to water resources and water quality are considered significant if implementation of the General Plan would:

- Violate any water quality standards or waste discharge requirements;
- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted);
- Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff;
- Have a significant adverse impact on groundwater quality or otherwise substantially degrade water quality;

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City of Murrieta Storm Water Management Plan. July 2005.

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Riverside County Water Quality Management Plan for Urban Runoff. July 24, 2006.

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Western Municipal Water District Urban Water Management Plan. 2005.

Western Municipal Water District Integrated Regional Water Management Plan. 2008.

Introduction

The Murrieta Police Department provides police protection services within the City of Murrieta. This section describes the facilities, staffing, and programs of the Police Department, as well as statistics on crime and police activities in the City. Information was drawn from Department staff and website.

Regulatory Context

FUNDING

Development impact fees are collected in Murrieta to help pay for law enforcement facilities and equipment.[1]

Existing Conditions

FACILITIES

The Department operates out of two buildings at 24701 Jefferson Avenue which were completed in 2002. This facility was built at a smaller size than was originally planned, with approximately 30,000 square feet of space in the office building and approximately 10,000 square feet in the building for evidence and storage.[2]

STAFFING

The Department's target staffing level is one officer and 0.5 civilian support staff per 1,000 residents. Current staffing does not meet this staffing level, with 0.89 officers and 0.43 civilian support staff per 1,000 residents, based on a population of 100,714.[3]

PROGRAMS/PLANS

The Department is organized into two main Divisions: Operations and Support. The Operations Division includes Traffic, Patrol, and officers who oversee several other types of programs.[4] The

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1 Lt. Dennis Vrooman, Public Information Officer, Murrieta Police Department, Police Protection Services Questionnaire, December 9, 2009.

2 Lt. Dennis Vrooman, Public Information Officer, Murrieta Police Department, telephone conversation, December 22, 2009.

3 Lt. Dennis Vrooman, Public Information Officer, Murrieta Police Department, Police Protection Services Questionnaire, December 9, 2009.

4 City of Murrieta Police Department, "Operations Division: Table of Personnel Organization," November 2009; and Lt. Dennis Vrooman, Public Information Officer, Murrieta Police Department, telephone conversation, December 22, 2009.

Support Services Division includes Code Enforcement, Investigation, the Records Bureau, the Special Enforcement Team, the Dispatch Center, and programs dealing with youth and schools.[5]

The Department has several educational programs for children in 1st grade through 12th grade: 9-1-1 For Kids, D.A.R.E. and Red Ribbon Week, Every-15-Minutes, and Kid Print/Safety Fairs. The School Resource Officer Program assigns officers full-time to middle and high schools. [6]

Police Activities League (PAL) coordinates recreational, educational, and athletic activities for disadvantaged or at-risk youth between the ages of 5 and 17. Police officers volunteer their time to attend PAL events with the intention of providing mentorship and to serve as positive role models. PAL activities create an environment where youth and law enforcement are able to communicate with each other in a neutral environment to foster positive attitudes and mutual respect.[7]

The Department has three programs for youth rehabilitation. The Youth Accountability Team assesses the situations and arrests of delinquent youth aged 12 to 17 and implements a program aimed at rehabilitation, including service referrals and visits.[8] The Youth Accountability Board is made up of community volunteers wanting to assist in the rehabilitation of juveniles who have been arrested for minor criminal law violations.[9] The Southwest Valley Youth Court provides an alternative approach to juvenile justice in which juvenile respondents are sentenced by a jury of their peers for infractions and non-violent misdemeanor crimes.[10]

New multi-family housing developments going through the development review process must participate in the Crime Free Multi-Housing Program. Through this program, the Department provides recommendations for improving the safety of the developments using Crime Prevention Through Environmental Design (CPTED) strategies. Tenants also sign a lease addendum form, which lists criminal acts that result in immediate termination of the lease. Communication between rental property managers and the Department helps both parties to deal with problem tenants.[11]

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5 City of Murrieta Police Department, "Support Services Division: Table of Personnel Organization," November 2009.

6 City of Murrieta Police Department, "School Resource Officer Program," http://murrieta.org/datapages/dataprograms.asp?id=3, accessed December 21, 2009.

7 City of Murrieta Police Department, "Police Activities League," http://murrieta.org/datapages/dataprograms.asp?id=65, accessed December 21, 2009.

8 City of Murrieta Police Department, "Youth Accountability Team," http://murrieta.org/datapages/dataprograms.asp?id=64, accessed December 21, 2009.

9 City of Murrieta Police Department, "Youth Accountability Board," http://murrieta.org/datapages/dataprograms.asp?id=63, accessed December 21, 2009.

10 City of Murrieta Police Department, "Youth Court," http://www.murrieta.org/datapages/dataprograms.asp?id=62, accessed December 21, 2009.

11 Lt. Dennis Vrooman, Public Information Officer, Murrieta Police Department, telephone conversation, December 22, 2009.

Community participation is encouraged through many of the Department's programs.[12] For instance, in Home to School Safety Patrols, parents and community members monitor designated locations around schools to ensure the safety of children on their way to and from school.[13] The Special Enforcement Team manages Murrieta's Neighborhood Watch program.[14] Police Station Tours and the Ride-Along Program provide community members a closer look at the Police Department.[15]

The Department expands its capacity with the Reserve Officer program, as well as with the Volunteer Program in which participants volunteer at least 16 hours per month. Volunteers assist in Neighborhood Watch, Crime Free Multi-Housing, parades, citizen patrols, front counter and receptionist responsibilities, as well as school patrols and other special events.[16]

Other programs and responsibilities of the Department include the S.W.A.T. Team, Mounted Equestrian Patrol, Off-Road Motorcycle Enforcement, K-9 Program, DUI Checkpoints, Roving Patrols, Live Scan Fingerprinting, Court Ordered Registrants, Property and Evidence, and Towed/Impounded Vehicles.[17]

MUTUAL AID AGREEMENTS

The Department has an automatic aid agreement with the Hemet Police Department S.W.A.T. Team and participates in mutual aid agreements with other S.W.A.T. Teams in Riverside County. The Department also follows the State of California Law Enforcement Mutual Aid Plan. Resources shared through these agreements include Murrieta's bloodhound—used for investigations—and the Riverside County Sheriff's helicopter.[18]

RESPONSE TIMES

The Police Department has established targets for response times, depending on the urgency of the call. *Table 8.1-1*, *Response Times*, provides these target times and actual response times over the last three years.

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[12] City of Murrieta Police Department, "A Message from Police Chief Mark Wright," http://www.murrieta.org/datapages/datafull.asp?id=1, accessed December 22, 2009.

[13] City of Murrieta Police Department, "Home to School Safety Patrols," http://murrieta.org/datapages/dataprograms.asp?id=31, accessed December 21, 2009.

[14] City of Murrieta Police Department, "Special Enforcement Program," http://murrieta.org/datapages/dataprograms.asp?id=11, accessed December 21, 2009.

[15] City of Murrieta Police Department, "Police Department," http://www.murrieta.org/services/police/index.asp, accessed December 21, 2009.

[16] City of Murrieta Police Department, "Volunteer Programs," http://murrieta.org/datapages/dataprograms.asp?id=14, accessed December 21, 2009.

[17] City of Murrieta Police Department, "Police Department," http://www.murrieta.org/services/police/index.asp, accessed December 21, 2009.

[18] Lt. Dennis Vrooman, Public Information Officer, Murrieta Police Department, telephone conversation, December 22, 2009.

Table 8.1-1
Response Times

Call Type	Target Response Time (minutes:seconds)	Actual Response Time[1] (minutes:seconds)
Priority 1	6:00	6:19
Priority 2	15:00	14:27
Priority 3	35:00	36:08

[1] Average response times over 2007, 2008 and 2009 to date (early December).
Sources:
Lt. Dennis Vrooman, Public Information Officer, Murrieta Police Department, Police Protection Services Questionnaire, December 9, 2009.
Lt. Dennis Vrooman, Public Information Officer, Murrieta Police Department, telephone conversation, December 22, 2009.

CRIMES AND POLICE ACTIVITY

The *Los Angeles Times* ranked Murrieta as the second safest city in the nation for cities with populations over 100,000, based on 2008 preliminary FBI statistics that showed a violent crime rate of 8.4 per 10,000 residents.[19]

Table 8.1-2, *Police Activity (2006 to 2008)*, shows crimes and other events that generated Police Department activity from 2006 through 2008.

Table 8.1-2
Police Activity (2006 to 2008)

	2008	2007	2006
TOTAL REPORTS TAKEN	**8,461**	**8,273**	**8,556**
Officer Initiated Activities	40,867	33,365	29,990
Police Responses	45,272	43,804	41,509
Fire Responses	6,447	6,666	6,108
TOTAL ACTIVITIES PROCESSED	**92,586**	**83,835**	**77,607**
PART 1 CRIMES			
Homicide	1	3	2
Rape	12	9	9
Robbery	23	46	31
Assault	357	393	388
Burglary	442	483	560

[19] City of Murrieta news release, "Murrieta 2nd Safest City in the Nation," July 8, 2009.

Table 8.1-2 (continued)
Police Activity (2006 to 2008)

	2008	2007	2006
Larceny	898	1195	1184
Auto Theft	166	277	225
Arson	10	2	4
TOTAL	**1,909**	**2,408**	**2,403**
TRAFFIC COLLISIONS			
Traffic Collision Responses	1,225	1,371	1,497
Damage Reports	477	464	458
Injury Reports	216	258	263
Fatal Reports	0	1	1
TOTAL COLLISION REPORTS	**693**	**723**	**722**
CITATIONS ISSUED:			
Parkers	1,203	1,225	542
Others (including red light camera)	13,292	11,077	10,750
TOTAL CITATIONS	**14,495**	**12,302**	**11,292**
ARREST:			
Misdemeanor Adult Arrests	2,024	1,540	1,435
Felony Adult Arrest	548	639	642
Misdemeanor Juvenile Arrests	308	307	266
Felony Juvenile Arrest	147	101	120
TOTAL ARRESTED	**3,027**	**2,587**	**2,463**

Sources:
City of Murrieta Police Department, "Police Activity Report," December 2007 and "Police Activity Report," December 2008.

PROJECTED NEEDS

As the Department has grown, spaces in the headquarters that were originally intended for other uses have been converted into offices, such as the community room and interview room. An expansion of the facility was approved by the City Council in 2007, but not built. Funding has been approved for design but not construction of a facility expansion that is tentatively planned at 20,639 square feet. This expansion would accommodate needed office space for officers and staff, as well as a training room.[20]

[20] Lt. Dennis Vrooman, Public Information Officer, Murrieta Police Department, telephone conversation, December 22, 2009.

The S.W.A.T. Team is seeking a BearCat armored vehicle that would become a shared resource for S.W.A.T. teams in the southern part of the County. [21]

Findings

- Funding is needed in order to enable a planned 20,000+ square foot expansion of the Police Department facility.
- Current staffing levels do not meet the Department target of one officer and 0.5 civilian support staff per 1,000 residents.
- Current response times for Priority 1 and Priority 3 calls are longer than the target times; response times for Priority 2 calls are shorter than the target time.
- The Police Department places emphasis on community education and participation, involving residents in many of its programs.

Significance Thresholds

The following thresholds for determining the significance of impacts related to police services and facilities are taken from the environmental checklist form contained in Appendix G of the most recent update of the *California Environmental Quality Act (CEQA) Guidelines*, and will be used in the Environmental Impact Report. Impacts related to police services and facilities are considered significant if implementation of the General Plan would:

- Result in substantial adverse physical impacts associated with the provision of new or physically altered police facilities, the need for new or physically altered police facilities, of which the construction could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives.

Sources Cited

Lt. Dennis Vrooman, Public Information Officer, Murrieta Police Department, Police Protection Services Questionnaire, December 9, 2009.

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City of Murrieta Police Department, "Operations Division: Table of Personnel Organization," November 2009

[21] Ibid.

City of Murrieta Police Department, "Support Services Division: Table of Personnel Organization," November 2009.

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City of Murrieta Police Department, "A Message from Police Chief Mark Wright," http://www.murrieta.org/datapages/datafull.asp?id=1, accessed December 22, 2009.

City of Murrieta Police Department, "Home to School Safety Patrols," http://murrieta.org/datapages/dataprograms.asp?id=31, accessed December 21, 2009.

City of Murrieta Police Department, "Special Enforcement Program," http://murrieta.org/datapages/dataprograms.asp?id=11, accessed December 21, 2009.

City of Murrieta Police Department, "Police Department," http://www.murrieta.org/services/police/index.asp, accessed December 21, 2009.

City of Murrieta Police Department, "Volunteer Programs," http://murrieta.org/datapages/dataprograms.asp?id=14, accessed December 21, 2009.

City of Murrieta Police Department, "Police Department," http://www.murrieta.org/services/police/index.asp, accessed December 21, 2009.

City of Murrieta news release, "Murrieta 2nd Safest City in the Nation," July 8, 2009.

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Introduction

This section describes fire protection services and facilities for the City of Murrieta and the Sphere of Influence. It is based on information from the 2005 Murrieta Fire Department *Fire Protection Plan*, Department staff, and the Department website.

The Murrieta Fire Department is the primary provider of fire suppression, pre-hospital emergency medical care, disaster preparedness coordination, hazard mitigation and fire prevention services in the City of Murrieta.[1]

The Murrieta Sphere of Influence is served by the Riverside County Fire Department. The Murrieta Fire Department may also provide service to the Sphere by means of an Automatic Aid Agreement with the Riverside County Fire Department.[2]

The Fire Department contracts annually with California Department of Forestry and Fire Protection (CAL FIRE) for wildland fire protection within the City limits. Next year, the contract will not include wildland areas that abut State land on the western edge of the City.[3] Wildland fire hazards are described in Section 8.3, Fire Hazards.

Regulatory Context

FUNDING

The Department is independently funded through a combination of ad valorem tax and parcel assessment. The Fire Department is a subsidiary district of the City of Murrieta, and maintains an independent revenue stream through the tax rolls dating back to 1947.

In addition, capital improvements are funded through Development Impact Fees and special Development Agreement Fees; refer to *Table 8.2-1*, *Fire Department Development Impact Fees*.

Table 8.2-1
Fire Department Development Impact Fees

Use	Fee
Rural Estate Dwellings	$668.31
Single Family Dwellings	$668.31
Multi-Family Dwellings	$988.44

1 Murrieta Fire Department, "Fire Department," http://www.murrieta.org/services/fire/index.asp, accessed January 4, 2010.
2 Gary Whisenand, Division Chief, Murrieta Fire Department, telephone conversation, January 8, 2010.
3 Ibid.

Table 8.2-1 (continued)
Fire Department Development Impact Fees

Use	Fee
Office Uses	$0.20/square foot
Commercial Uses	$0.40/square foot
Industrial Uses	$0.09/square foot
Source: Stephanie Smith, Senior Management Analyst, Murrieta Fire Department, Fire Protection Services Questionnaire, December 9, 2009.	

Existing Conditions

FACILITIES

The Fire Department Administration is housed at 41825 Juniper Street, which is also the location of Murrieta's original fire station, Fire Station No. 1.[4] The Department's fire stations and their equipment are listed in *Table 8.2-2*, *Fire Department Facilities*.

Temporary Fire Station No. 5, currently under construction in the Copper Canyon area, is intended to be used for 5-10 years before moving one-quarter mile to its permanent location.[5]

Table 8.2-2
Fire Department Facilities

Station	History	Equipment
Fire Station No. 1 41825 Juniper Street	Opened April 1966 Enlarged to 4 bays in 1987	1 Type I Engine 1 Type II Engine 1 Light/Air Unit 1 Mobile Command Post 1 Water Tender 1 Reserve Type I Engine 3 CERT Units
Fire Station No. 2 40060 California Oaks Road	Opened May 23, 1990	1 65' aerial ladder truck 1 Reserve Type I Engine
Fire Station No. 3 39985 Whitewood Road	Opened November 1, 1992 Closed October 2, 1993 Reopened February 4, 1994	1 Type I Engine 1 Reserve Type I Engine 1 Type III Brush Engine
Fire Station No. 4 28155 Baxter Road	Opened October 15, 2005	1 Type I Engine 1 OES Type III Brush Engine
Temporary Fire Station No. 5	Under construction Projected to open March 2010	1 Type I Engine 1 Type III Brush Engine 1 Special Ops Trailer
Sources: Murrieta Fire Department, "Fire Department Facilities," http://www.murrieta.org/datapages/datafull.asp?id=5, accessed January 4, 2010. Stephanie Smith, Senior Management Analyst, Murrieta Fire Department, Fire Protection Services Questionnaire, December 9, 2009.		

4 City of Murrieta Fire Department, "Fire Department Facilities," http://www.murrieta.org/datapages/datafull.asp?id=5, accessed January 4, 2010.

5 Gary Whisenand, Division Chief, Murrieta Fire Department, telephone conversation, January 8, 2010.

All of the Department's engine companies are equipped and staffed for paramedic ALS service. All four front-line engines and truck company can transport critically ill or injured persons to hospitals; one reserve engine does not have this capability.[6]

STAFFING

There are currently 61 authorized positions in the Fire Department.[7] These positions include 15 Captains, 15 Engineers, and 15 Firefighters.[8] The Department has a target staffing level of five stations with three-person engine companies plus one on-duty Battalion Chief for a total of 16 on-duty suppression personnel at all times.[9]

Firefighters are cross-trained to provide other emergency services. All fire suppression personnel are trained to the level of Emergency Medical Technician Defibrillator (EMT-D).[10] All 15 Firefighters are trained as Paramedics, as well as the nine Engineers and six Captains. All Firefighters are trained in hazardous materials decontamination procedures; certain Firefighters are trained in Urban Search and Rescue, as described in Section 6.6, Emergency Response, and swift water rescue.

ISO RATING

Insurance Services Office (ISO) rates fire department staffing and equipment, communications centers and water systems. The numeral classification rating is utilized to establish the community's commercial and industrial insurance rates. For every increase/decrease in one rating point, these insurance costs increase/decrease by approximately 10 percent.[11] The Fire Department's ISO rating is 4 in areas with fire hydrants and 9 in outlying areas that do not have water supply.[12]

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6 Ibid.

7 Stephanie Smith, Senior Management Analyst, Murrieta Fire Department, Fire Protection Services Questionnaire, December 9, 2009.

8 Gary Whisenand, Division Chief, Murrieta Fire Department, telephone conversation, January 8, 2010.

9 Stephanie Smith, Senior Management Analyst, Murrieta Fire Department, Fire Protection Services Questionnaire, December 9, 2009.

10 Murrieta Fire Department, *Fire Protection Plan*, 2005.

11 Ibid.

12 Gary Whisenand, Division Chief, Murrieta Fire Department, telephone conversation, January 8, 2010.

PROGRAMS/PLANS

Fire Hazard Areas

Section 6.4, Fire Hazards, describes and maps areas in Murrieta where fire hazards are elevated due to the presence of wildland and hazardous materials.

Fire Protection Plan

The Fire Department adopted a *Fire Protection Plan* in 2005 that provides policy-oriented and long-range guidance regarding the Department's services, equipment, and personnel.

Fire Prevention and Other Services

Besides fire suppression, the Department services also include fire investigation, public safety education, fire protection engineering, building inspections for code compliance, weed abatement, hazardous materials inspections, emergency preparedness planning and training.[13]

MUTUAL AID AGREEMENTS

The Department participates in the California Master Mutual Aid Agreement, as well as an Automatic Aid Agreement with CAL FIRE and Riverside County Fire Department for multiple locations in and adjacent to the City boundaries. [14]

The Department participates in an Automatic Aid Agreement with the County Fire Department to expedite service delivery to the eastern portion of the City, along Winchester Road and in the area between Winchester and the I-215 north of Clinton Keith. An Automatic Aid Agreement for the Bear Creek area will end in March 2010 when Fire Station No. 5 opens.[15]

RESPONSE TIMES[16]

The Department's target response time criteria is 5 ½ minutes of drive time 90 percent of the time.

The Department's overall actual response time average is 6 minutes 49 seconds, including alarm and turnout time, with particular stations in the outlying regions experiencing longer average response times.

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13 Ibid.

14 Stephanie Smith, Senior Management Analyst, Murrieta Fire Department, Fire Protection Services Questionnaire, December 9, 2009

15 Gary Whisenand, Division Chief, Murrieta Fire Department, telephone conversation, January 8, 2010.

16 Ibid.

PROJECTED NEEDS[17]

Fire Stations

The Department is currently constructing Temporary Fire Station No. 5 in the Copper Canyon area. This will help the Department achieve its stated response time goal of 6-½ minutes into the far northwestern quadrant of the City.

As development progresses in the eastern portion of the City, along Winchester Road and in the area between Winchester and the I-215 north of Clinton Keith, a sixth fire station would be warranted. Response times to this portion of the City are often extended. As described above, the Department participates in an Automatic Aid Agreement with the County Fire Department to expedite service delivery.

Protection for High-Rise Buildings

The Department does not consider its staffing levels or facilities to be entirely adequate at this time for Class A high-rise buildings, which require the use of a 100-foot aerial truck company. Currently, the Department's aerial truck has a ladder extension of 75 feet. This apparatus is not sufficient to access and reach buildings currently under construction such as Loma Linda University Medical Center-Murrieta. If additional high rise buildings are constructed, the Department will need to acquire a 100-foot aerial truck company staffed.

In addition, the fire suppression requirements of high-rise firefighting can better be accomplished with a staffing pattern known as 4-0 staffing, where four people are assigned to each engine company. Currently, the Department utilizes 3-0 staffing on all fire engines. To achieve 4-0 staffing, the Department would need to hire 15 additional Firefighters. Adding a dedicated truck company would require hiring nine additional firefighters at 3-0 staffing levels, and hiring12 additional Firefighters at the 4-0 staffing level.

Fire Flows

Water supply has been improved in areas that were identified in the *Fire Protection Plan* as lacking adequate fire flows, namely, historic Murrieta and Washington Ave. south of Murrieta Creek. Fire flows in these areas are no longer a concern due to upgrades done by the Western Municipal Water District.[18]

Circulation

The *Fire Protection Plan* identifies the following circulation improvements that would reduce response times: construction of Clinton Keith Road between I-215 and Highway 79;

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17 Ibid.

18 Gary Whisenand, Division Chief, Murrieta Fire Department, telephone conversation, January 8, 2010.

construction of Hunter Road between Highway 79 and Whitewood; and paving Los Alamos Road.

Findings

- The Murrieta Fire Department provides fire suppression services in the City of Murrieta, contracting with CAL FIRE for wildland fire areas within the City; the Riverside County Fire Department provides services for the Sphere of Influence.

- The Murrieta Fire Department operates four stations and is in the process of constructing a fifth station in the Copper Canyon Area. Further development in the eastern portion of the City's sphere of influence would warrant a sixth fire station to maintain response time targets.

- Engines are currently staffed with three-person crews. High-rise firefighting efficiency is improved with four-person engine companies.

- To accommodate Class A office buildings or other high-rise buildings, the Department will need to acquire a 100-foot aerial truck company preferably staffed with four persons.

Significance Thresholds

The following thresholds for determining the significance of impacts related to fire services and facilities are taken from the environmental checklist form contained in Appendix G of the most recent update of the *California Environmental Quality Act (CEQA) Guidelines*, and will be used in the Environmental Impact Report. Impacts related to fire services and facilities are considered significant if implementation of the General Plan would:

- Result in substantial adverse physical impacts associated with the provision of new or physically altered fire facilities, the need for new or physically altered fire facilities, of which the construction could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives.

Sources Cited

Murrieta Fire Department, "Fire Department," http://www.murrieta.org/services/fire/index.asp, accessed January 4, 2010.

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Gary Whisenand, Division Chief, Murrieta Fire Department, telephone conversation, January 8, 2010.

Stephanie Smith, Senior Management Analyst, Murrieta Fire Department, Fire Protection Services Questionnaire, December 9, 2009.

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8.3 Parks, Recreation and Open Space

Introduction

The *City of Murrieta Parks and Recreation Master Plan*, adopted in June 2009, provides extensive information about Murrieta's parks and recreation facilities. It also includes a needs assessment and gap analysis, recommendations for meeting current and future needs, and a financial implementation plan. This section is largely based on information and conclusions in the *Master Plan*.

Regulatory Context

COMMUNITY SERVICES DISTRICT

A Community Services District (CSD) provides services for parks and recreation within the City limits. The main funding mechanism for the Community Services District is a land parcel charge that is included on the tax bills for all services except some recreational services.

The Quimby Act (Section 66477, Subdivision Map Act) authorizes cities to require, by ordinance, the dedication of local park acreage, the payment of fees, or some combination of both for park and recreation purposes. The CSD complied with provisions of County of Riverside Ordinance 460, Section 10.35, establishing dedication and fee requirements for new development.

FUNDING[1]

Currently, funding for capital improvements and additions to park and recreation facilities in the City of Murrieta comes from several sources. Fees on new development (development impact fees and developer special agreements) are a major source of funding to provide parks and recreation facilities for the residents of newly developing areas of the City. Other sources of funding include Redevelopment Agency tax allocation bonds, grant funds (including Community Development Block Grants), and contributions from the City's general fund reserves.

Funding for maintenance and operation of Murrieta park and recreation facilities and programs are currently provided by the Community Services District funds, user fees for recreation programs and facility use, and the City's general fund.

[1] *City of Murrieta Parks and Recreation Master Plan*, 2009.

JOINT USE FACILITIES

The City's Joint Use agreement with the Murrieta Valley Unified School District is authorized pursuant to *Education Code* Section 10905, to promote the health and general welfare of the community and contribute to the attainment of the general recreational objectives for children and adults within the community.

Existing Conditions

At the time the *Master Plan* was adopted, the Maintenance Division of the Community Services Department oversaw approximately 1,350 acres of open space, streetscape, slope, trails, and parkland. This included 48 parks and recreation facilities on 467.24 acres.[2]

A joint use agreement between the City and Murrieta Valley Unified School District allows community members to access facilities on school campuses. Residents can also meet their recreation needs in private recreation facilities and parks in the City, as well as parks and open space in the region.

PARKLAND[3]

The *Master Plan* counts 467.24 acres of parkland in 48 City parks. This total does not include joint use school facilities, private recreation facilities or some natural areas in Nature Parks.

The City has adopted a standard of 5 acres of parkland per 1,000 residents. As of June 2009, the City had a deficit of 34 acres according to this standard. Additional acreage is required in order to meet identified needs for recreation facilities such as sports fields and courts; the *Master Plan* estimates a need for 240.3 acres at buildout (population 120,000) to accommodate these facilities. For this reason, the *Master Plan* suggested establishing an acreage goal higher than 5 acres per 1,000 residents.

Regional Parks

There are no County of Riverside or other regional parks within the City boundaries. Regional recreation areas near Murrieta are described below in Recreational Facilities.

City Parks

The *Master Plan* lists six categories of City Parks, described below. Murrieta's parks are shown in *Exhibit 8.3-1*, *Recreational Facilities* and listed in *Table 8.3-1*, *Recreational Facilities Inventory*.

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2 *City of Murrieta Parks and Recreation Master Plan*, 2009.
3 Ibid.

TABLE 8.3-1
Recreational Facilities Inventory

CITY OF MURRIETA RECREATIONAL FACILITIES			PASSIVE AMENITIES															ACTIVE AMENITIES												
KEY*	CITY RECREATION FACILITIES	ADDRESS/LOCATION	Parkland Acreage	Amphitheater	Barbeques	Bike Path/Walking Trail	Catch and Release Pond	Community Center/Rec. Room	Dog Park	Open Grass Areas	Parking Lot	Par Exercise Course	Picnic Tables	Restroom/Port-O-Lets	Shelters	Tot Lot/Playground Equipment	Multi-Purpose Trail/Trail Connection	Water Fountains	Baseball Field (with Mound)	Basketball Court	Concession Building	Football Field	Gymnasium	Horseshoe Pits	Skateboard Park	Soccer Field	Softball Field (without Mound)	Spray Turtles	Swimming/Wading Pool	Tennis Court	Volleyball Court
CITY-WIDE PARKS																															
1	Los Alamos Hills Sports Park		45.00		•	•				•	•		12	•	3	3	•	•	4L		•	3L				6L					
COMMUNITY PARKS																															
2	Alta Murrieta Sports Park		9.76		•					•	•		3	•		1		•	1L		•	1									
3	California Oaks Sports Park		19.99		•					•	•		6	•	1	1		•		2L					1	1P	2L/3		1	2	1
4	Copper Canyon Park		20.94		•	•		•		•	•		5	•	3	2	•	•	2	4H	•					2P					
5	Glen Arbor Park		18.92							•			2																		
6	Hunt Park		4.72					•		•	•		4	•				•	1L	1L			0.5				2			1L	
7	Mira Mosa Park		8.10		•	•				•	•		4	•	1	1		•	1	2H											
8	Pond Park		14.59			•	•			•			8	•																	
NEIGHBORHOOD PARKS																															
9	Barratt Park		8.30			•				•		•				1	•														
10	Firefighters Park		3.21		•	•				•	•		9	•	2	1		•		2H								•			1
11	Mapleton Park		9.30		•	•				•	•		2	•	1	1	•	•		1H						1P	1				1
12	Mountain Pride Park		9.64							•	•		1	•													2P				
13	Murrieta Elementary School Park		4.26							•	•		3	•	1	1		•		1						1P	2				
14	Northstar Park		14.00		•					•			4		1	1		•								1P	1P				
15	Rancho Acacia Park		10.11		•	•				•		•	8		1	1	•	•								1P	1P				
16	Shady Maple Park		4.79							•	•		2		1	1		•								1P	1P				
17	Valley Vista Park		6.50		•					•			6		1	1		•								1P					
18	Vintage Reserve Park		3.83		•					•	•		3			1		•								1P					

CITY OF MURRIETA

RECREATIONAL FACILITIES

			PASSIVE AMENITIES														ACTIVE AMENITIES												
		Parkland Acreage	Amphitheater	Barbeques	Bike Path/Walking Trail	Catch and Release Pond	Community Center/Rec. Room	Dog Park	Open Grass Areas	Parking Lot	Par Exercise Course	Picnic Tables	Restroom/Port-O-Lets	Shelters	Tot Lot/Playground Equipment	Multi-Purpose Trail/Trail Connection	Water Fountains	Baseball Field (with Mound)	Basketball Court	Concession Building	Football Field	Gymnasium	Horseshoe Pits	Skateboard Park	Soccer Field	Softball Field (without Mound)	Spray Turtles	Swimming/Wading Pool	Tennis Court	Volleyball Court
KEY*	**CITY RECREATION FACILITIES**	**ADDRESS/LOCATION**																												
NEIGHBORHOOD PLAY AREAS																														
19	Antelope Hills Park – Active	5.31	•	•					•			11		1	1		•		2H											
20	Antigua Park	2.26							•						1		•													
21	Blackmore Ranch Park	1.14		•					•	•		2		1	1		•													
22	Calle Cipres Park	1.80							•			2			1		•													
23	Calle Estancia Park	2.83			•				•							•														
24	Carson Park	0.69							•								•													
25	Century Park	3.90			•				•		•	4			1	•	•													
26	Creekside Village Green Park	4.00							•			4		1	1	•	•		2H											
27	Crystal Aire Park	1.11		•					•			2																		
28	Eastgate Park	1.50													1		•													
29	Echo Canyon Park	3.07							•			2			1		•													
30	Meadowridge Park	4.29		•	•				•			3			1	•	•													
31	Montafino Park	0.76							•						1		•													
32	Monte Vista Park	1.06		•	•				•			2					•		2H											
33	Oak Terrace Park	0.20							•			2			1		•													
34	Oak Tree Park	0.32							•						1															
35	Palomar Park	1.75		•					•			2		1	1		•													
36	Rosewood Park	0.41							•																					
37	Springbrook Park	0.29		•					•			1			1		•													
38	Sycamore Park	2.66							•						1		•		1H											
39	Whitewood Park	1.84							•			5		1			•													
SPECIAL USE PARKS																														
40	Sykes Ranch Park	2.61		•	•				•	•	10				1	•	•													
41	Town Square Park	4.22	•		•		•		•	•							•													
NATURE PARKS																														
42	Antelope Hills Park	0.00			•																									
43	Bear Valley Park 1	20.14			•				•							•														

CITY OF MURRIETA

RECREATIONAL FACILITIES

			PASSIVE AMENITIES															ACTIVE AMENITIES												
KEY*	CITY RECREATION FACILITIES	ADDRESS/LOCATION / Parkland Acreage	Amphitheater	Barbeques	Bike Path/Walking Trail	Catch and Release Pond	Community Center/Rec. Room	Dog Park	Open Grass Areas	Parking Lot	Par Exercise Course	Picnic Tables	Restroom/Port-O-Lets	Shelters	Tot Lot/Playground Equipment	Multi-Purpose Trail/Trail Connection	Water Fountains	Baseball Field (with Mound)	Basketball Court	Concession Building	Football Field	Gymnasium	Horseshoe Pits	Skateboard Park	Soccer Field	Softball Field (without Mound)	Spray Turtles	Swimming/Wading Pool	Tennis Court	Volleyball Court
44	Bear Valley Park 2	3.97			•				•																					
45	Cole Canyon Park	140.00			•											•														
46	Falcon's View Park	9.37			•											•														
47	Oak Mesa Park	5.98																												
48	Warm Springs Park	23.80			•					•						•							•							
	TOTAL ACREAGE	467.24																												

* Numbers correspond to those in Exhibit 8.3-1, *Recreational Facilities*.

DEFINITIONS

L = Lighted
P = Practice Field
H = Half Court

City-Wide Parks

The *Master Plan* classifies parks with 50 acres or more of parkland as City-Wide Parks; Los Alamos Hills Sports Park is considered Murrieta's only City-Wide Park with 45 acres of parkland built in Phase I. City-Wide Parks provide recreation facilities or open space for a larger service area than other types of City Parks.

Community Parks

Community Parks have up to 50 acres of parkland and serve neighborhoods within a 2-mile radius. Their primary purpose is to provide active recreational opportunities. Community Parks may include facilities for special events as well as recreation centers, sports fields and courts, and group picnic areas. There are seven Community Parks in Murrieta providing over 95 combined acres of parkland.

Neighborhood Parks

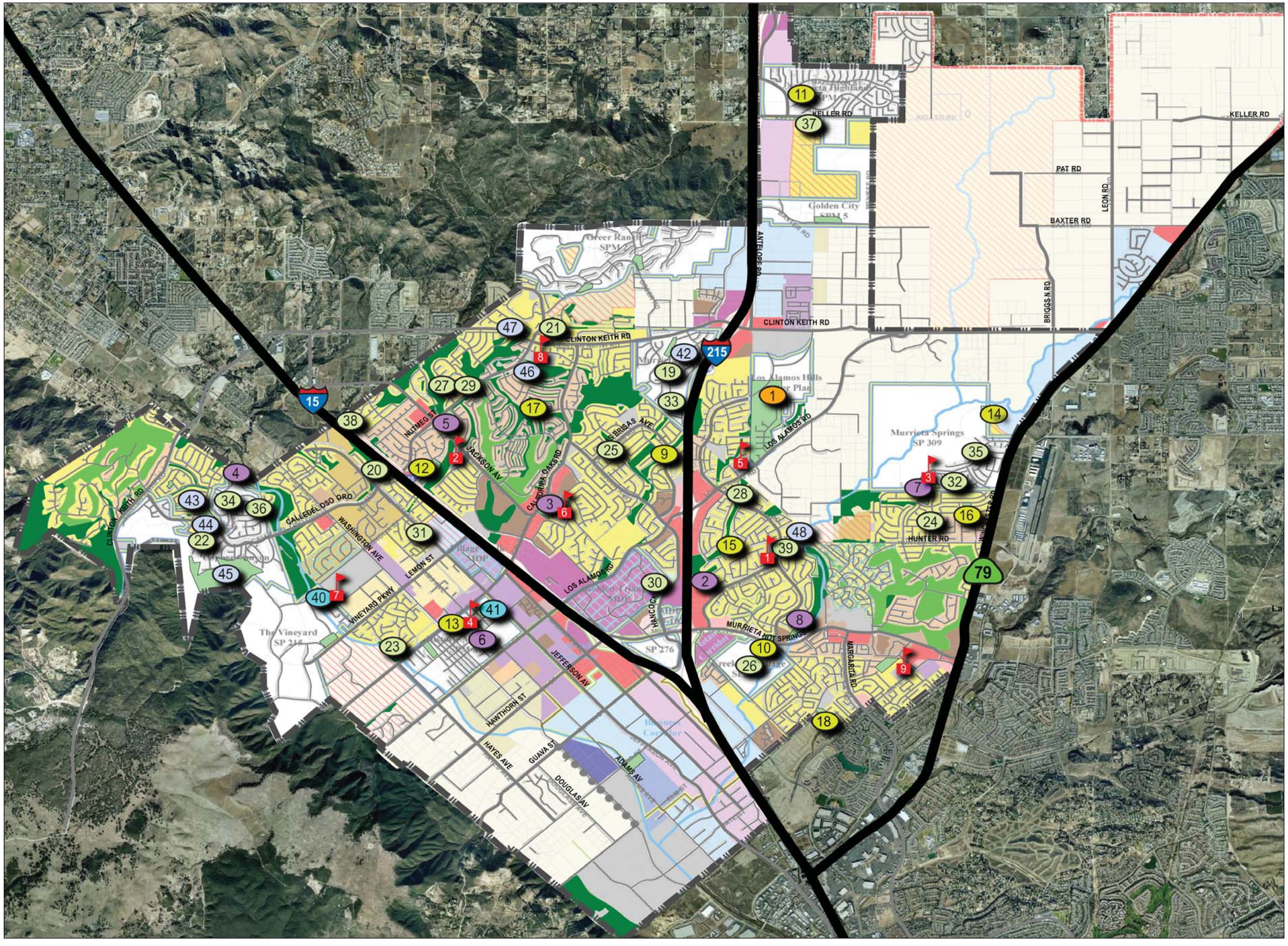
Neighborhood Parks have up to 15 acres of parkland and are considered to serve the daily recreation needs of residents within a convenient walking distance of approximately one-half mile. Full sports fields are less common in parks of this size; instead, amenities may include practice sports fields, open turf areas, playgrounds, picnic tables and shelters, walking paths, attractive landscaping and smaller recreation features such as basketball courts. The *Master Plan* states that a park of 5 acres or more is appropriate to serve 5,000 residents within this service area. Murrieta has 10 Neighborhood Parks providing over 72 combined acres of parkland. In addition, Community Parks are considered to serve as neighborhood parks for the residents who live within walking distance.

Neighborhood Play Areas

Neighborhood Play Areas provide similar amenities as Neighborhood Parks and have the same service area, but have only as much as 5 acres of parkland. There are 21 Neighborhood Play Areas in Murrieta providing over 35 combined acres of parkland.

Special Use Parks

Murrieta has two Special Use Parks, distinguished from other types of parks by being focused on a single type of activity. Service areas are not defined for this type of park. Sykes Ranch Park and Town Square Park are Special Use Parks, and the recently-acquired equestrian center will be the City's third such park.



LEGEND

CITYWIDE PARKS
1 Los Alamos Hills Sports Park

COMMUNITY PARKS
2 Alta Murrieta Sports Park
3 California Oaks Sports Park
4 Copper Canyon Park
5 Glen Arbor Park
6 Hunt Park
7 Mira Mosa Park
8 Pond Park

NEIGHBORHOOD PARKS
9 Barratt Park
10 Firefighters Park
11 Mapleton Park
12 Mountain Pride Park
13 Murrieta Elementary School Pk
14 Northstar Park
15 Rancho Acacia Park
16 Shady Maple Park
17 Valley Vista Park
18 Vintage Reserve Park

NEIGHBORHOOD PLAY AREAS
19 Antelope Hills Park - Active
20 Antigua Park
21 Blackmore Ranch Park
22 Calle Cipres Park
23 Calle Estancia Park
24 Carson Park
25 Century Park
26 Creekside Villages Park
27 Crystal Aire Park
28 Eastgate Park
29 Echo Canyon Park
30 Meadowridge Park
31 Montafino Park
32 Monte Vista Park
33 Oak Meadows Park
34 Oak Tree Park

NEIGHBORHOOD PLAY AREAS (con't)
35 Palomar Park
36 Rosewood Park
37 Springbrook Park
38 Sycamore Park
39 Whitewood Park

SPECIAL USE PARKS
40 Sykes Ranch Park
41 Town Square Park

NATURE PARKS
42 Antelope Hills Park
43 Bear Valley Park 1
44 Bear Valley Park 2
45 Cole Canyon Park
46 Falcon's View Park
47 Oak Mesa Park
48 Warm Springs Park

JOINT USE SCHOOLS
1 Alta Murrieta Elementary School
2 E. Hale Curran Elementary School
3 Monte Vista Elementary School
4 Murrieta Elementary School
5 Rail Ranch Elementary School
6 Shivela Middle School
7 Thompson Middle School
8 Tovashal Elementary School
9 Warm Springs Middle School

0 0.5 1 2mi

Source: RJM Design Group, November 2009.

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Recreational Facilities

Exhibit 8.3-1

Back of 11 x 17 exhibit page.

Nature Parks

Nature Parks are distinguished from open space because they provide public access via trails. Up to 10 percent of a Nature Park can be improved for active recreation. However, most of the park is undeveloped and contains vegetation, topography, or features that are important to retain in their natural states. Murrieta has seven Nature Parks, including Cole Canyon Park with 140 acres of parkland.

RECREATIONAL FACILITIES

City Facilities

Murrieta's parks offer a range of recreational facilities. The *Master Plan* provides an inventory of these park amenities, reproduced in *Table 8.3-1*.

As Murrieta's City Park, Los Alamos Hills Sports Park boasts a large collection of facilities: Phase I includes six soccer fields, four ballfields, and three football fields, all with nighttime lighting; there are also picnic areas, trails, and three tot lots.[4] Plans for Phase II include a 20,000 square foot community center building[5] and the *Master Plan* recommends additional sports facilities as well.

The *Master Plan* identifies the following facility deficits for 2008:

- Adult softball (1 field)
- Baseball (9 fields)
- Soccer Fields (13 fields)
- Indoor Basketball (3 courts)
- Picnic Tables
- Swimming Pool (1 rec pool)
- Tennis Courts (28 courts)
- Indoor Basketball Courts (1 court)
- Walking/Jogging Paths
- Bicycling Paths
- Skateboard Park (1 area)
- Dog Parks (3 areas)

The *Master Plan* also lists the following as priority needs for recreation facilities:

- Baseball Fields
- Bike Trails
- Community Center

4 City of Murrieta, CityScene, July 2007.
5 *City of Murrieta Parks and Recreation Master Plan*, 2009.

- Dog Park
- Gymnasium
- Soccer Fields
- Softball Fields
- Swimming Pool
- Tennis Courts
- Walk/Jog/Run Trails

Joint Use School Facilities

A Joint Use Agreement between the City and the Murrieta Valley Unified School District provides a framework for the City to access the recreation facilities of 18 school campuses, and for the District to access California Oaks Sports Park, Copper Canyon Park, the Community Center and Senior Center. Through this agreement, 11 District sports fields become City parks in evenings and on weekends, and the District has exclusive access to certain City fields and parks adjacent to school campuses during the school day.[6]

Joint Use Agreements describe general responsibilities and benefits of each party regarding the use of both City and District facilities. The Agreement and State law allow the school district and the City to cooperate with each other for the purposes of improving facilities and for organizing, promoting, and conducting recreation and education programs for children and adults. Currently, the City and the District are each responsible for the regular maintenance and repair or their respective properties and facilities. Each party has first priority for use of its sites, giving second priority to the other party.[7]

In addition to the Joint Use Agreement, community sports organizations have separate agreements with the School District to use school facilities.[8]

Nearby Parks and Recreation Facilities

Within approximately six miles of the city boundary, Murrieta residents have access to open space in the Santa Ana Mountains and three lakes. Lake Elsinore is a natural freshwater lake in the City of Lake Elsinore.[9]

The Metropolitan Water District of Southern California operates two drinking water reservoirs, Lake Skinner and Diamond Valley Lake. All three lakes are open for a variety of recreational

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6 "Joint Use Agreement for School and Municipal Facilities between Murrieta Valley Unified School District and the City of Murrieta," effective August 1, 2009.

7 *City of Murrieta Parks and Recreation Master Plan*, 2009.

8 Ibid.

9 (City of Lake Elsinore: "Lake and Aquatic Resources," http://www.lake-elsinore.org/index.aspx?page=172, accessed 11/11/09)

uses including fishing and boating; however, swimming is not allowed.[10] Diamond Valley Lake has a separate aquatic facility.[11] Farther away to the southeast, Vail Lake is a privately operated recreation facility.[12]

The Santa Rosa Plateau Ecological Reserve, just outside the city boundaries in the Santa Ana Mountains, provides trails in a portion of its 8,300 acres of open space.[13] Outside Lake Elsinore and Wildomar, the Cleveland National Forest offers trails and campgrounds.[14]

Private Recreation Facilities[15]

Private recreation facilities in Murrieta include three homeowners association parks, and recreation facilities in the gated communities of Bear Creek and Warm Springs, including a members-only golf course in Bear Creek. The Master Plan does not count private facilities toward the City's goals for parks and recreation.

Commercial recreation facilities that are open to the general public include three golf courses, a golf range, a roller hockey rink, a bowling alley and the Mulligan Family Fun Center.

RECREATIONAL SERVICES[16]

In fiscal year 2007, the Community Services Department served over 8,436 participants in its programs and activities. Senior programs drew the greatest number of participants, at 2,061. Three other programs each drew over 1,000 participants: gymnastics (1,662), aquatics (1,150), and dance (1,028). Other types of recreation offered include sports, toddler, art and music, health and fitness, martial arts, camp, and teen programs. The City also holds a number of community events throughout the year.

The *Master Plan* identifies the following top program needs:

- Aerobics/Spinning/Fitness Classes
- After School Programs
- Baseball/Softball Programs

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10 (City of Lake Elsinore: "Lake Use Regulations," no date). (The Metropolitan Water District of Southern California: "Diamond Valley Lake: Diamond Valley Lake Boating Guide," http://www.dvlake.com/rules01.html, accessed 11/11/09)

11 (The Metropolitan Water District of Southern California: "Diamond Valley Lake: Home," http://www.dvlake.com/index.html, accessed 11/11/09)

12 (Vail Lake Village & RV Resort, "Vail Lake Membership," http://www.vaillakeresort.com/index.php?p=3_4_Vail-Lake-Membership, accessed 12/9/09)

13 (Riverside County Regional Park & Open Space District: "Santa Rosa Plateau," http://www.riversidecountyparks.org/locations/nature-historic-centers/santa-rosa-plateau/, accessed 11/11/09)

14 (USDA Forest Service: "Forest Visitor Maps: Cleveland National Forest," http://www.fs.fed.us/r5/forestvisitormaps/cleveland/, accessed 11/11/09)

15 *City of Murrieta Parks and Recreation Master Plan*, 2009.

16 Ibid.

- Cooking Classes
- Health and Wellness Programs
- Hobbies/Self Improvement/Career Development
- Music/Concerts
- Nature Education Programs
- Senior Programs
- Special Needs Programs
- Swimming Lessons/Aquatics Classes

TRAILS

In 2006, the City produced a trails guide that maps and describes 15 multi-use trails within the City. These trails provide bicycle, pedestrian and equestrian access to parkland and open space but are not connected to each other.[17]

Plans for an interconnected system of trails were included in the City's 1994 *General Plan*, 1999 *Parks and Recreation Master Plan*, and 2003 *City Adopted Multi-Purpose Trail Plan*.[18] *Exhibit 8.3-2*, *Multi-Purpose Trails*, from the *Master Plan* depicts existing trails, planned trails, and areas where trails can potentially be connected.

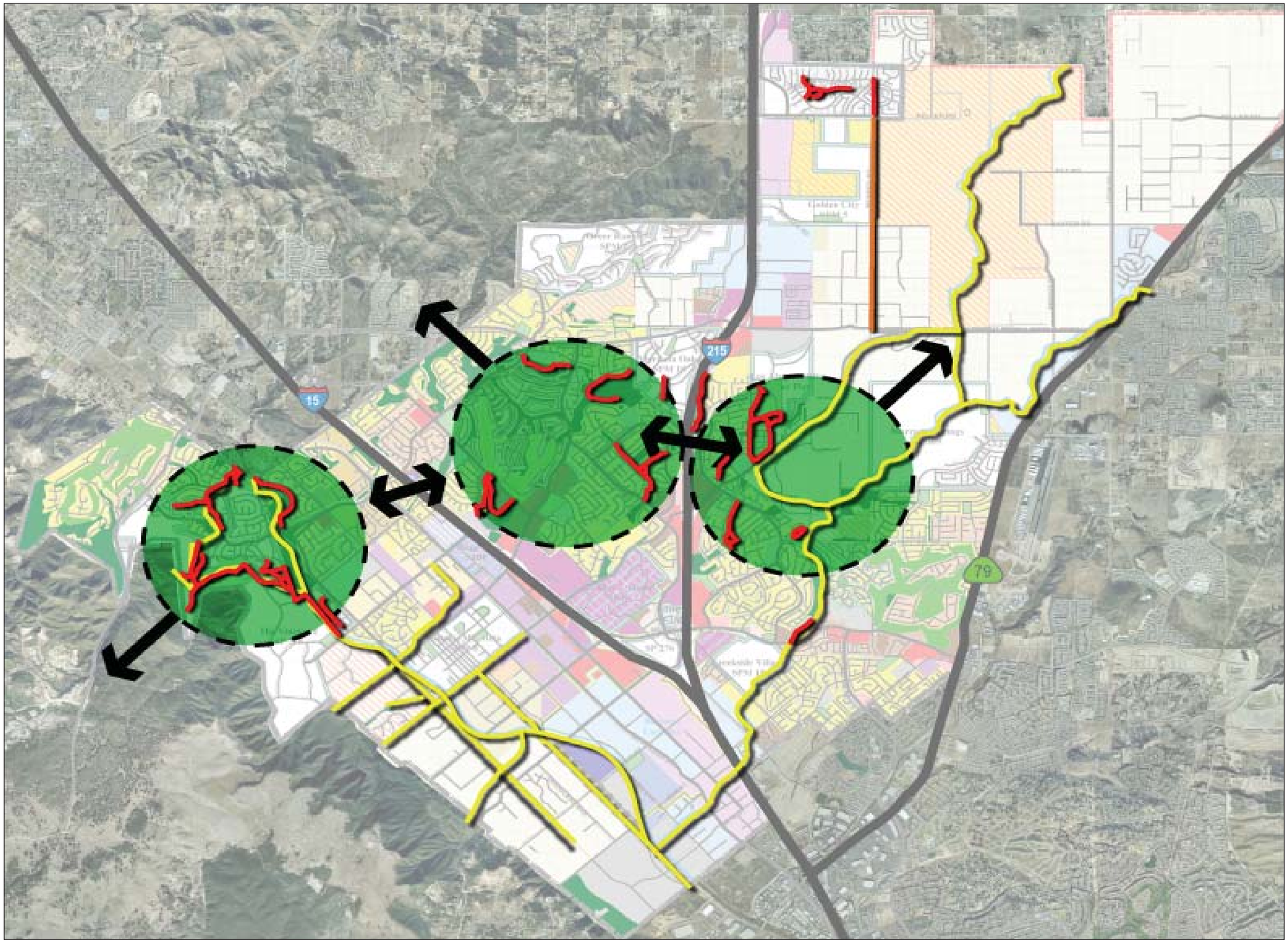
The *Master Plan* calls out trails as a key issue in the recreation facility recommendations; specifically, the development of an effective, connected, multi-use trail system for walking, jogging, hiking, biking, and equestrian uses. The Plan recommends that increased trail connectivity and opportunities should be emphasized, focusing on corridors and links to adjacent natural open space, parks, schools, and commercial areas.

Adjacent to the City of Murrieta are numerous planned County trails with access to hiking areas such as the Santa Rosa Plateau Ecological Reserve. There are also trails in the nearby Cleveland National Forest.

AREAS SERVED OR UNDERSERVED

There are six residential areas that the *Master Plan* identifies as outside the service area of any neighborhood park, as depicted in *Exhibit 8.3-3*, *Underserved Park Areas in City*. Rural areas with large lots and private open space were not called out in this exhibit as underserviced by neighborhood parks.

[17] "City Trails," September 2006.
[18] *City of Murrieta Parks and Recreation Master Plan*, 2009.



LEGEND

- Multi-Purpose Trails Adopted January 21, 2003
- Existing Trails
- Proposed Trail
- Potiential Connectivity and Trail Expansion Areas
- Potiential Linkage to Multi-Purpose & County Trail Networks

0 0.5 1 2mi

Source: RJM Design Group, November 2009.

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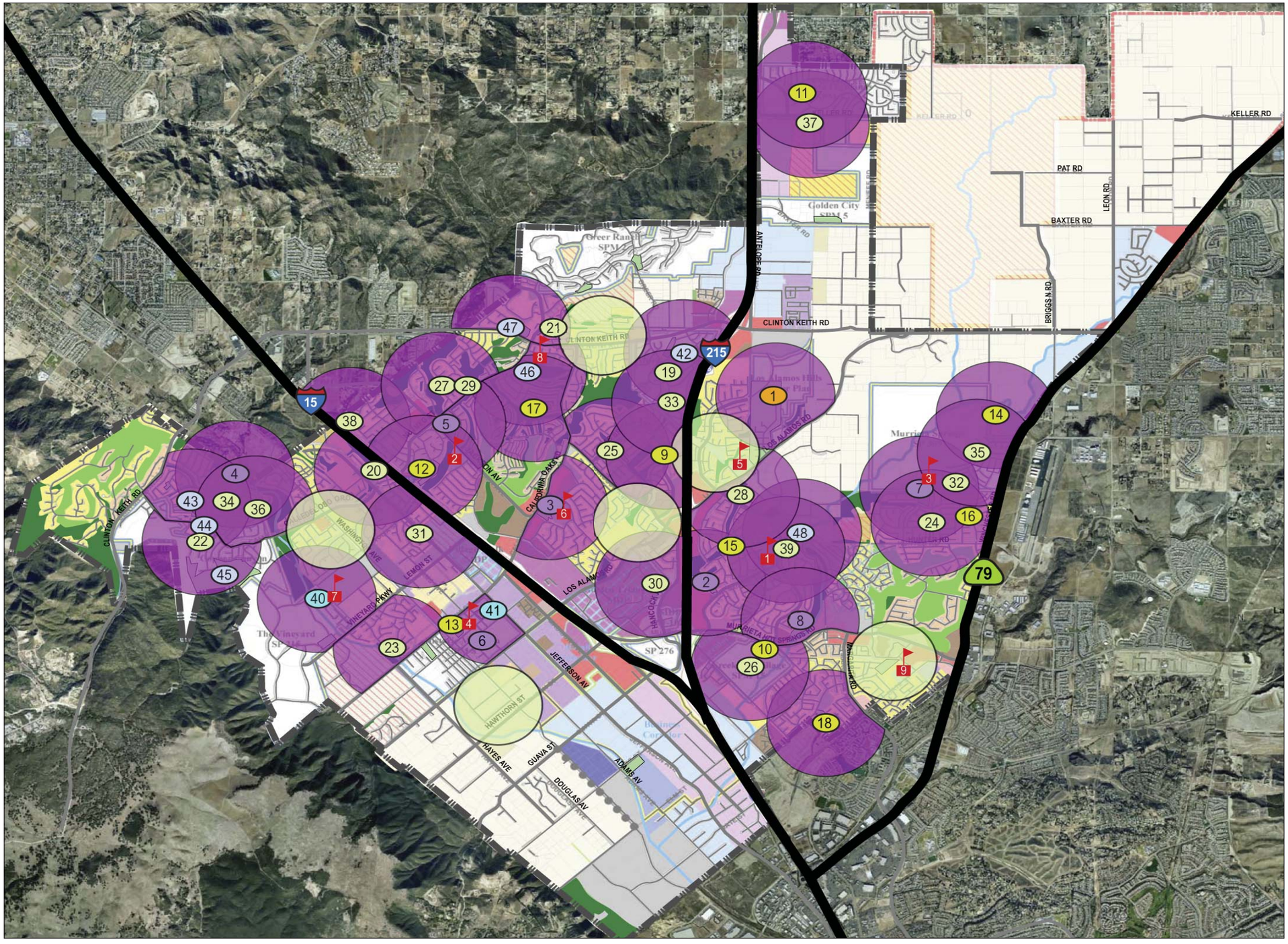
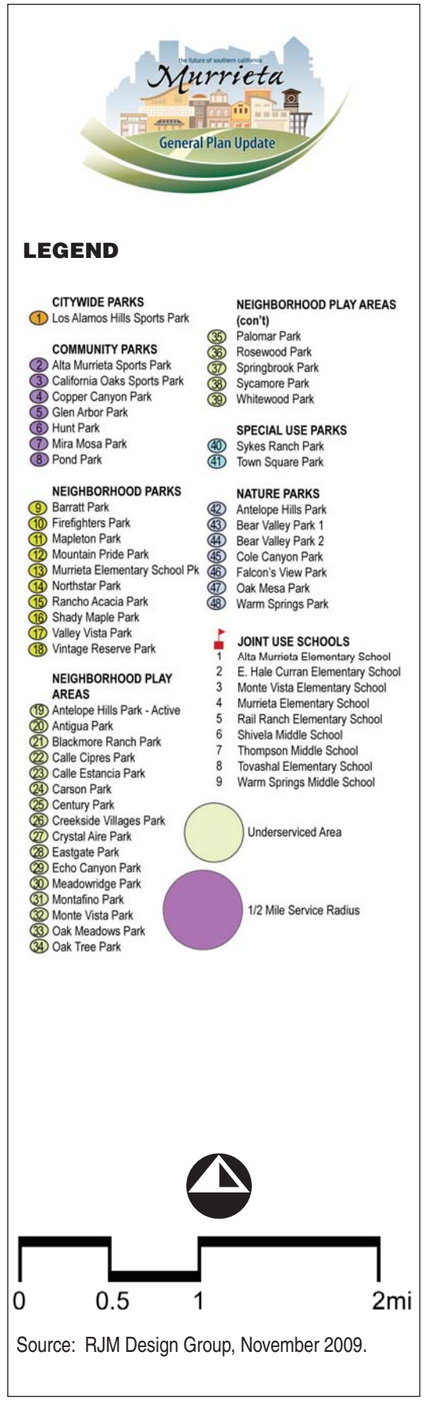
Multi-Purpose Trails

Exhibit 8.3-2

Back of 11 x 17 exhibit page.





Source: RJM Design Group, November 2009.

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Underserved Park Areas in City

Exhibit 8.3-3

Back of 11 x 17 exhibit page.

PLANS

The *Master Plan* identifies the following key issues for parks and recreation:

- Provision of quantities of swimming pools appropriate to the current and future population.
- Development of an effective, connected, multiuse trail system for walking, jogging, hiking, biking, and equestrian uses.
- Provision of quantities of sports facilities appropriate to the current and future population, to include:
    - Baseball fields
    - Soccer Fields
    - Softball Fields
    - Tennis Courts
- Provision of community centers in appropriate locations.
- Addition of at least two off leash dog areas, distributed in the City.
- Provision of gymnasiums in appropriate locations.
- Provision of parkland acreage quantities consistent with the City standard of 5 acres per 1,000, with appropriate distribution.

The *Master Plan* provides details on these facility needs and identifies opportunities to meet them by expanding existing park and joint use facilities, developing City-owned sites, and acquiring additional sites. It also includes exhibits showing locations for proposed facilities and a chapter on funding and implementation.

OPEN SPACE AREAS

Lands set aside for protection and conservation of natural resources are designated as open space. The *General Plan* indicates that this may include steep hillsides with a slope of at least 50 percent, significant habitat areas, and creeks. Additionally, within Specific Plan areas, open space may be set aside to serve as buffer areas and drainage areas. Some open space is found in conjunction with parkland, especially in Nature Parks as described earlier in this section.

Murrieta currently has 2,306.01 acres classified as Open Space in the Land Use Plan and Zoning Map within the City limits, as shown in *Exhibit 8.3-4*, *Open Space*.

Findings

- The City of Murrieta Parks and Recreation Master Plan identifies current and future needs for parkland and specific recreation facilities, and describes how to meet those needs.

- A Joint Use Agreement between the City and the Murrieta Valley Unified School District allows the City to access the recreation facilities of 10 school campuses, and provides school access to certain City parks.

- Murrieta has over 465 acres of parkland in 49 City parks and recreation facilities.

- According to the City parkland standard of 5 acres per 1,000 residents, the City had a parkland deficit of 34 acres at the time the Master Plan was adopted.

- The Master Plan identifies six areas in the City as lacking access to neighborhood parks.

- The City has 15 multi-use trails that provide access to parkland and open space but are not part of a connected trail system.

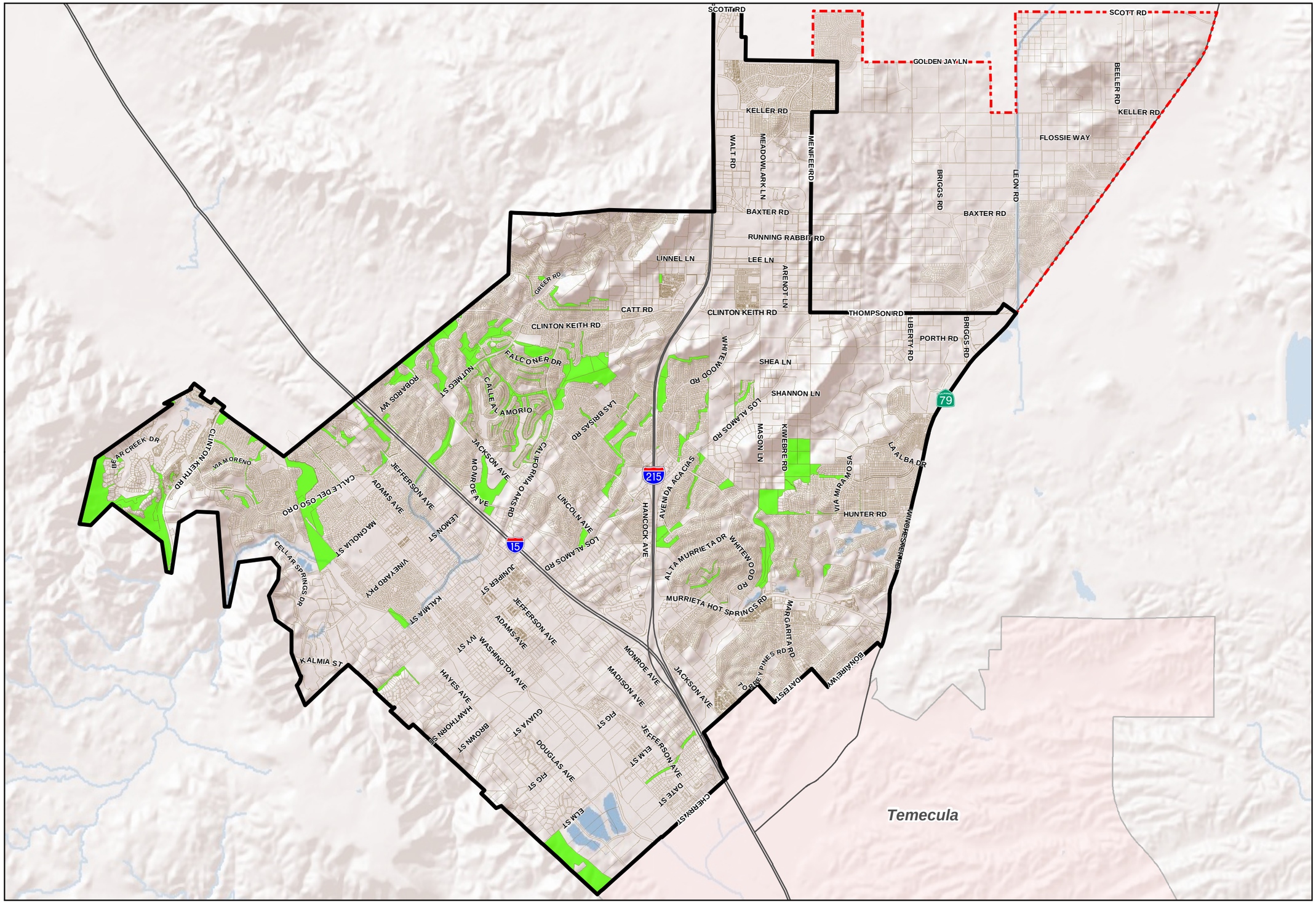
Significance Thresholds

The following thresholds for determining the significance of impacts related to parks, recreation, and open space are taken from the environmental checklist form contained in Appendix G of the most recent update of the *California Environmental Quality Act (CEQA) Guidelines,* and will be used in the Environmental Impact Report. Impacts related to parks, recreation, and open space are considered significant if implementation of the General Plan would:

- Substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or result in the need for new or physically altered governmental facilities, the construction of which may cause significant environmental impacts in order to maintain acceptable service ratios, response times or other performance objectives for parks;

- Increase the use of existing neighborhood and regional facilities such that substantial physical deterioration of the facility would occur or be accelerated; and/or

- Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.



LEGEND

- Open Space
- Parcels
- Sphere of Influence
- City Boundary

December 18, 2009

0 0.5 1
Miles

Source:
County of Riverside,
City of Murrieta

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12/18 JN 10-106976 OpenSpace.mxd

Open Space

Exhibit 8.3-4

Back of 11 x 17 exhibit page.

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"Joint Use Agreement for School and Municipal Facilities between Murrieta Valley Unified School District and the City of Murrieta," effective August 1, 2009

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The Metropolitan Water District of Southern California: "Diamond Valley Lake: Home," http://www.dvlake.com/index.html, accessed 11/11/09

USDA Forest Service: "Forest Visitor Maps: Cleveland National Forest," http://www.fs.fed.us/r5/forestvisitormaps/cleveland/, accessed 11/11/09

Vail Lake Village & RV Resort, "Vail Lake Membership," http://www.vaillakeresort.com/index.php?p=3_4_Vail-Lake-Membership, accessed 12/9/09

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8.4 Civic and Community Facilities

Introduction

This section describes civic and community facilities built and operated by the City of Murrieta that provide space for community programs and events. Information for this section comes from Community Services staff, the City website, and the *City of Murrieta Parks and Recreation Master Plan.*

Existing Conditions

FACILITIES

Town Square

The civic center of Murrieta is Town Square, a 34-acre site on the edge of downtown and two blocks from I-15. Murrieta's City Hall, Police Department, Fire Department, Senior Center, and Library circle a four-acre park with a large grass area and amphitheater that serves as a gathering place for community events. The first building completed in Town Square was the Police Department in 2002.[1] That facility, the Fire Department, and Library are discussed in other sections of this Existing Conditions Background Report.

Senior Center

The Senior Center, which opened in 2006,[2] has a 2,000 square foot multipurpose room, 1,200-square foot lounge, educational room with computers, and offices. The multipurpose room is used for classes, workshops, and meals. Visitors can use the computers in the educational room when a class is not in session.[3]

Besides providing a gathering place for Murrieta's seniors, the Senior Center aims to provide opportunities for learning; workshops on arts, crafts, and other hobbies; exercise programs; and information and services from organizations serving seniors.[4]

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1 City of Murrieta Economic Development, "Town Square," http://www.murrieta.org/ecdev/townsquare.asp, accessed December 10, 2009.

2 *City of Murrieta Parks and Recreation Master Plan*, 2009.

3 City of Murrieta, "Senior Center," http://www.murrieta.org/services/senior/senior.asp, accessed December 10, 2009.

4 Ibid.

Community Center

Another important community building is the Murrieta Community Center, which is located near Town Square at 41810 Juniper Street. This facility, built in 1979,[5] provides office space for the Community Services Department and a 3,600-square foot multipurpose room. The multipurpose room has a theatrical stage and a kitchen, and can accommodate 250 people.[6] However, there are no room dividers, so it can only be programmed with one class or activity at a time. To meet additional need for classroom space, the Department also holds classes in a trailer in the parking lot of the Community Center.[7]

The Community Center is adjacent to Hunt Field, an approximately 5-acre City park with amenities that include a baseball field and tennis courts.

PROGRAM SPACE

Community Services programs are held at the Community Center; Senior Center; Hunt Field; Town Square Park; and in Copper Canyon Park, which has classroom space. Programs are also held in Murrieta schools and private facilities.[8] Community Services operates an office at California Oaks Sports Park where people can register for programs.[9]

EVENT SPACE

Town Square Park provides space for community events in its amphitheater and large open turf area. The Library facilities include a community room with adjacent garden that may be reserved by community members for events. There is also an amphitheater at Antelope Hills Park, but parking is limited unless the lot at the adjacent school is available.

FUTURE FACILITIES

The need for community centers was identified as a key issue in the *City of Murrieta Parks and Recreation Master Plan*, adopted in June 2009. To address this need, the City is planning the facilities, described below.

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5 Debbie Tharp, Community Services Manager, City of Murrieta Community Services, telephone conversation, January 4, 2010.

6 City of Murrieta Community Services, "Community Center Information," http://www.murrieta.org/datapages/datafull.asp?id=105, accessed December 10, 2009.

7 Colby Diuguid, Recreation Supervisor, City of Murrieta Community Services, telephone conversation, January 11, 2010.

8 *City of Murrieta Parks and Recreation Master Plan*, 2009.

9 Debbie Tharp, Community Services Manager, City of Murrieta Community Services, telephone conversation, January 4, 2010.

- A major community center is planned for Phase 2 of the Los Alamos Hills Sports Park. This 20,000 square foot building may include a gymnasium.

- Construction drawings are being completed[10] for a teen center at California Oaks Sports Park, which may include the following: classrooms, computer room, game room, activity patio, offices, kitchen, recreation room, gymnasium, workout room, and locker rooms. The City is also planning for the relocation of the existing Boys and Girls Club to Second Street Park.[11]

- A recreation room at Golden Cities Park.

Findings

- Murrieta's new civic facilities are concentrated in Town Square: City Hall, Police Department, Fire Department, Senior Center, and the Library.

- The Senior Center provides new classroom space for Community Services programs.

- The Community Center was built in 1979 and has a single multipurpose room that can be used for programs, with additional space in a trailer on the site.

- The need for community centers was identified as a key issue in the *City of Murrieta Parks and Recreation Master Plan*. Community facilities that are being planned to meet this need include a 20,000 square foot community center at Los Alamos Hills Sports Park, a teen center, and a recreation room.

Significance Thresholds

The following thresholds for determining the significance of impacts related to civic and community facilities are taken from the environmental checklist form contained in Appendix G of the most recent update of the *California Environmental Quality Act (CEQA) Guidelines*, and will be used in the Environmental Impact Report. Impacts related to civic and community facilities are considered significant if implementation of the General Plan would:

- Result in substantial adverse physical impacts associated with the provision of new or physically altered civic and community facilities, the need for new or physically altered civic and community facilities, of which the construction could cause significant environmental impacts.

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10 Ibid.

11 *City of Murrieta Parks and Recreation Master Plan*, 2009.

Sources Cited

- City of Murrieta Community Services, "Community Center Information," http://www.murrieta.org/datapages/datafull.asp?id=105, accessed December 10, 2009.
- City of Murrieta Economic Development, "Town Square," http://www.murrieta.org/ecdev/townsquare.asp, accessed December 10, 2009.
- *City of Murrieta Parks and Recreation Master Plan*, 2009.
- City of Murrieta, "Senior Center," http://www.murrieta.org/services/senior/senior.asp, accessed December 10, 2009.
- Debbie Tharp, Community Services Manager, City of Murrieta Community Services, telephone conversation, January 4, 2010.
- Colby Diuguid, Recreation Supervisor, City of Murrieta Community Services, telephone conversation, January 11, 2010.

Introduction

After the adoption of the City's first General Plan in 1994, the City of Murrieta formed the Public Library. This section describes the resources and operations of the Murrieta Public Library. Information in this section was obtained from the library website and from the Director of Library Services.

Regulatory Context

FUNDING[1]

A dedicated County property tax provides operating funds for the library, typically covering over 80 percent of these costs. The California Public Library Fund is another source of operating funds, although this amount fluctuates with state appropriations. The library covers additional costs through fines and through fees for services such as printing, inter-library loans from institutions outside the Inland Library Network, passport services, and notarizing documents.

Friends of the Murrieta Library provides volunteers and steady funds for collections, as well as funds for programs and program supplies. A foundation has been launched to generate additional support.

Existing Conditions

FACILITIES

The Murrieta Public Library moved in 2007 from a 4,000 square foot building to its present location in the Town Square, where it operates within a 25,000 square foot building that has a 15,000 square foot garden called the "Garden of Verses."[2]

There are 41 computers for public use in the library, including a computer lab with 20 computers and a computer station for the visually impaired.[3]

Two rooms are available for rent during library hours. The community room, with a maximum capacity of 185, has a kitchen and piano[4], and the Garden of Verses can be rented in conjunction with this room. The library's conference room has a maximum capacity of 12 and is also available for rental use.[5]

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1 Loretta McKinney, Director of Library Services, Murrieta Public Library, telephone conversation, November 19, *2009*.
2 Ibid.
3 Ibid.
4 City of Murrieta Public Library, "Facility Rental Application Form," revised 5/15/08.
5 Ibid.

COLLECTIONS

As of June 30, 2009, the library collection included a total of 97,022 print materials, 12,501 audiovisual materials, and 35 online databases. Library materials consist of books, audiobooks, CDs, DVDs, and pre-loaded mp3 players. Scanned microfilm and microform is available for genealogical research. The aim is to provide a variety of subject matter that serves all members of the community through educational, cultural, and recreational materials.[6]

The Heritage Room contains materials documenting Murrieta's history: photos, letters, documents, and books. This collection is staffed by a Library Archivist/Historian, although the position is currently vacant. The library also has an ongoing project to record oral histories of Murrieta and provides these videos on the website.[7]

Through the library, patrons have free access to the materials in the Inland Library Network, which includes the libraries of Riverside County, San Bernardino County, Moreno Valley, College of the Desert, and Inyo County.[8]

PROGRAMS AND SERVICES

The library offers programs for all ages, with particular attention to programming for children and youth. The Young Adult Advisory Council allows youth aged 14 to 19 to provide feedback on Young Adult resources, programming, and events.[9]

Library programs include Storytime for young children and home delivery of library materials to long-term home-confined residents[10]. Besides library-operated programming, community members offer programs in the Community Room, such as the Knitting Club.[11]

In the 2008-2009 fiscal year, the library recorded 7,197 program participants in 27 adult programs and 163 programs for pre-Kindergarten to 12th graders.[12]

Library staff provide passport application and notary services. Unlike most other services of the library, these are offered for a fee.[13]

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6 Loretta McKinney, Director of Library Services, Murrieta Public Library, telephone conversation, November 19, 2009.

7 Ibid.

8 Inland Library Network, "Murrieta Library," http://www.inlandlibrary.com/web2/tramp2.exe/log_in?setting_key=mur, *accessed* November 19, 2009.

9 City of Murrieta Public Library, "Young Adult Advisory Council," http://www.murrieta.org/datapages/dataprograms.asp?id=60, accessed November 19, 2009.

10 City of Murrieta Public Library, "Book Express," http://www.murrieta.org/datapages/dataprograms.asp?id=32, accessed November 19, 2009.

11 Loretta McKinney, Director of Library Services, Murrieta Public Library, telephone conversation, November 19, 2009.

12 Ibid.

13 Ibid.

The library places importance on providing quality reference services to aid community members in their research. In the 2008-2009 fiscal year, the library fielded 63,445 reference/informational questions.[14]

USE[15]

In the 2008-2009 fiscal year, the library circulated 479,271 items and had 56,324 registered card-holders.

The Director of Library Services estimates that 1,300 people visit the library each day. It is not known how many people are using the online databases.

STAFFING

The library has 26 staff positions, five of which are currently being held vacant due to budget limitations.[16] The 21 staffed positions are the Director of Library Services, Principal Librarian, Youth Services Supervising Librarian, Library Secretary, Youth Services Librarian, Adult/Young Adult Services Librarian, Office Specialist/Passports, 11 Library Assistants, and three Pages.[17] In the 2008-2009 fiscal year, the library reported 2,312 service hours.[18]

HOURS OF OPERATION[19]

Current hours of operation are 12:00 to 8:00 PM on Monday and Tuesday, 10:00 AM to 6:00 PM on Wednesday and Thursday, and 10:00 AM to 5:00 PM on Friday and Saturday. The library is closed on Sunday and holidays.

PLANS[20]

Library staff have identified a need for further expansion based on their observations of crowding in the library and inadequate shelving in the children's room. Expansion options that may be considered include another branch, enlarging the current facility, a bookmobile, and a kiosk. The library plans to conduct a needs assessment in order to grow in a way that meets community expectations and needs.

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14 Ibid.

15 Ibid.

16 Loretta McKinney, Director of Library Services, Murrieta Public Library, telephone conversation, November 19, 2009.

17 City of Murrieta Public Library, "Library Staff Directory," http://www.murrieta.org/directory_div.asp?id=1&facid=1, accessed November 19, 2009.

18 Loretta McKinney, Director of Library Services, Murrieta Public Library, telephone conversation, November 19, 2009.

19 City of Murrieta Public Library, "Murrieta Public Library," http://www.murrieta.org/services/library/index.asp, *accessed* November 19, 2009.

20 Loretta McKinney, Director of Library Services, Murrieta Public Library, telephone conversation, November 19, 2009.

Findings

- The Murrieta Public Library recently expanded into a new 25,000 square foot building in Town Square.
- Library staff have identified a need for further expansion and plan to conduct a needs assessment to determine what form the expansion should take.

Significance Thresholds

The following thresholds for determining the significance of impacts related to libraries are taken from the environmental checklist form contained in Appendix G of the most recent update of the *California Environmental Quality Act (CEQA) Guidelines*, and will be used in the Environmental Impact Report. Impacts related to libraries are considered significant if implementation of the General Plan would:

- Result in substantial adverse physical impacts associated with the provision of new or physically altered library facilities, the need for new or physically altered library facilities, of which the construction could cause significant environmental impacts.

Sources Cited

Loretta McKinney, Director of Library Services, Murrieta Public Library, telephone conversation, November 19, 2009.

City of Murrieta Public Library, "Library Staff Directory," http://www.murrieta.org/directory_div.asp?id=1&facid=1, accessed November 19, 2009.

City of Murrieta Public Library, "Murrieta Public Library," http://www.murrieta.org/services/library/index.asp, accessed November 19, 2009.

Inland Library Network, "Murrieta Library," http://www.inlandlibrary.com/web2/tramp2.exe/log_in?setting_key=mur, accessed November 19, 2009.

City of Murrieta Public Library, "Young Adult Advisory Council," http://www.murrieta.org/datapages/dataprograms.asp?id=60, accessed November 19, 2009.

City of Murrieta Public Library, "Book Express," http://www.murrieta.org/datapages/dataprograms.asp?id=32, accessed November 19, 2009.

City of Murrieta Public Library, "Facility Rental Application Form," revised 5/15/08.

Introduction

This section describes the schools and institutions of higher education that serve the City of Murrieta and its Sphere of Influence. Information for this section was obtained largely from staff and websites of school districts and schools.

Regulatory Context

STATE LAW AND DEVELOPMENT FEES

Title 5 Education Code of the California Code of Regulations governs all aspects of education within the State.

Senate Bill 50 (SB 50) and Proposition 1A, both of which passed in 1998, provided a comprehensive school facilities financing and reform program, in part by authorizing a $9.2 billion school facilities bond issue, school construction cost containment provisions and an eight-year suspension of the Mira, Hart and Murrieta court cases. Specifically, the bond funds are to provide $2.9 billion for new construction and $2.1 billion for reconstruction/modernization needs. The provisions of SB 50 prohibit local agencies from denying either legislative or adjudicative land use approvals on the basis that school facilities are inadequate, and reinstates the school facility fee cap for legislative actions (e.g., General Plan amendments, specific plan adoption, zoning plan amendments) as was allowed under the Mira, Hart and Murrieta court cases. According to Government Code Section 65996, the development fees authorized by SB 50 are deemed to be "full and complete school facilities mitigation." These provisions are in effect until 2006 and will remain in place as long as subsequent State bonds are approved and available.

SB 50 establishes three levels of Developer Fees that may be imposed upon new development by the governing board of a school district depending upon certain conditions within a district. Level One Fees are the statutory fees, which can be adjusted for inflation every two years. Level Two Fees allow school districts to impose fees beyond the base statutory cap, under specific circumstances. Level Three Fees come into effect if the State runs out of bond funds after 2006, which would allow school districts to impose 100 percent of the cost of the school facility or mitigation minus any local dedicated school monies.

In order to accommodate students from new development projects, school districts may alternatively finance new schools through special school construction funding resolutions and/or agreements between developers, the affected school districts and occasionally, other local governmental agencies. These special resolutions and agreements often allow school districts to realize school mitigation funds in excess of the developer fees allowed under SB 50.

As required by law, the Murrieta Valley Unified School District annually adopts a School Facilities Needs Analysis (SFNA) in order to impose Alternative School Fees. However, the SFNA adopted by the District on September 2, 2008, expired on September 1, 2009 and the District will not be adopting a new SFNA at this time, due in part to declining land use values. The District will drop to the State Level One rate until a new SFNA is adopted in 2010.[1]

Table 8.6-1, *School Development Fees*, identifies the current fees charged by each school district serving Murrieta and the Sphere of Influence for new development within its boundaries.

Table 8.6-1
School Development Fees

School District	Development Fees	
	Residential	Non-residential
Murrieta Valley Unified School District [1]	$2.97/sf	$0.47/sf
Menifee Union School District [2]	$2.21/sf	$0.3384/sf
Perris Union High School District [3]	$0.94/sf	$0.132/sf
Hemet Unified School District [4]	$2.97/sf	$0.47/sf

[1] Source: William Olien, Assistant Superintendent, Murrieta Valley Unified School District, School Facilities Questionnaire, November 17, 2009.
[2] Betti Cadmus, Public Information Officer, Menifee Union School District, School Facilities Questionnaire, November 13, 2009.
[3] Xochitl Molina, Accounting Technician, Business Services, Perris Union High School District, January 7, 2010.
[4] Source: Hemet Unified School District, *School Facilities Needs Analysis*, April 2009.

LOCAL FUNDING

Voters authorized $120 million in local general obligation bonds for the Murrieta Valley Unified School District by approving Measure E in 2006. These funds have paid for the construction of Lisa J. Mails Elementary, Dorothy McElhinney Middle School and Murrieta Mesa High School. They have also funded major improvements, renovation and infrastructure projects for other school facilities.[2] In the Menifee Union School District, Measure B passed in 2008 and authorized $31.46 million in bonds.[3] Measure Z passed in 2004 in the Perris Union High School

[1] Murrieta Valley Unified School District, "Developer Fees," http://www.murrieta.k12.ca.us/14881071114730487/blank/browse.asp?a=383&BMDRN=2000&BCOB=0&c=54018&14881071114730487Nav=|&NodeID=69, accessed 12/14/09.
[2] Murrieta Valley Unified School District, "Measure E," http://www.murrieta.k12.ca.us/14881071114730487/blank/browse.asp?a=383&BMDRN=2000&BCOB=0&c=54019&14881071114730487Nav=|65|&NodeID=65, accessed December 14, 2009.
[3] Betti Cadmus, Public Information Officer, Menifee Union School District, electronic mail, January 4, 2010.

District.[4] Voters within the Hemet Unified School District passed Measure T in 2006 authorizing $149 million in bonds which paid for the construction of schools serving the Murrieta Sphere of Influence.[5]

Existing Conditions

SCHOOL DISTRICTS

The residents of Murrieta are served primarily by the Murrieta Valley Unified School District, with the exception of residents in the area east of I-215 and north of Clinton Keith Road.[6] Residents in this northern part of the City and most of the Sphere of Influence send their children to an elementary school and middle school in the Menifee Union School District, and to a high school in the Perris Unified High School District. A small triangle of land at the edge of the Sphere of Influence falls within the Hemet Unified School District and is served by elementary, middle and high schools in that District. Refer to *Exhibit 8.6-1*, *School District Boundaries*.

SCHOOL CAPACITY AND ENROLLMENT

Murrieta Valley Unified School District

The Murrieta Valley Unified School District has a total enrollment of over 21,000 students in 11 elementary schools, four middle schools, three comprehensive high schools, a continuation high school, and an independent study school. Tenaja Canyon Academy School, the independent study school, provides an alternative for students in 1st through 12th grades who are working at grade level.[7] The District also operates an adult school.[8] The District offers two School Readiness preschool programs, one funded by the state for income-qualified parents and one parent-pay program.[9]

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4 Perris Union High School District, "Citizen's Oversight Committee Recruitment," http://www.puhsd.org/19801055184242900/blank/browse.asp?A=383&BMDRN=2000&BCOB=0&C=55335, accessed December 22, 2009.

5 Hemet Unified School District, "Citizens' Oversight Committee Annual Report on Measure 'E' & Measure 'T' General Obligation Bonds," November 2008.

6 Murrieta Valley Unified School District, "2009/10 Boundary Maps," downloaded from http://www.murrieta.k12.ca.us/14881071114730487/blank/browse.asp?a=383&BMDRN=2000&BCOB=0&c=54125&14881071114730487Nav=|&NodeID=80 on December 14, 2009.

7 Tenaja Canyon Academy School, http://www.murrieta.k12.ca.us/tenaja/site/default.asp, accessed November 12, 2009.

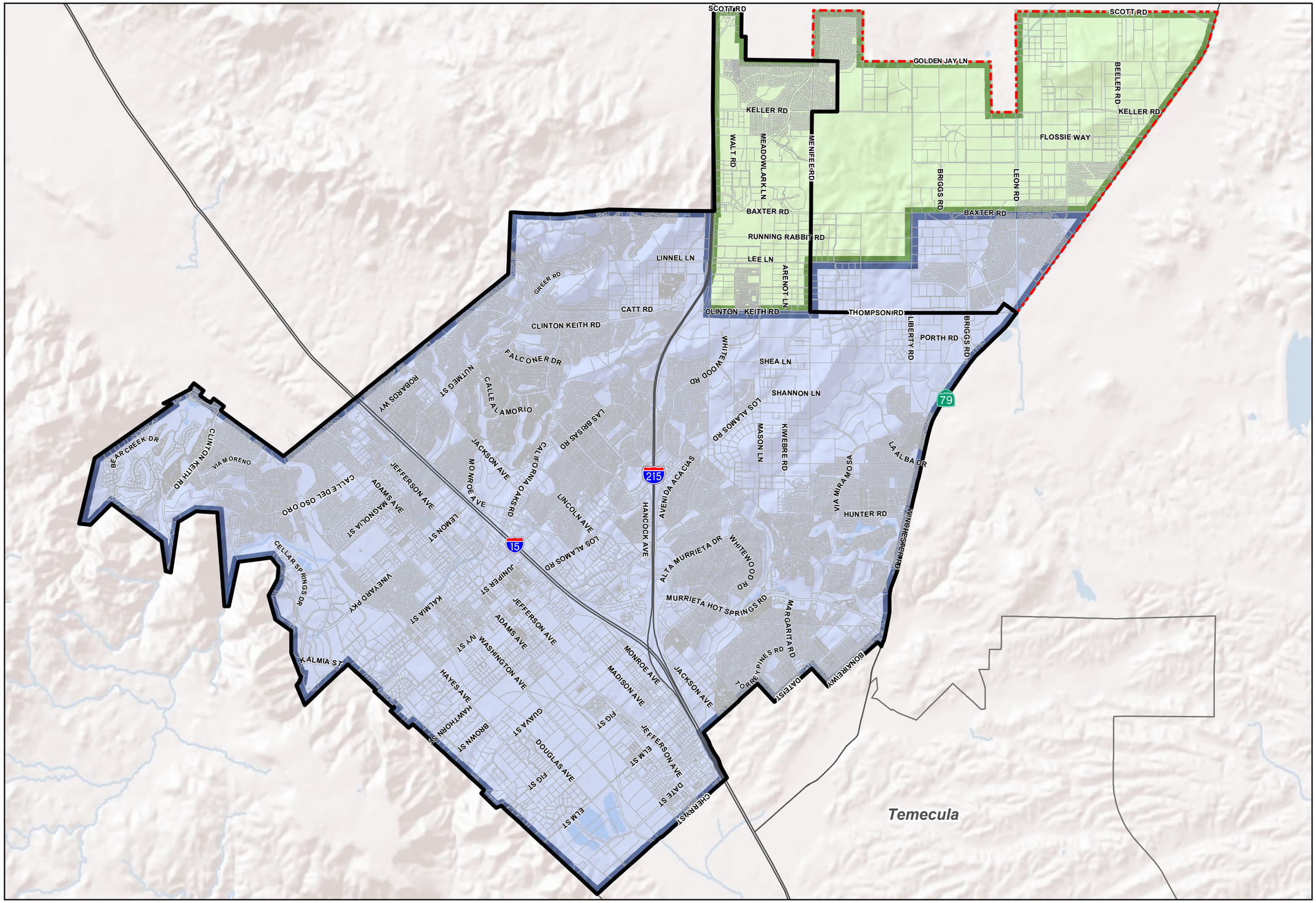
8 Murrieta Valley Adult School, http://www.murrieta.k12.ca.us/adulted/site/default.asp, accessed November 12, 2009.

9 Murrieta Valley Unified School District, "MVUSD School Readiness Programs," http://www.murrieta.k12.ca.us/148810711135041993/blank/browse.asp?a=383&BMDRN=2000&BCOB=0&c=54160&148810711135041993Nav=|2646|&NodeID=2646, accessed November 14, 2009.

Table 8.6-2, *Murrieta Valley Unified School District Facilities*, provides enrollment and capacity information for the schools in the Murrieta Valley Unified School District. Two schools had enrollment beyond their capacity in November 2009: Thompson Middle School and the Creekside High School continuation school.

Table 8.6-2
Murrieta Valley Unified School District Facilities

School/Address	Total Enrollment (Nov. 2009)	Current Capacity	Enrollment as Percent of Capacity
Elementary School			
Alta Murrieta Elementary School (K-5), 39475 Whitewood Road	682	1,200	57%
Antelope Hills Elementary (K-5), 36105 Murrieta Oaks Ave	849	1,000	85%
Avaxat Elementary School (K-5), 24300 Las Brisas Road	674	1,125	60%
Daniel L. Buchanan Elementary School (K-5), 40121 Torrey Pines Road	1,068	1,450	74%
Cole Canyon Elementary School (K-5), 23750 Via Alisol	1,134	1,200	95%
E. Hale Curran Elementary School (K-5), 40855 Chaco Canyon Road	613	1,125	54%
Lisa J. Mails Elementary (K-5), 35185 Briggs Road	862	975	88%
Monte Vista Elementary School (K-5), 37420 Via Mira Mosa	868	1,325	66%
Murrieta Elementary School (K-5), 24725 Adams Ave.	960	1,025	94%
Rail Ranch Elementary School (K-5), 25030 Via Santee	691	925	75%
Tovashal Elementary School (K-5), 23801 Saint Raphael	782	900	87%
Middle Schools			
Dorothy McElhinney Middle School (6-8), 35125 Briggs Road	737	1,701	43%
Shivela Middle School (6-8), 24515 Lincoln Avenue	1,568	1,674	94%
Thompson Middle School (6-8), 24040 Hayes Avenue	1,738	1,620	107%
Warm Springs Middle School (6-8), 39245 Calle de Fortuna	1,127	1,809	62%
High Schools or Independent Study			
Murrieta Mesa High School (Comprehensive), 24801 Monroe	1,120	2,214	51%
Murrieta Valley High School (Comprehensive), 42200 Nighthawk Way	2,614	3,429	76%
Vista Murrieta High School (Comprehensive), 28251 Clinton Keith Road	3,318	3,564	93%
Creekside High School (Continuation), 24150 Hayes Avenue	200	195	103%
Tenaja Canyon Academy (Independent Study), 24150 Hayes Avenue	94	N/A	N/A
Source: William Olien, Assistant Superintendent, Murrieta Valley Unified School District, School Facilities Questionnaire, November 17, 2009.			



LEGEND

- Menifee Union
- Murrieta Valley Unified
- Parcels
- Sphere of Influence
- City Boundary

January 04, 2010

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Miles

Source:
City of Murrieta,
Murrietta Valley Unified School District,
ESRI - World Shaded Relief

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01/04 JN 10-106976 SchoolDistrictBdy.mxd

School District Boundaries

Exhibit 8.6-1

Back of 11 x 17 exhibit page.

Menifee Union School District

Menifee Union School District elementary and middle schools serve children in the area generally north of Baxter Road, encompassing most of the Sphere of Influence; the District boundary extends as far south as Clinton Keith Road from I-215 to the City limits.[10] *Table 8.6-3, Menifee Union School District Facilities Serving Murrieta and Sphere of Influence*, provides enrollment and capacity information for these schools.

Table 8.6-3
Menifee Union School District Facilities Serving Murrieta and Sphere of Influence

School/Address	Total Enrollment (Nov. 2009)	Current Capacity	Enrollment as Percent of Capacity
Oak Meadows Elementary School, 28600 Poinsettia Street	883	1,034	85%
Bell Mountain Middle School, 28525 La Piedra Road, Menifee	1,112	1,546	72%
Sources: Betti Cadmus, Public Information Officer, Menifee Union School District, School Facilities Questionnaire, November 13, 2009. Menifee Union School District, "Schools," http://www.menifeeusd.org/district/page&mode=view&ID=20747, accessed December 15, 2009.			

Perris Union High School District

The area served by Menifee Union School District elementary and middle schools is within the boundaries of Paloma Valley High School in the Perris Union High School District.[11] *Table 8.6-4, Perris Union High School District Facilities Serving Murrieta and Sphere of Influence*, provides enrollment and capacity information for this school.

Table 8.6-4
Perris Union High School District Facilities Serving Murrieta and Sphere of Influence

School/Address	Total Enrollment (Nov. 2009)	Current Capacity	Enrollment as Percent of Capacity
Paloma Valley High School, 31375 Bradley Road, Menifee	2,681	2,500	107%
Sources: Crystal Guimond, Business Services Administrative Assistant, Perris Union High School District, telephone conversation, November 12, 2009. Perris Union High School District, "Home," http://www.puhsd.org/puhsd/site/default.asp, accessed December 15, 2009.			

[10] Menifee Union School District, "Middle School Boundaries," August 2009.
[11] City of Murrieta, *General Plan Technical Reports*, "Figure I-27: School Districts Boundaries and Facilities," undated.

Hemet Unified School District

The small triangle in the Sphere of Influence that is bounded by Pourroy Road / Beeler Road, Keller Road and State Highway 79 falls into Hemet Unified School District. That District serves the area with an elementary school and recently opened middle and high schools.[12] *Table 8.6-5*, *Hemet Unified School District Facilities Serving the Sphere of Influence*, provides enrollment and capacity information for these schools.

Table 8.6-5
Hemet Unified School District Facilities Serving the Sphere of Influence

School/Address	Total Enrollment (Oct. 2009)	Current Capacity	Enrollment as Percent of Capacity
Winchester Elementary School, 28751 Winchester Road, Winchester	571	650	88%
Rancho Viejo Middle School, 985 North Cawston Avenue, Hemet	1,316	1,400	94%
Tahquitz High School, 4425 West Commonwealth, Hemet	1,452	2,400	61%

Sources: Tina Koonce, Facilities Director, Hemet Unified School District, telephone conversation, December 15, 2009.
Hemet Unified School District, "School Site Information," http://www.hemetusd.k12.ca.us/sites/info.html, accessed December 15, 2009.

The location of public school facilities are depicted in *Exhibit 8.6-2*, *Location of School Facilities (Public and Private)*.

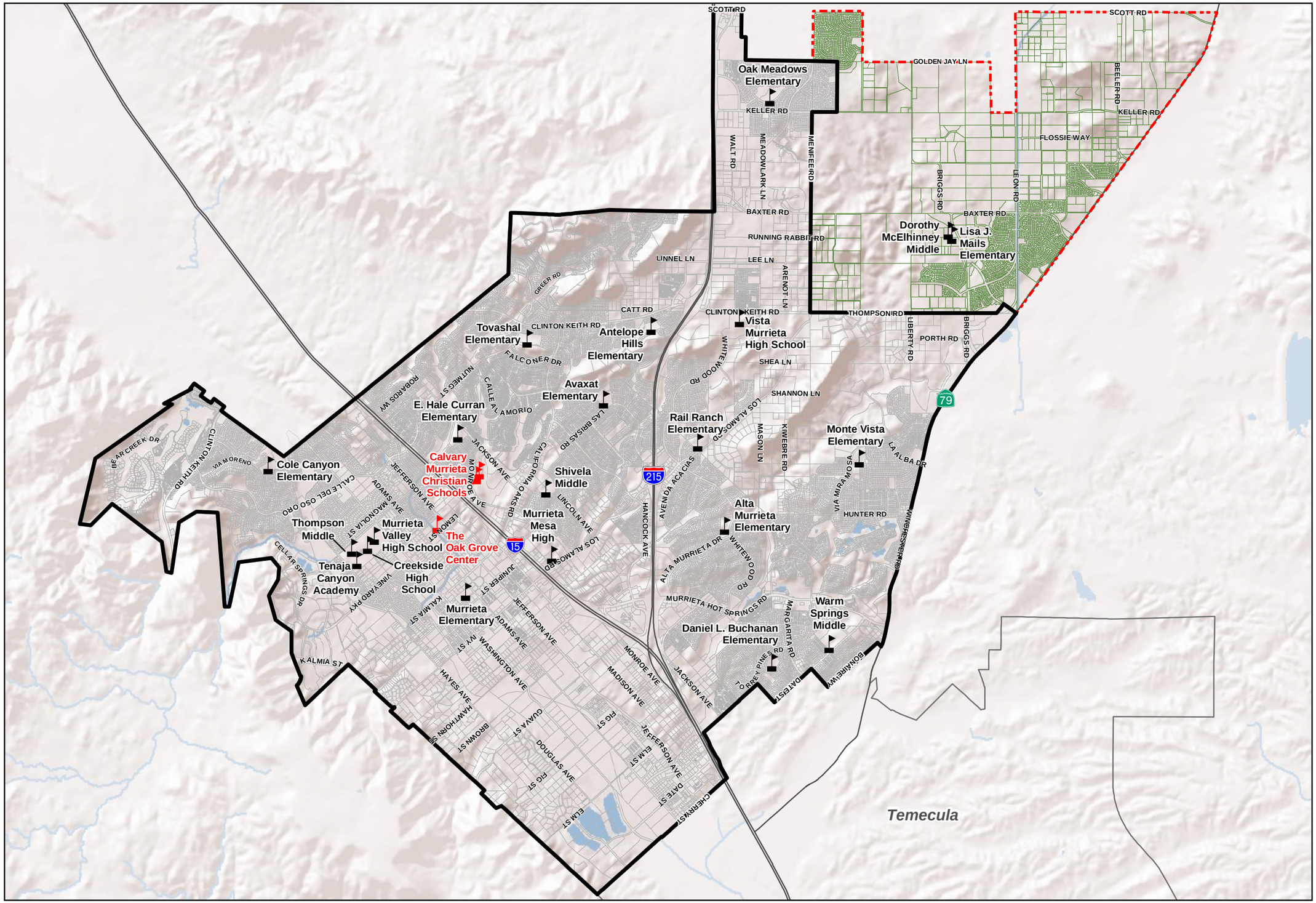
Private Schools

Calvary Murrieta Christian Schools operates an elementary campus and secondary campus (at 24227 and 24225 Monroe Avenue, respectively) to provide a private Christian education for students in preschool through 12th grade. In 2008, there were over 1,000 students enrolled in the day school, with another 419 in the home school program.[13]

The Oak Grove Center for Education Treatment and the Arts is a nonprofit residential and educational treatment center for at-risk children. Located at 24275 Jefferson Avenue, Oak Grove is classified as a level 12 group home and also runs a nonpublic school day program.[14]

The location of private school facilities are depicted in *Exhibit 8.6-2*, *Location of School Facilities (Public and Private)*.

[12] Tina Koonce, Facilities Director, Hemet Unified School District, telephone conversation, December 15, 2009.
[13] Calvary Murrieta Christian Schools, "Contact Us," http://www.cccsmurrieta.com/secondary/contactus.asp, accessed 12/14/09.
[14] Oak Grove, "Home," www.oakgrovecenter.org, accessed 11/30/09.



LEGEND

- Public Schools
- Private Schools
- Parcels
- Sphere of Influence
- City Boundary

December 18, 2009

0 0.5 1
Miles

Source:
City of Murrieta,
Murrietta Valley Unified School District,
ESRI - World Shaded Relief

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12/18 JN 10-106976 SchoolFacilities.mxd

Location of School Facilities (Public and Private)

Exhibit 8.6-2

Back of 11 x 17 exhibit page.

Higher Educational Facilities

Several institutions of higher education have extension campuses in and near Murrieta.

Azusa Pacific University, a Christian Azusa-based university, operates an extension facility in Murrieta that offers programs for undergraduate degrees as well as master's degrees and credentials. Classes are held in the Murrieta Regional Center's 15 classrooms and online.[15] This campus and extension facilities near Murrieta are listed in *Table 8.6-6*, *Higher Education Extension Facilities Serving Murrieta*.

Table 8.6-6
Higher Education Extension Facilities Serving Murrieta

University	Location
Azusa Pacific University	Murrieta Regional Center 39573 Los Alamos Road Murrieta, CA 92563-5032
Brandman University	Temecula Campus 27447 Enterprise Circle West Temecula, CA 92590
Cal State San Marcos at Temecula	At the Paul Goldring Garrett Institute for Higher Learning 27455 Tierra Alta Way Temecula, CA 92590
Concordia University	Temecula Regional Center 28780 Single Oak Dr #210 Temecula, CA 92590
Mt. San Jacinto College	Menifee Valley Campus 28237 La Piedra Road Menifee, CA 92584
Mt. San Jacinto College	Temecula Education Complex 27447 and 27463 Enterprise Circle West Temecula, CA 92590
University of Redlands	Temecula Campus 27270 Madison Avenue, Suite 200 Temecula, CA 92590

The location of higher education facilities are depicted in *Exhibit 8.6-3*, *Location of Higher Educational Facilities*.

The region is also served by larger institutions that are farther away from Murrieta: University of California at Riverside, the Riverside Community College Moreno Valley Campus, and California State University San Marcos.

[15] Azusa Pacific University, "Murrieta Regional Center: About the Regional Center," http://www.apu.edu/murrieta/about/, accessed November 9, 2009.

FUTURE SCHOOL FACILITIES

School District Facilities

Within the Murrieta Valley Unified School District, a new elementary school has been planned for the Vineyard Specific Plan area; this school, named Sykes Elementary, is on hold.[16]

Menifee Union School District is currently in negotiations for an additional elementary school site within the Murrieta City limits.[17]

Another elementary school has been planned to serve the Sphere area within the Hemet Unified School District, as reflected in a tract map for development that is currently on hold.[18]

Murrieta Education Center

In December 2008, the Murrieta City Council approved a 11.5-acre project called the Murrieta Education Center that is envisioned to accommodate satellite facilities for several colleges as well as a workforce development center. Located by I-15 just south of the I-215 junction, the complex would house these facilities in two five-story towers, with complementary retail planned for another building.[19]

Findings

- Three school districts serve the area within the City limits and most of the Sphere of Influence. A fourth school district serves a small part of the Sphere of Influence.
- Most of the City of Murrieta lies within the boundaries of the Murrieta Valley Unified School District. Two of the District's schools are currently enrolled beyond their stated capacity. In addition, four of the schools are over 90 percent of capacity.
- The Perris Union High School is currently enrolled beyond their stated capacity.
- Several institutions of higher education have extension facilities in the area. The Murrieta Education Center, once completed, may attract additional satellite facilities and cause existing facilities to relocate to Murrieta.

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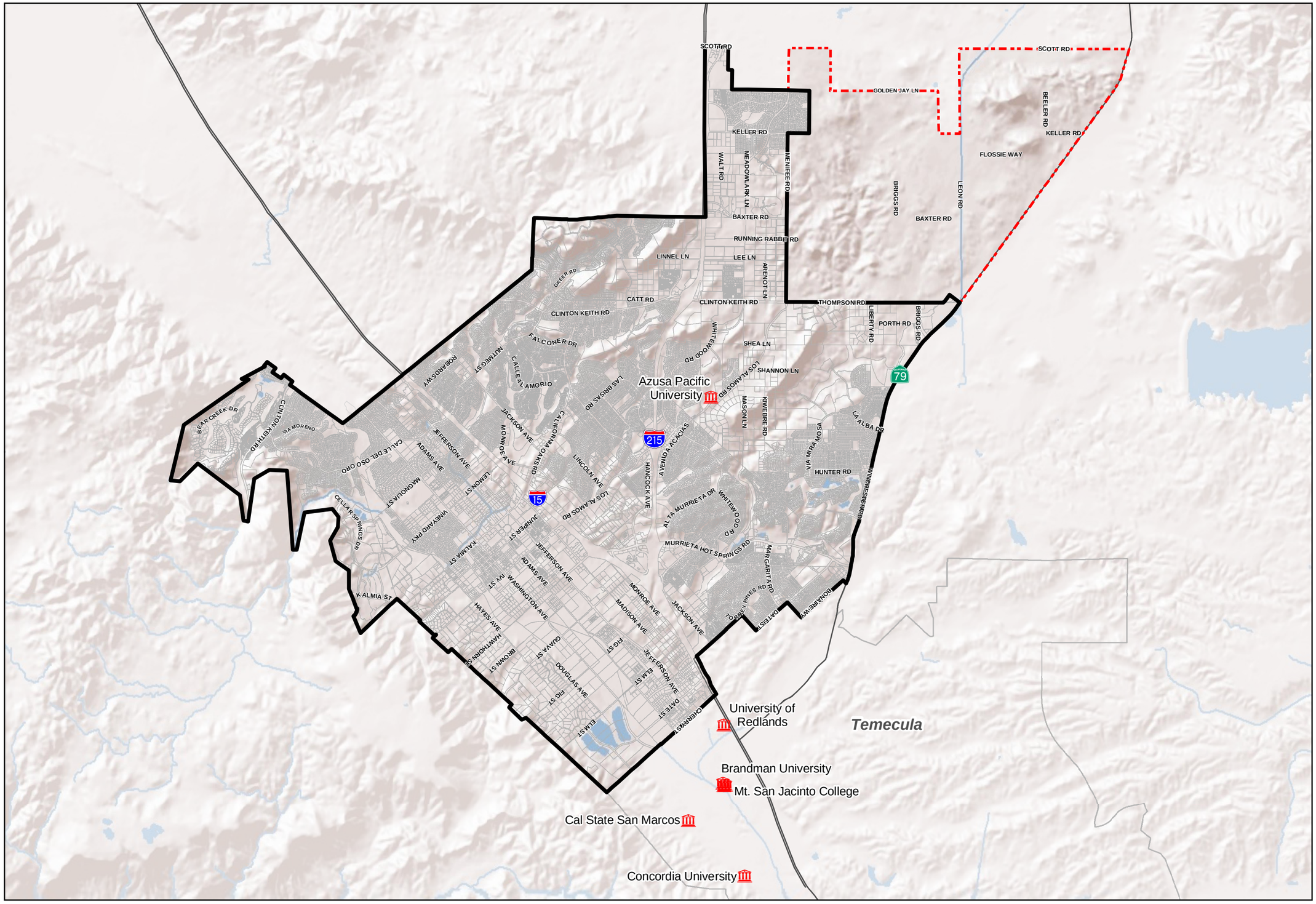
16 William Olien, Assistant Superintendent, Murrieta Valley Unified School District, School Facilities Questionnaire, November 17, 2009.

17 Betti Cadmus, Public Information Officer, Menifee Union School District, School Facilities Questionnaire, November 13, 2009.

18 Tina Koonce, Facilities Director, Hemet Unified School District, telephone conversation, December 15, 2009.

19 "Ceremonial groundbreaking held for $50 million college center in Murrieta," *The Press-Enterprise*, October 15, 2009.



LEGEND

- Higher Education
- Parcels
- Sphere of Influence
- City Boundary

December 18, 2009

0 0.5 1
Miles

Source:
City of Murrieta
ESRI - World Shaded Relief

RBF CONSULTING

12/18 JN 10-106976 HigherEducation.mxd

Location of Higher Education Facilities

Exhibit 8.6-3

Back of 11 x 17 exhibit page.

- Explore providing additional opportunities for higher educational opportunities to locate in the City, beyond the recently approved Murrieta Education Center.

Significance Thresholds

The following thresholds for determining the significance of impacts related to schools are taken from the environmental checklist form contained in Appendix G of the most recent update of the *California Environmental Quality Act (CEQA) Guidelines*, and will be used in the Environmental Impact Report. Impacts related to schools are considered significant if implementation of the General Plan would:

- Result in substantial adverse physical impacts associated with the provision of new or physically altered school facilities, the need for new or physically altered school facilities, of which the construction could cause significant environmental impacts.

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Murrieta Valley Unified School District, "Developer Fees," http://www.murrieta.k12.ca.us/14881071114730487/blank/browse.asp?a=383&BMDRN=2000&BCOB=0&c=54018&14881071114730487Nav=|&NodeID=69, accessed 12/14/09.

Menifee Union School District, "Middle School Boundaries," August 2009.

City of Murrieta, *General Plan Technical Reports*, "Figure I-27: School Districts Boundaries and Facilities," undated.

Murrieta Valley Unified School District, "Measure E," http://www.murrieta.k12.ca.us/14881071114730487/blank/browse.asp?a=383&BMDRN=2000&BCOB=0&c=54019&14881071114730487Nav=|65|&NodeID=65, accessed December 14, 2009.

Betti Cadmus, Public Information Officer, Menifee Union School District, electronic mail, January 4, 2010.

Perris Union High School District, "Citizen's Oversight Committee Recruitment," http://www.puhsd.org/19801055184242900/blank/browse.asp?A=383&BMDRN=2000&BCOB=0&C=55335, accessed December 22, 2009.

Hemet Unified School District, "Citizens' Oversight Committee Annual Report on Measure 'E' & Measure 'T' General Obligation Bonds," November 2008.

Murrieta Valley Unified School District, "2009/10 Boundary Maps," downloaded from http://www.murrieta.k12.ca.us/14881071114730487/blank/browse.asp?a=383&BMDRN=2000&BCOB=0&c=54125&14881071114730487Nav=|&NodeID=80 on December 14, 2009.

Tenaja Canyon Academy School, http://www.murrieta.k12.ca.us/tenaja/site/default.asp, accessed November 12, 2009.

Murrieta Valley Adult School, http://www.murrieta.k12.ca.us/adulted/site/default.asp, accessed November 12, 2009.

Murrieta Valley Unified School District, "MVUSD School Readiness Programs," http://www.murrieta.k12.ca.us/148810711135041993/blank/browse.asp?a=383&BMDRN=2000&BCOB=0&c=54160&148810711135041993Nav=|2646|&NodeID=2646, accessed November 14, 2009.

Tina Koonce, Facilities Director, Hemet Unified School District, telephone conversation, December 15, 2009.

Calvary Murrieta Christian Schools, "Contact Us," http://www.cccsmurrieta.com/secondary/contactus.asp, accessed 12/14/09.

Oak Grove, "Home," www.oakgrovecenter.org, accessed 11/30/09.

Azusa Pacific University, "Murrieta Regional Center: About the Regional Center," http://www.apu.edu/murrieta/about/, accessed November 9, 2009.

William Olien, Assistant Superintendent, Murrieta Valley Unified School District, School Facilities Questionnaire, November 17, 2009.

Introduction

This section describes major health care facilities located in Murrieta and facilities nearby that serve the Murrieta population.

Existing Conditions

FACILITIES

Public Hospitals

Riverside County Regional Medical Center, located in Moreno Valley, is the public hospital that serves Murrieta residents.

The County also provides a payment assistance program of last resort for uninsured residents between the ages of 21 and 64, the Medically Indigent Services Program (MISP). This program fulfills the state requirement to provide indigent medical services; eligibility and coverage are determined by the Riverside County Board of Supervisors. MISP was designed to cover acute illnesses and medical care to prevent disability. It was created to meet the immediate needs of clients who suffer traumas or have other emergency needs.[1]

To use MISP, patients must obtain care from Riverside County Regional Medical Center, one of the Riverside County Community Health Centers, or a Contracted Health Center. Life-threatening emergency care can be received at any of the MISP contracted hospitals,[2] including the two private hospitals serving Murrieta[3]. MISP will not pay for non-emergency treatment at a private hospital.[4]

Private Hospitals[5]

Two acute care hospitals serve Murrieta residents: Rancho Springs Medical Center at 25500 Medical Center Drive in Murrieta and Inland Valley Medical Center at 36485 Inland Valley Drive in Wildomar. These private, for-profit hospitals make up the Southwest Healthcare System, which is owned and operated by a subsidiary of Universal Health Services. There are 122 licensed beds at Inland Valley, and 96 licensed beds at Rancho Springs. The two hospitals

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1 Riverside County Regional Medical Center, "MISP | FAQ," http://rcrmc.org/home/index.php?option=com_content&view=article&id=25&Itemid=20, accessed November 18, 2009.

2 Ibid.

3 Staff, Patient Accounting, Southwest Healthcare System, telephone conversation, November 18, 2009.

4 Riverside County Regional Medical Center, "MISP | FAQ," http://rcrmc.org/home/index.php?option=com_content&view=article&id=25&Itemid=20, accessed November 18, 2009.

5 Southwest Healthcare System, "About the Hospital," http://www.swhealthcaresystem.com/About-the-Hospital, accessed November 17, 2009.

employ over 300 physicians in more than 34 specialties, with more than 1,300 employees at each hospital.

Each hospital has an average of 3,000 Emergency Department visits each month. Inland Valley Medical Center is the only trauma center in southwest Riverside County, providing emergency medical services, trauma surgery, intensive care, diagnostic imaging, rehabilitation and other medical care. Inland Valley is also the County's designated Paramedic Base Station.

Southwest Healthcare System is working with the California Department of Public Health and the Office of Statewide Health Planning and Development (OSHPD) to address and resolve issues at its facilities. OSHPD cannot approve any expansions or new licenses until Southwest achieves substantial compliance with state and federal requirements.[6]

Health Clinics

The public health clinic closest to Murrieta is the Lake Elsinore Family Care Center of the Riverside County Department of Public Health, located at 2499 East Lakeshore Drive in Lake Elsinore.

Services offered at this clinic include: primary care, family planning, pregnancy testing and counseling, perinatal care, cancer screening, sexually transmitted diseases, adult and pediatric immunizations, tuberculosis skin testing, well child care, and nutrition.[7]

This and other County health clinics accept payment through a variety of government programs, including the County of Riverside Medically Indigent Services Program (MISP), or on a sliding fee scale for patients who lack insurance coverage.[8]

Mental Health

Murrieta is located in the Mid-County Region of the Riverside County Department of Mental Health. The Mid-County Region has facilities to provide mental health services for children, adults, and older adults, as well as facilities for the Public Guardian and Substance Abuse Program. None of these facilities are located in Murrieta.[9] The County also operates mental health services associated with the Southwest Detention Center and Southwest Juvenile Hall in Murrieta.[10]

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6 Secretary Kimberly Belshé, State of California Health and Human Services Agency, letter to Senator Benoit, Assembly Member Jeffries, and Assembly Member Nestande, August 19, 2009.

7 Riverside County Department of Public Health, "Lake Elsinore Family Care Center," http://www.rivco-familycarecenters.org/lkels.htm, accessed November 18, 2009.

8 Ibid.

9 Riverside County Department of Mental Health, http://mentalhealth.co.riverside.ca.us/opencms/english/services/mid_county_region.html, "Mid-County Region," accessed December 1, 2009.

10 Riverside County Department of Mental Health, "Detention Mental Health Services," http://mentalhealth.co.riverside.ca.us/opencms/english/services/detention_srv/, accessed December 1, 2009.

FUTURE FACILITIES

Loma Linda University Medical Center-Murrieta (LLUMC-M) is a joint venture between Loma Linda University Medical Center and the Physician's Group LCC. Phase I construction of the teaching hospital will provide 106 beds, with a projected opening date of January 1, 2011.[11] Ultimately, the facility is slated to provide 220 beds.[12]

LLUMC-M will include six surgical suites, a laparoscopic surgery center, an imaging center, and an emergency room. It will offer general and acute-care services and medical specialties that include interventional cardio-vascular, obstetrics, pediatrics, urology, and orthopedics.[13]

A local task force study in 2007 identified a need for hospital beds in Southwest County and a County-wide need for physicians. The task force report found that Southwest County had 1.05 beds per 1,000 residents compared to a statewide average of 2.2 beds per 1,000. This count included 637 licensed beds provided by Rancho Springs Regional Medical Center, Inland Valley Regional Medical Center, Menifee Valley Medical Center, and Hemet Valley Medical Center. The task force also reported that the County as a whole had 86.5 physicians per 100,000 compared to a statewide average of 194 physicians per 100,000.[14]

Findings

- Murrieta is served by two privately owned hospitals known as the Southwest Healthcare System, with one hospital located in Murrieta and one in Wildomar. These hospitals are working with the State (OSHPD) to comply with State and Federal regulations; compliance would allow expansions to go forward.

- Loma Linda University Medical Center-Murrieta, a teaching hospital, is under construction with an opening projected for January 2011.

- A local task force found in 2007 that the Southwest County region was lagging behind the state in the number of hospital beds per population, with 1.05 beds per 1,000 residents compared to the statewide average of 2.2 beds per 1,000.

- Riverside County operates public health facilities near Murrieta, including a family health clinic and mental health facilities. The only County facility located in Murrieta provides mental health services associated with the Southwest Detention Center and Southwest Juvenile Hall.

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11 Loma Linda University Medical Center, "Loma Linda University Medical Center – Murrieta," http://lomalindahealth.org/medical-center/murrieta/, accessed 11/17/09.
12 Brian Ambrose, Senior Management Analyst, City of Murrieta, telephone conversation, January 8, 2010.
13 Ibid.
14 "Study: Double hospital beds in area," North County Times, December 11, 2007.

Significance Thresholds

The following thresholds for determining the significance of impacts related to health facilities are taken from the environmental checklist form contained in Appendix G of the most recent update of the *California Environmental Quality Act (CEQA) Guidelines*, and will be used in the Environmental Impact Report. Impacts related to health facilities are considered significant if implementation of the General Plan would:

- Result in substantial adverse physical impacts associated with the provision of new or physically altered health facilities, the need for new or physically altered health facilities, of which the construction could cause significant environmental impacts.

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Staff, Patient Accounting, Southwest Healthcare System, telephone conversation, November 18, 2009.
Riverside County Regional Medical Center, "MISP | FAQ," http://rcrmc.org/home/index.php?option=com_content&view=article&id=25&Itemid=20, accessed November 18, 2009.

Southwest Healthcare System, "About the Hospital," http://www.swhealthcaresystem.com/About-the-Hospital, accessed November 17, 2009.

Secretary Kimberly Belshé, State of California Health and Human Services Agency, letter to Senator Benoit, Assembly Member Jeffries, and Assembly Member Nestande, August 19, 2009.

Riverside County Department of Public Health, "Lake Elsinore Family Care Center," http://www.rivco-familycarecenters.org/lkels.htm, accessed November 18, 2009.

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Riverside County Department of Mental Health, "Detention Mental Health Services," http://mentalhealth.co.riverside.ca.us/opencms/english/services/detention_srv/, accessed December 1, 2009.

Loma Linda University Medical Center, "Loma Linda University Medical Center – Murrieta," http://lomalindahealth.org/medical-center/murrieta/, accessed 11/17/09.

Brian Ambrose, Senior Management Analyst, City of Murrieta, telephone conversation, January 8, 2010.

"Study: Double hospital beds in area," North County Times, December 11, 2007.

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Introduction

The City receives water from four water and wastewater Districts: Rancho California Water District (RCWD), Elsinore Valley Municipal Water District (EVMWD), Eastern Municipal Water District (EMWD), and Western Municipal Water District (WMWD). The Elsinore Valley and Rancho California Water Districts have the largest service areas within the City of Murrieta. All of the districts receive imported water from the Metropolitan Water District of Southern California (MWD) and local groundwater basins.

The City of Murrieta is located within the Santa Margarita Watershed, which drains a rectangular area of approximately 750 square miles (475,000 acres) in southwestern Riverside and northern San Diego Counties in southern California. The City is located within the portion of the watershed known as the Upper Santa Margarita Watershed. Water and wastewater services in the Upper Santa Margarita Watershed are provided by the agencies within the City of Murrieta are delineated in *Exhibit 9.1-1*, *Water District Service Area Boundaries*. EMWD and WMWD are wholesale and retail water agencies. EVMWD and RCWD are retail agencies.

Regulatory Context

In order to ensure that tap water is safe to drink, the U.S. Environmental Protection Agency (U.S. EPA) and the California Department of Public Health (CDPH) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems.

FEDERAL

Safe Drinking Water Act

The Safe Drinking Water Act (SDWA) was originally passed by Congress in 1974 to protect public health by regulating the nation's public drinking water supply. The law was amended in 1986 and 1996, and requires many actions to protect drinking water and its sources: rivers, lakes, reservoirs, springs, and ground water wells. The SDWA applies to every public water system in the United States.

The SDWA authorizes the U.S. EPA to set national health-based standards for drinking water to protect against both naturally-occurring and man-made contaminants that may be found in drinking water. The US EPA, states, and water systems work together to make sure that these standards are met.

Originally, the SDWA focused primarily on treatment as the means of providing safe drinking water at the tap. The 1996 amendments greatly enhanced the existing law by recognizing source water protection, operator training, funding for water system improvements, and public information as important components of safe drinking water. This approach ensures the quality of drinking water by protecting it from source to tap.

STATE

California Water Plan

The California Water Plan is prepared by the California Department of Water Resources. The Plan provides a framework for water managers, legislators, and the public to consider options and make decisions regarding California's water future. The Plan, which is updated every five years, presents basic data and information on California's water resources including water supply evaluations and assessments of agricultural, urban, and environmental water uses to quantify the gap between water supplies and uses.

The Plan also identifies and evaluates existing and proposed statewide demand management and water supply augmentation programs and projects to address the State's water needs. The Plan provides resource management strategies and recommendations to strengthen integrated regional water management. The resource management strategies help regions meet future demands and sustain the environment, resources, and economy, involve communities in decision-making, and meet various goals. A resource management strategy is a project, program, or policy that helps local agencies and governments manage their water and related resources. These strategies can reduce water demand, improve operational efficiency, increase water supply, improve water quality, practice resource stewardship, and improve flood management.

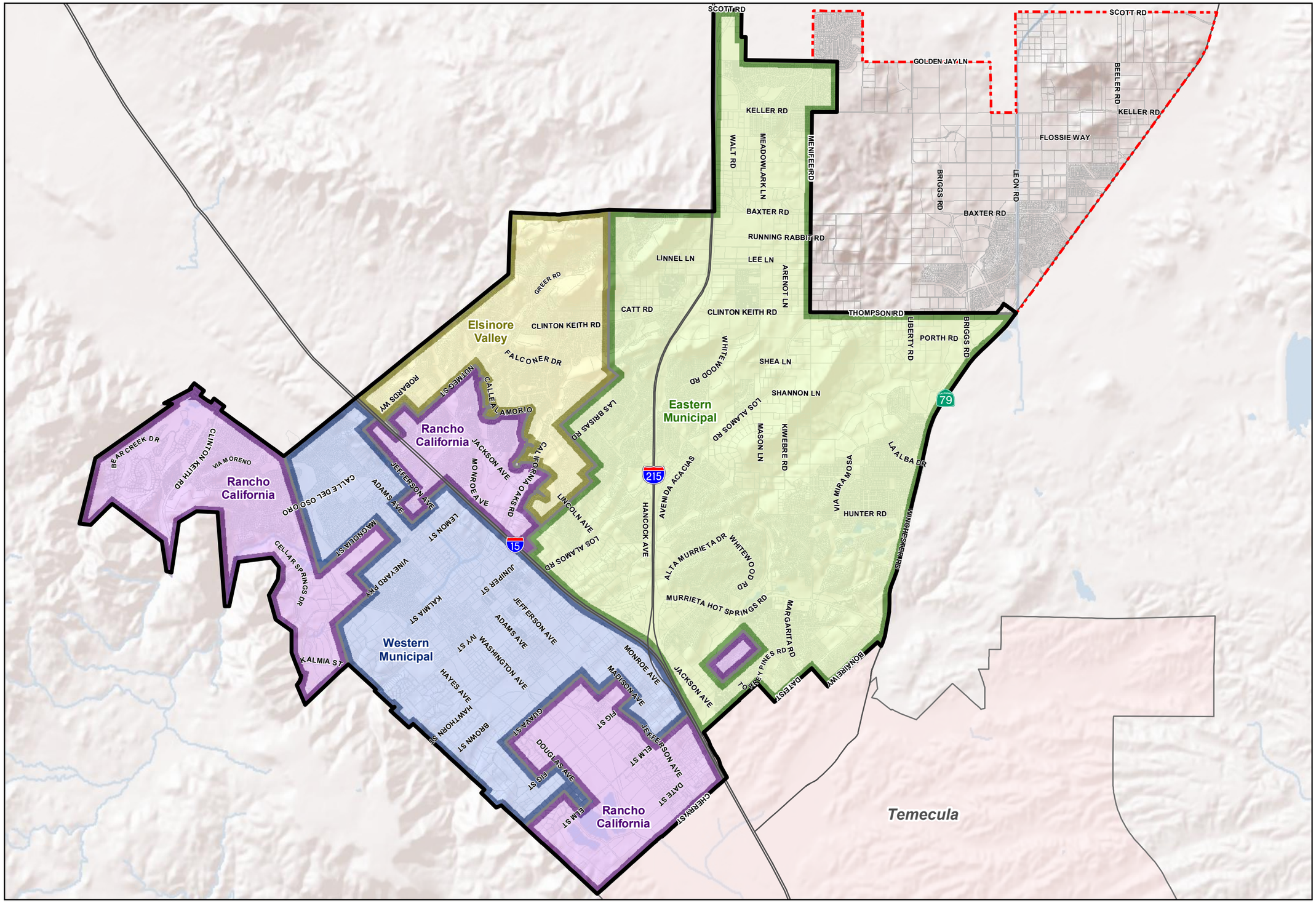
The Plan was last updated in 2005. The Department of Water Resources is expected to approve a subsequent update in 2010.

California Water Code

The California Water Code contains provisions that control almost every consideration of water and its use. Division 2 of the California Water Code provides that the State Water Resources Control Board (SWRCB) shall consider and act upon all applications for permits to appropriate waters. Division 6 of the Water Code controls conservation, development, and utilization of the State water resources. Division 7 addresses water quality protection and management.

Senate Bill 610

On January 1, 2002, Senate Bill (SB) 610 took effect. SB 610, which has been codified in the California Water Code beginning with Section 10910, requires the preparation of a water supply assessment (WSA) for projects within cities and counties that propose to construct 500 or more residential units or the equivalent. SB 610 stipulates that when environmental review of certain large development projects is required, the water agency that is to serve the development must complete a WSA to evaluate water supplies that are or will be available during normal, single-dry and multiple-dry years during a 20-year projection to meet existing and planned future demands, including the demand associated with the project.



LEGEND

Water Districts

- Eastern Municipal
- Elsinore Valley
- Western Municipal
- Rancho California
- Parcels
- Sphere of Influence
- City Boundary

Eastern Municipal
2270 Trumble Road
Perris, CA 92570
951-923-3777

Elsinore Valley Municipal
31315 Chaney Street
Lake Elsinore, CA 92531
951-674-3146

Western Municipal
450 Allessandro Blvd
Riverside, CA 92508
951-789-5000

Rancho California
42135 Winchester Road
Temecula, CA 92590
951-296-6900

January 14, 2010

0 0.5 1
Miles

Source:
City of Murrieta
ESRI World Shaded Relief

RBF CONSULTING

1/14 JN 10-106976 Water Drstrict11x17.mxd

Water District Service Area Boundaries

Exhibit 9.1-1

Back of 11 x 17 exhibit page.

SB 610 requirements do not apply to the general plans of cities or counties, but rather to specific development projects.

Senate Bill 221

Enacted in 2001, SB 221, which has been codified in the California Water Code beginning with Section 10910, requires that the legislative body of a city or county that is empowered to approve, disapprove, or conditionally approve a subdivision map must condition such approval upon proof of sufficient water supply. The term "sufficient water supply" is defined in SB 221 as the total water supplies available during normal, single-dry, and multiple-dry years within a 20-year projection that would meet the projected demand associated with the proposed subdivision. The definition of sufficient water supply also includes the requirement that sufficient water encompass not only the proposed subdivision, but also existing and planned future uses, including, but not limited to, agricultural and industrial uses.

SB 221 requirements do not apply to the general plans of cities or counties, but rather to specific development projects.

Urban Water Management Act

In 1983, the California Legislature enacted the Urban Water Management Planning (UWMP) Act (Division 6 Part 2.6 of the California Water Code Sections 10610 - 10656). The Act states that every urban water supplier that provides water to 3,000 or more customers, or that provides over 3,000 acre-feet of water annually, should make every effort to ensure the appropriate level of reliability in its water service sufficient to meet the needs of its various categories of customers during normal, dry, and multiple dry years. Section 10620 (a) requires "Every urban water supplier shall prepare and adopt an urban water management plan." The California Water Code describes the contents of the UWMP, as well as how urban water suppliers should adopt and implement the plans. These plans are to be updated every five years and submitted to the Department of Water Resources (DWR).

Requirements for the urban water management plans include:

- Assessment of current and projected water supplies
- Evaluation of Demand and Customer Types
- Evaluation of the reliability of water supplies
- Description of conservation measures implemented by the urban water supplier
- Response plan for in the event of water shortage
- Comparison of demand and supply projection

California Title 22 Drinking Water Standards (Title 22)

California Title 22 Drinking Water Standards (Title 22) incorporates the Federal requirements of the Safe Drinking Water Act, and compliance with Title 22 is required by all water service providers. Therefore, the monitoring of all regulated chemicals as well as a number of unregulated chemicals, as required by Title 22, is conducted by water agencies in the upper watershed.

In order to be in compliance with Title 22, each water agency must ensure that the regulated chemicals meet established primary drinking water standards to ensure the safety of the water supply. In addition to the primary drinking water standards, secondary drinking water standards have been set for some minerals based on non-health-related aesthetics, such as taste and odor. Both primary and secondary standards are expressed as the maximum contaminated levels (MCL) that are allowable for a given constituent. Unregulated chemicals do not have established drinking water standards, but are chemicals of concern for which standards may be eventually adopted. These unregulated chemicals often have a "notification level," which is a health based advisory level established by California Department of Health Services (DHS) for chemicals in drinking water that lack MCLs.

LOCAL

Upper Santa Margarita Integrated Regional Water Management Plan

The Integrated Regional Water Management Plan (IRWMP) is a planning and management tool to facilitate efficient use of water resources and to develop effective water conservation measures using a regional- and watershed-based approach.

The intent of the IRWMP is to pave the way for greater watershed-wide coordination and management of water resources within the Santa Margarita Watershed as a whole, as well as adjoining watershed and regional planning and funding efforts. Through the IRWMP, regional water agencies, flood control districts, counties, cities, federal, state, local agencies, and other stakeholder groups collaborate across jurisdictional boundaries to implement water resource management projects. The IRWMP also provides an opportunity to provide information on the present and future needs of the watershed for the California Water Plan.

Development of the IRWMP for the Upper Santa Margarita Watershed required a cooperative effort on the part of three agencies that have authority for planning and implementation of water management strategies in the watershed:

- Rancho California Water District (RCWD)
- Riverside County Flood Control and Water Conservation District (RCFC)
- County of Riverside

In June and July 2007, RCWD, RCFC, and the County of Riverside signed a Memorandum of Understanding (MOU) by which the three agencies agreed to cooperate and work collaboratively with other stakeholders in the Upper Santa Margarita Watershed in Riverside County toward the completion of the watershed's IRWMP.

Existing Conditions

POTABLE WATER SUPPLY - PROVIDERS/PURVEYORS

Water connection services within the City of Murrieta are provided by four water districts:

- Western Municipal Water District
- Eastern Municipal Water District
- Rancho California Water District
- Elsinore Valley Municipal Water District

Rancho California Water District

The Rancho California Water District (RCWD) is a "Special District" organized and operated pursuant to the California Water Code. RCWD is governed by a seven-member Board of Directors (Board) that is elected by the voters of the region. RCWD serves the area known as Temecula/Rancho California, which includes the City of Temecula, portions of the City of Murrieta, and unincorporated areas of Riverside County. RCWD's existing water supplies include:

- Groundwater – Temecula and Pauba groundwater basins.

- Imported Water – Metropolitan Water District's (MWD) Colorado River Aqueduct (CRA) and the State Water Project (SWP).

- Recycled Water – Santa Rosa Water Reclamation Facility (SRWRF) operated by RCWD, and the Temecula Valley Regional Water Reclamation Facility (TVRWRF) operated by EMWD. RCWD has a vast infrastructure network to serve its service area.

RCWD's current service area represents 99,000 acres, and the District has 878 miles of water mains, 35 storage reservoirs, one surface reservoir (Vail Lake), 53 groundwater wells, and 36,759 service connections.

Approximately 109,000 people are currently served by RCWD. RCWD receives its imported water (treated and untreated) through six MWD water turnouts (three in EMWD's service area, three in WMWD's service area). Water delivered to homes and businesses is a blend of well water (approximately 25 percent) and import water (approximately 75 percent). *Table 9.1-1*,

Rancho California Water District Planned Water Supplies, shows the planned water supply sources.

Table 9.1-1
Rancho California Water District Planned Water Supplies (Acre-Feet/Year [AF/Y])

Water Supply Sources	2010	2015	2020	2025	2030
Imported Water (MWD)					
Treated	39,310	32,410	20,010	14,100	20,700
Untreated [1]	15,500	28,500	38,500	38,500	38,500
Local Groundwater Pumping	38,000	38,000	56,000	56,000	56,000
Recycled Water	7,890	9,090	9,890	24,300	25,200
Total	**100,700**	**108,000**	**124,400**	**132,900**	**140,400**

Source: RCWD Regional Integrated Resources Plan (CDM, 2005)
[1] Used for groundwater recharge, flows to Gorge, and eastern service area agriculture (after conversion of system).

RCWD does not add fluoride to its water supply; however, fluoride occurs naturally in RCWD's groundwater. The local water supplies are blended with water imported from the MWD. MWD started adding fluoride at each of its five water treatment plants in fall 2007, adjusting the natural fluoride level in water (ranging from 0.1 - 0.4 parts per million (ppm) to the optimal range of 0.7 - 0.8 ppm) as State regulations require that fluoridating systems comply with temperature-appropriate fluoride levels as indicated in Section 64433.2 of the California Title 22 Code of Regulations. RCWD's average fluoride level becomes 0.60 ppm, or milligrams per liter (mg/L). The maximum allowable level of fluoride at the state level is 2.0 mg/L. Moderate levels of fluoride are helpful in preventing tooth decay.

Elsinore Valley Municipal Water District

The Elsinore Valley Municipal Water District (EVMWD) was formed as a public agency in 1950 to protect local water supplies and import supplemental water. EVMWD serves as a retail and wholesale water provider in both incorporated and unincorporated areas in its 96 square miles service. Wholesale services are provided to two retail agencies as supplemental water. EVWMD also provides wastewater treatment and is legally empowered to provide stormwater disposal and fire protection facilities, but does not do so at this time.

EVMWD's service area is divided into the Elsinore and Temescal Divisions. Only the Elsinore Division is within the upper watershed. The Elsinore Division serves approximately 32,000 accounts while the Temescal Division serves approximately 900 accounts. *Table 9.1-2*, *Elsinore Valley Municipal Water District Planned Water Supplies*, shows EVMWD's water supply projections for its entire service area to retail and wholesale customers. This table is a summary of the data presented in the EMWD Urban Watershed Management Plan.

Table 9.1-2
Elsinore Valley Municipal Water District Planned Water Supplies (Acre-Feet/Year [AF/Y])

Water Supply Sources	2010	2015	2020	2025	2030
Potable Water[1]	66,590	66,690	66,690	72,627	77,919
Non-Potable Water[2]	8,433	12,449	13,565	14,190	14,830
Total	**75,023**	**79,139**	**80,255**	**86,817**	**92,749**

Source: Elsinore Valley Municipal Water District 2005 Urban Water Management Plan
1 UWMP only presented normal year aggregated water demands. Includes imported water, surface water, and groundwater.
2 UWMP only presented normal year non-potable water demands. Includes recycled water, groundwater, and surface water.

EVMWD water supply sources include:

- Imported water – from MWD via EMWD and WMWD, resulting in a blend of State Water Project (SWP) and Colorado River Aqueduct (CRA) water.
- Groundwater – local potable sources include Elsinore Basin, Temescal Valley Basin, San Bernardino Bunker Hill Basin, Rialto-Colton and Riverside-North Basin, and Coldwater Basin; non-potable sources include Elsinore Basin, Bedford Basin, and Coldwater Basin.
- Surface Water – potable from natural runoff to Canyon Lake and imported untreated water from MWD via WMWD; non-potable from Lee Lake, Temescal Wash, Horsethief Canyon, and Indian Canyon
- Recycled Water – non-potable water from the Regional Water Reclamation Facility, Railroad Canyon Water Reclamation Facility, and Horsethief Canyon Water Reclamation Facility.
- Transfers/Exchanges – WMWD.

EVMWD receives imported water from WMWD treated at MWD's Skinner Filtration Plant through the Auld Valley Pipeline. Under a Water Facility Capacity Agreement for the Auld Pipeline, EVMWD has rights to purchase a maximum flow rate of 3.75 cubic feet per second (cfs) from EMWD through its connection to MWD. Under the agreement WMWD obtains the water from EMWD and then sells it to EVMWD.

EVMWD also obtains imported water treated at MWD's Mills Filtration Plant through the Temescal Valley Pipeline via WMWD's Mills Gravity Pipeline. EVMWD has entered into lease agreements for capacity rights for a total of 21 cfs from the Mills Gravity Pipeline.

EVMWD has multiple sources of non-potable water: groundwater, surface water, and recycled water. EVMWD operates the Temescal Valley Pipeline System delivering non-potable well water to agricultural users in the Temescal Valley. Non-potable surface water is obtained from

multiple lakes in the region. Wastewater is treated to tertiary standards for non-potable use by three water reclamation plants: Regional, Horsethief, and Railroad Canyon. In the future, additional recycled water may be available from another proposed wastewater treatment plant and from a disposal pipeline carrying treated water from EMWD's Temecula Valley Effluent Disposal Pipeline and RCWD's Santa Rosa Water Reclamation Facility. The disposal pipeline passes through EVMWD's service area.

Western Municipal Water District

The Western Municipal Water District (WMWD) was formed in 1954 as a public agency to bring additional water to western Riverside County. WMWD is governed by a five-member Board of Directors elected by voters in five geographical divisions within district boundaries. WMWD's service area encompasses 510 square miles with service provided to approximately 19,000 retail customers and nine wholesale customers. Approximately one-third of the total water supplied by WMWD is for retail customers, with the remainder for wholesale customers. Within the upper watershed, WMWD wholesales water to EVMWD and RCWD and directly supplies retail water to numerous other areas. WMWD also provides wholesale and retail water to areas and agencies outside of the watershed.

In 2005, WMWD merged with Murrieta County Water District (MCWD) to form the Murrieta Division, a separate retail area which services to approximately 2,600 customers within a 6.5-square mile service area. Since 2003, MCWD had purchased small quantities (100 to 200 acre-feet per year [AF/Y]) of imported water through the EMWD. The Murrieta Division's average annual water production requirement is estimated to increase from 1,900 AF in 2005 to approximately 7,400 AF at ultimate development in the year 2025. The recommended water production requirement for existing conditions is 3,100 gallons per minute (gpm), which includes a 700-gpm reserve capacity, and 10,700 gpm for ultimate development, which includes a 1,500-gpm reserve capacity). The Murrieta Division delivers primarily groundwater from the Murrieta-Temecula Groundwater Basin. Currently supplemental water to meet current peak demands is imported from MWD through an interconnection with EMWD. WMWD also plans to construct interconnections with the EVMWD system for emergency and daily use.

The Murrieta Division estimated water production for ultimate development is based on the following assumptions:

- Water from future imported supplies (4,400 AF/Y) will be delivered at a constant rate of 1,500 gpm in January, February, March, April, November, and December; 3,000 gpm in May; and 4,200 gpm in June, July, August, September, and October.

- The balance of the water production requirements (5,000 gpm, 3,000 AFY) will be provided by existing and future Murrieta Division wells.

WMWD receives water from the following sources:

- Imported water - treated and untreated water from MWD (State Water Project and Colorado River Aqueduct).
- City of Riverside supplemental water (emergency/off season only).
- Groundwater - pumped from San Bernardino and Riverside on behalf of WMWD and transported through pipes with an EVWMD agreement; there are no direct groundwater extraction facilities operated by WMWD.
- Surface Water - Seven Oaks reservoir can deliver surface water to various treatment plants or to groundwater recharge.
- Recycled water - March Wastewater Reclamation Facility (irrigation only).

Potable water is received from MWD with supplemental water available from the City of Riverside. Potable water from MWD is treated at MWD's Mills Filtration Plant and then conveyed to WMWD's distribution system. Potable water from the City of Riverside is purchased when surplus water available (off-season) and during emergency situations. An inter-connection with the City of Riverside and a portable chlorination station allows WMWD to treat this water.

WMWD's UWMP analyzes the District's reliability based on normal, dry and multiple dry years. Based on this analysis, the WMWD will be able to meet the demands of its service area through 2030. The Riverside/Corona Feeder project will provide infrastructure to allow WMWD to purchase SWP water from MWD, store it in the San Bernardino Basin Area, and extract as needed.

Table 9.1-3, *Western Municipal Water District*, shows retail and wholesale water supply projections for WMWD's service area.

Table 9.1-3
Western Municipal Water District Planned Water Supplies (Acre-Feet/Year [AF/Y]))

Water Supply Sources	2010	2015	2020	2025	2030
Imported Water (MWD)					
Retail Service Area	31,007	35,726	41,278	47,809	55,491
Wholesale Service Area	88,902	101,146	111,837	123,784	134,028
Agriculture Water Purchase	6,000	6,000	6,000	6,000	6,000
Recycled Water	2,680	3,850	4,430	5,210	6,130
Riverside/Corona Feeder (as needed)[1]		10,000	40,000	40,000	40,000
Total	**128,589**	**156,272**	**203,545**	**222,803**	**241,649**

Source: Urban Water Management Plan 2005 Western Municipal Water District
[1] Water supply may include imported water and local runoff.

Eastern Municipal Water District

The Eastern Municipal Water District (EMWD) is public water agency formed in 1950. EMWD is governed by a five-member Board of Directors that is elected by voters within district boundaries. EMWD serves a 555-square mile service area in western Riverside County and in most areas provides retail water and sewer service. EMWD also provides wholesale water service to multiple subagencies including RCWD.

EMWD receives water from the following sources:

- Imported Water – MWD (State Water Project and Colorado River Aqueduct).
- Recycled Water.
- Groundwater - San Jacinto Watershed groundwater that is desalinated for potable use. However, within the Santa Margarita Watershed portion of EMWD's service area, EMWD serves and wholesales imported water, but not groundwater. They have no plans to serve this area with groundwater.

Imported water received from MWD is treated at two treatment plants: Henry J. Mills (Mills) and Robert F. Skinner (Skinner). At Mills, SWP water is treated and at Skinner a combination of SWP and CRA water is treated. Untreated water supplied by MWD is treated by EMWD at a microfiltration plant in Perris. An additional microfiltration plant is located in Hemet.

EMWD is increasing the use of recycled water, through expansion and maximization of the four regional water reclamation facilities. As stated in EMWD's UWMP, EMWD's recycled water distribution system includes 135 miles of large diameter transmission pipelines, 6,000 AF of

surface storage reservoirs (ten separate sites) and four regional pumping plants. EMWD wastewater collection systems include: 1,534 miles of gravity sewer, 53 lift stations, and five regional water reclamation facilities, with interconnections between local collection systems serving each treatment plant.

Table 9.1-4, *Eastern Municipal Water District Planned Water Supplies*, shows EMWD's projected water supply sources for the entire district.

Table 9.1-4
Eastern Municipal Water District Planned Water Supplies (Acre-Feet/year [AF/Y])

Water Supply Sources	2010	2015	2020	2025	2030
Imported Water (MWD)	90,100	104,300	121,300	133,900	144,300
Groundwater	38,800	42,000	42,200	42,000	41,900
Recycled Water	32,400	36,700	40,300	44,000	47,000
Desalinated Water[1]	7,500	12,000	12,000	12,000	12,000
Total	**168,800**	**195,000**	**215,800**	**231,900**	**245,200**

Source: Eastern Municipal Water District 2005 Urban Water Management Plan.
[1] Desalinated water is not used in the Upper Santa Margarita Watershed.

GOALS, OBJECTIVES, AND POLICIES

The following goals, objectives, and policies from the *City of Murrieta General Plan*, dated June 21, 1994, Conservation and Open Space and Utilities, updated February 6, 2001, shall be applied to all projects within the General Plan Study Area:

Policy COS-1.6a: Require new construction and development to install water conserving fixture and appliances.

Policy COS-1.6b: Encourage the retrofitting of existing systems with water-conserving fixtures and appliances.

Policy COS-1.6c: Require new construction and development to incorporate the principles and practices of sound landscape design and management, particularly those conserving water and energy.

Policy COS-1.6d: Encourage the retrofitting of existing landscapes to incorporate the principles and practices of sound landscape design and management, particularly those conserving water and energy.

Policy COS-1.6e: Utilize the programs and assistance of state and regional water agencies to increase water conservation throughout the community.

Policy COS-4.2c: Promote utility sponsored conservation programs for the community.

Policy LU-3.1a: Encourage development of vacant land that is presently served by existing urban services prior to the development of land that is not served buy utilities. Urban services included streets, water, sewer, and other utilities and services.

Policy LU-3.2a: Review all development proposals to ensure adequate public facilities are available.

Policy LU-3.2b: All new development will provide the appropriate level of services and utilities to adequately serve the proposed uses.

Policy LU-3.2c: All development will have adequate public facilities to serve the project assured prior to the issuance of building permits.

Policy LU-3.3b: Coordinate with other public agencies and private utilities to assist in their Master Plan efforts to ensure adequate utilities are available for future development.

Policy LU-3.3c: The City will inform all affected public agencies of development applications and coordinate public infrastructure requirements.

Findings

- Water is being supplied by four water districts. The City must work closely with the districts during the General Plan Update and on future development projects to ensure that adequate supplies and infrastructure are available.

- The lack of water supply and infrastructure in certain areas of the City, such as the northeastern portion, may be a limiting factor to future development in this other areas.

- Future water supplies will rely heavily on recycled/reclaimed water to reduce the demand on potable water supplies. Water districts will need to ensure their water reclamation facilities and pipeline infrastructure is planned and installed according to their Urban Water Management Plan projections.

- Additional urbanization in the City may reduce groundwater recharge. The City may want to consider policies to encourage the installation of recharge enhancements, such as recharge ponds, injection points, or stormwater retention ponds in conjunction with new development or redevelopment projects.

- Water management and conservation will continue to be a challenging venture as the City and region continue to grow and demand for water resources increases concurrently.

- The City will work with the water districts to develop a more reliable and diverse portfolio of water supplies.

- Promote environmental sustainability.

Significance Thresholds

The following thresholds for determining the significance of impacts related to water supply and facilities are taken from the environmental checklist form contained in Appendix G of the most recent update of the *California Environmental Quality Act (CEQA) Guidelines*, and will be used in the Environmental Impact Report. Impacts related to water supply and facilities are considered significant if implementation of the General Plan would:

- Exceed existing water supplies available to serve the project from existing entitlements and resources;

- Require new or expanded entitlements; or,

- Require new or expanded water infrastructure facilities (e.g., water treatment facilities, reservoirs, etc.).

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United States Environmental Protection Agency, http://www.epa.gov/safewater/sdwa/basicinformation.html, accessed 1/12/10

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Introduction

The City sewage system consists of both public and private facilities; developments that are outside the public sewer system use on-site septic systems. Wastewater collection for the General Plan Study Area is provided by the four water districts that provide potable water to the City: Rancho California Water District (RCWD), Elsinore Valley Municipal Water District (EVMWD), Western Municipal Water District (WMWD) – Murrieta Division, and Eastern Municipal Water District (EMWD). Only RCWD and EMWD provide wastewater treatment. Wastewater flows from the other districts discharge into RCWD and EMWD interceptors for treatment.

Regulatory Context

FEDERAL

Clean Water Act/National Pollutant Discharge Elimination System Permits

The Clean Water Act (CWA) is the cornerstone of water quality protection in the United States. The statute employs a variety of regulatory and non-regulatory tools to sharply reduce direct pollutants discharges into waterways, finance municipal wastewater treatment facilities, and manage polluted runoff. These tools are employed to achieve the broader goal of restoring and maintaining the chemical, physical, and biological integrity of the nation's waters so that they can support "the protection and propagation of fish, shellfish, and wildlife and recreation in and on the water."

The CWA regulates discharges from "non-point source" and traditional "point source" facilities, such as municipal sewage plants and industrial facilities. The CWA makes it illegal to discharge pollutants from a point source to the waters of the United States. Section 402 of the Act creates the National Pollutant Discharge Elimination System (NPDES) regulatory program. Point sources must obtain a discharge permit from the proper authority (usually a state, sometimes EPA, a tribe, or a territory). NPDES permits cover industrial and municipal discharges, discharges from storm sewer systems in larger cities, storm water associated with numerous kinds of industrial activity, runoff from construction sites disturbing more than one acre, mining operations, and animal feedlots and aquaculture facilities above certain thresholds.

All so-called "indirect" dischargers are not required to obtain NPDES permits. An indirect discharger is one that sends its wastewater into a city sewer system, so it eventually goes to a sewage treatment plant. Though not regulated under NPDES, "indirect" discharges are covered by another CWA program, called pretreatment. "Indirect" dischargers send their wastewater into a city sewer system, which carries it to the municipal sewage treatment plant, through which it passes before entering a surface water.

National Pretreatment Program[1]

The National Pretreatment Program is an extension of NPDES regulatory program. The National Pretreatment Program is a cooperative effort of federal, state, and local regulatory environmental agencies established to protect water quality. The program is designed to reduce the level of pollutants discharged by industry and other non-domestic wastewater sources into municipal sewer systems, and thereby, reduce the amount of pollutants released into the environment through wastewater. The objectives of the program are to protect the Publicly Owned Treatment Works (POTW) from pollutants that may interfere with plant operation, to prevent pollutants that may pass through untreated from being introduced into the POTW, and to improve opportunities for the POTW to reuse wastewater and sludges that are generated.

The term "pretreatment" refers to the requirement that non-domestic sources discharging wastewater to POTWs control their discharges, and meet limits established by EPA, the state or local authority on the amount of pollutants allowed to be discharged. The control of the pollutants may necessitate treatment prior to discharge to the POTW (therefore the term "pretreatment"). Limits may be met by the non-domestic source through pollution prevention techniques (product substitution recycle and reuse of materials) or treatment of the wastewater.

STATE

In California, the State Water Control Board (SWRCB) is responsible for ensuring the highest reasonable quality of waters of the State, while allocating those waters to achieve the optimum balance of beneficial uses. The SWRCB's current challenge is exacerbated by California's rapid population growth, and the continuing struggle over valuable water flows. The agency faces tough new demands which include fixing ailing sewer systems; building new wastewater treatment plants; and tackling the cleanup of underground water sources impacted by the very technology and industry that has provided California with a robust economy and made it a desirable place to live.

LOCAL

All of the public wastewater systems within the City of Murrieta are owned and operated by the four water districts previously listed. Each agency has is responsible for collecting connection and user fees and well as sewer system design criteria.

The County of Riverside Department of Environmental Health (DEH) is the primary agency charged with regulating the design, construction, and maintenance of septic tanks, leach lines, seepage pits, and alternative on-site wastewater treatment systems (OWTS) throughout the areas of the City where no public sewer system is available. Riverside County DEH regulates these

[1] United States Environmental Protection Agency, NPDES, National Pretreatment Program http://cfpub.epa.gov/npdes/home.cfm?program_id=3, accessed January 13, 2010

facilities through a Septic Tank Permit Process and County Ordinance 650.5.[2] Any development proposing to use an OWTS must first demonstrate that the site can meet minimum design criteria with respect to soil type and groundwater separation.

Existing Conditions

Only RCWD and EMWD provide wastewater treatment. Wastewater flows from the other districts discharge into RCWD and EMWD interceptors for treatment.

RANCHO CALIFORNIA WATER DISTRICT[3]

The RCWD operates two water reclamation plants: Joaquin Ranch Water Reclamation Facility (JRWRF), and Santa Rosa Water Reclamation Facility (SRWRF), both of which are located with the City of Murrieta. The JRWRF has a maximum capacity of 0.6 mgd; the SRWRF has maximum capacity in 5.0 mgd.

The existing wastewater collection system includes two major gravity trunk sewers. The longest trunk sewer is referred to as the Washington Avenue Trunk Sewer. This trunk sewer was designed to collect wastewater and convey those flows to the RCWD Santa Rosa WRF, which is located on Washington Avenue south of Fig Street and west of Adams Avenue.

The second major trunk sewer within the existing wastewater collection system is referred to as the California Oaks Sewage Transmission Main (COSTM). This trunk sewer was designed to serve the California Oaks Specific Plan (Specific Plan No. 173). The California Oaks development area is split between EVMWD and RCWD service areas, some of the California Oaks wastewater flows are generated from areas within RCWD and some within EVMND. The COSTM consists of 13,000 feet of 15-inch diameter pipe.

There are three RCWD sewer lift stations within the City of Murrieta. The California Oaks sewer lift station discharges through an 8-inch diameter pipe and provides approximately 1.3 mgd capacity. The San Joaquin sewer lift station discharges through a 10-inch diameter pipe and provides approximately 1.8 mgd. The Bear Creek sewer lift station discharges through a 6-inch diameter pipe, and provides approximately 0.6 mgd capacity.

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[2] County of Riverside, Department of Environmental Health, http://www.rivcoeh.org/opencms/rivcoeh/ProgServices/EPO_Division/Land_Use.html#septic, accessed January 13, 2010

[3] City of Murrieta Master Environmental Assessment, October 28, 1992

EASTERN MUNICIPAL WATER DISTRICT

EMWD wastewater collection systems include: 1,534 miles of gravity sewer, 53 lift stations, and five regional water reclamation facilities, with interconnections between local collection systems serving each treatment plant.[4]

The EMWD facility that provides treatment for Murrieta is called the Temecula Valley Regional Water Reclamation Facility (TVRWRF). The TVRWRF is located outside the City of Murrieta within the southeast east region of the EMWD service area just west of the City of Temecula. The TVRWRF has the capacity to treat 14.5 million gallons daily (mgd)[5]. In addition to the TVRWRF, the EMWD operates the 17-mile Temecula Valley Recycled Water Pipeline, which discharges near Lake Elsinore at Temescal Creek. In March 2009, EMWD, RCWD, and EVMWD agreed to formalize their responsibilities and share expenses in operating the Recycled Water Pipeline. The agreement allows each agency to expand their wastewater treatment facilities and their recycled water customer base. Both RCWD and EVMWD own some capacity in EMWD's pipeline and related facilities. In time, the pipeline will transport 30 million gallons a day as the supply of wastewater increases.[6]

Within the City of Murrieta the EMWD Temecula Valley Collection system consists of approximately 282,000 feet of sewer pipe ranging between 12-inches to 30 inches in diameter. There are four major EMWD sewer lift stations within the City of Murrieta; the Warm Springs (16.1 mgd), the New Pala (10.1 mgd), Diaz (6.8 mgd), and Golden Triangle #2 (2.6 mgd).[7]

GOALS, OBJECTIVES, AND POLICIES

The following goals, objectives, and policies from the *City of Murrieta General Plan*, dated June 21, 1994, Utilities, updated February 6, 2001, shall be applied to all projects within the General Plan Study Area:

Policy LU-3.1a: Encourage development of vacant land that is presently served by existing urban services prior to the development of land that is not served buy utilities. Urban services included streets, water, sewer, and other utilities and services.

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4 Rancho California Water District, *Final Integrated Regional Water Management Plan for the Upper Santa Margarita Watershed Planning Region*, July 21, 2007

5 Reuse and Regulatory Compliance Presentation by Jayne Joy, PE, Director, Environmental and Regulatory Compliance, Eastern Municipal Water District, August 19, 2009; http://www.watereuse.org/files/s/docs/EMWD_Recycled_Water_Prgm_WateReuse_08192009.pdf, accessed January 13, 2010.

6 Eastern Municipal Water District, Elsinore Valley Municipal Water District, Rancho California Water District Joint Press Release, March 26, 2009, http://www.emwd.org/news/news-archives/news_09/3-PartyRecycledWaterAgreement_3-26-09.pdf, accessed January 13, 2010.

7 City of Murrieta Master Environmental Assessment, October 28, 1992

Policy LU-3.1b: Ensure coordination with service providers is accomplished through project development review.

Policy LU-3.2c Future development shall occur where the ability to provide urban services is assured. "Leap Frog" development isolated from urban services is discouraged.

Policy LU-3.2a: Review all development proposals to ensure adequate public facilities are available.

Policy LU-3.2b: All new development will provide the appropriate level of services and utilities to adequately serve the proposed uses.

Policy LU-3.2c: All development will have adequate public facilities to serve the project assured prior to the issuance of building permits.

Policy LU-3.3b: Coordinate with other public agencies and private utilities to assist in their Master Plan efforts to ensure adequate utilities are available for future development.

Policy LU-3.3c: The City will inform all affected public agencies of development applications and coordinate public infrastructure requirements.

Findings

- Continued growth within the City will may require existing water treatment facilities to exceed there existing capacity.
- Water conservation programs will be a key factor in reducing the amount of wastewater generated.
- Interagency coordination among the water districts that serve the City will continue to be a key role in the treatment and distribution of recycled/reclaimed water.
- Alternative On-site Water Treatment Systems will become an increasingly important component of development in the areas of the City where sewer infrastructure is not available.

Significance Thresholds

The following thresholds for determining the significance of impacts related to wastewater systems are taken from the environmental checklist form contained in Appendix G of the most recent update of the *California Environmental Quality Act (CEQA) Guidelines*, and will be used in the Environmental Impact Report. Impacts related to wastewater systems are considered significant if implementation of the General Plan would:

- Exceeds wastewater treatment requirements of the applicable Regional Water Quality Control Board;
- Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects; and/or
- Result in the determination by the wastewater treatment agency that severs the project that it has inadequate capacity to serve the project projected demand in addition to the providers existing commitments.

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Introduction

Stormwater drainage infrastructure within the City of Murrieta consists of a network of natural and improved streams, storm channels, storm drains, and catch basins. These facilities and their necessary maintenance are provided by the Riverside County Flood Control and Water Conservation District (RCFCWCD) and the City. Regional master planned facilities (over 36 inches in diameter) are owned and maintained by the RCFCWCD, and all non-master planned facilities smaller than 36 inches in diameter are maintained by the City.[1]

Regulatory Context

FEDERAL

No federal regulations specifically address storm drain planning. Water discharged from storm drains is regulated under the Clean Water Act. Further discussion of federal clean water standards is discussed in Section 7.7, Water Resources and Quality.

STATE

No state regulations specifically address storm drain planning. State water quality regulations require new development to implement Best Management Practices (BMP) to reduce pollution to stormwater runoff. Storm drains are often a part of the BMP design as mechanical devices are often attached to storm drains to separate debris and pollutants from surface water prior to the water entering a storm drain system. Further discussion of federal clean water standards is discussed in Section 7.7.

LOCAL

The City of Murrieta annually adopts a Capital Improvement Plan (CIP) through the City budget planning process for each fiscal year. The CIP details those projects and their funding sources that guide the infrastructure, parks, and buildings development for the City of Murrieta. The CIP is a five-year plan and many of the larger projects take multiple years to accomplish. In response to changes in need, safety and traffic concerns, as well as new development, the CIP is a dynamic document and is revised each year to address the current needs and concerns.[2] A portion of the CIP budget is dedicated to storm drain improvements within the City. The City's annual budget includes expenses to maintain drainage facilities.

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1 Riverside County Local Agency Formation Commission, Central Valley, Pass Area, and Southwestern Municipal Services Review, Chapter 9, City of Murrieta Prepared by LSA Associates, Inc., September 2006

2 City of Murrieta, Capitol Improvements Plan, Fiscal Years 2009-2014

Section 16.36 of the *Municipal Code* requires new residential and non-residential development to pay a Public Facilities Impact Fee.[3] Fees are based on a pro-rata share depending on the type of development. The fees collected by the City are used to fund the costs of future public facilities.

Existing Conditions

A storm drain or stormwater conveyance system are private and public drainage facilities other than sanitary sewers through which surface water runoff (typically in urban areas) is transported to another location where the water is discharged to a natural drainage or water course (most likely) or to a treatment facility. The main purpose of the storm drain system is to prevent flooding by transporting water away from developed areas. Storm drain systems are most common within the more urban areas of the City and are likely to have a range of storm drain facilities. In more rural areas of the City, developed land does not support or require storm drain facilities.

Over recent decades, rapid growth and urbanization have placed increased pressure on storm drain capacity. In general, increased urbanization increases the amount of impervious (paved) surfaces, thus reducing the amount of water that would normally infiltrate into the soil. Rainfall, irrigation runoff, and nuisance flows accumulate on impervious surfaces and flow downstream via the storm drain system to surface waters. The storm drain system is not connected with the sanitary sewer system; therefore, urban runoff is filtered to remove trash, cleaned, or otherwise treated before it is discharged to surface waters. As a result storm drains have become increasingly important component in managing water quality impacts in addition to reducing flooding.

Storm water from the City of Murrieta drains to two watersheds: the Santa Ana Watershed and the Santa Margarita Watershed. Two major tributaries, Murrieta Creek and Warm Springs Creek, run through the City. Murrieta Creek runs from the northern City limit, along the Rancho Temecula line, to the southern City limit at Cherry Street. In its unimproved state, Murrieta Creek lacks the capacity to convey 100-year storm flows through the City. A Master Drainage Plan was prepared by RCFCWCD, which identifies improvements that would provide flood protection for both existing and future development within the City. The improvements, identified as the Murrieta Creek improvement project, include 11 miles of earthen channel of the Murrieta Creek from Rancho California Road in Temecula to Clinton Keith Road and a network of underground storm drains to provide 100-year flood protection.[4] More discussion on flood control and the Master Drainage Plan is provided in Section 6.3, Flood Hazards.

[3] City of Murrieta Municipal Code

[4] Riverside County Local Agency Formation Commission, Central Valley, Pass Area, and Southwestern Municipal Services Review, Chapter 9, City of Murrieta Prepared by LSA Associates, Inc., September 2006

STORM DRAIN FACILITIES

The following facilities have been constructed pursuant to the Murrieta Creek Area Drainage Plan.

- Line G is constructed as a concrete lined trapezoidal channel from I-15 to Jefferson Avenue, with the remainder either unimproved or soft bottom. It has adequate capacity to convey a 100-year flood. The line extends from Interstate 15 to Murrieta Creek.

- Line F is designed to help relieve flooding in Old Town Murrieta. Line F follows an alignment roughly parallel to Kalmia Street between Interstate 15 and Murrieta Creek.

- Lines E and E-2 were constructed to intercept flows from Ivy street and discharge into Murrieta Creek, and convey a 100-year flood. Line E and E-1 extend from I-15 to Murrieta Creek.

- Line F-1 is designed to help relieve flooding in the floodplain area upstream of Kalmia Street. Line F-1 follows an alignment parallel to Adams Avenue, curving through the intersection of Magnolia and Jefferson Avenue finally terminating at Interstate 15. Line F-1 adequately conveys the 100-year storm flows from Interstate 15 to Jefferson Avenue.

- Line F-3 is designed to help relieve flooding along Washington Avenue upstream of Kalmia Street. Line F-3 consists of reinforced concrete pipe ranging in size from 42-inces to 54 inches.

- Clay Street channel is constructed as an unlined earthen channel that runs from Kalmia Street to Ivy Street then to Murrieta Creek. As an unlined channel, the channel is not able to convey a 100-year storm.

- The Western Historic Murrieta Storm Drain System was completed by the City in 2008. This storm drain was constructed to relieve flooding in the western area of historic Murrieta, the portion west of Washington Avenue.

Table *9.3-1*, *Planned Stormwater Infrastructure Improvements*, lists the currently proposed CIP project names, a brief description, proposed construction time frames, and a total anticipated budget of these proposed projects.

Table 9.3-1
Planned Stormwater Infrastructure Improvements

Project Name	Description	Construction Time Frame
Line D and D1 Madison to Jefferson	Design and construct drainage channel improvements	2010 +
Murrieta Creek Design	Contribution to Corps for local share in preconstruction, engineering, and design; location from Vineyard Parkway to south City limits. Infrastructure will be maintained by RCFCWCD.	2004–2010
Source: City of Murrieta CIP 2009-2014		

Additional local facilities will be constructed by developers or the City as they become necessary. During the development approval process, developers are "conditioned" to construct necessary storm drain facilities. In addition, projects in close proximity to master drainage facilities are conditioned to contribute a fair-share cost towards the design and construction of regional drainage facilities. A map of the existing storm drain network is shown in *Exhibit 9.3-1, Storm Drain Map*.

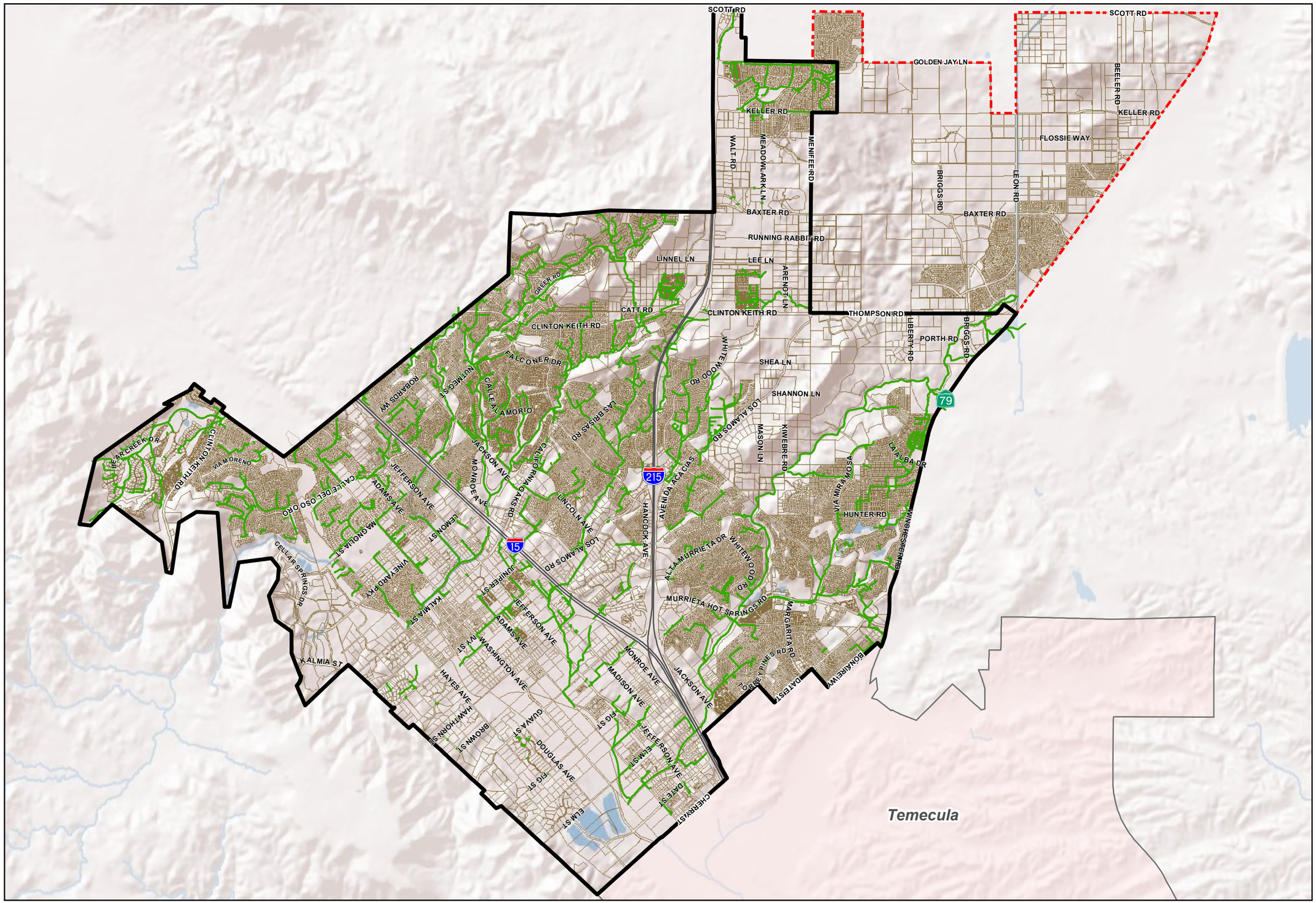
GOALS, OBJECTIVES, AND POLICIES

The following goals, objectives, and policies from the *City of Murrieta General Plan*, dated June 21, 1994, Utilities, updated February 6, 2001, shall be applied to all projects within the General Plan Study Area:

Policy COS-1.6c: Require new construction and development to incorporate the principles and practices of sound landscape design and management, particularly those conserving water and energy.

Policy COS-1.6d: Encourage the retrofitting of existing landscapes to incorporate the principles and practices of sound landscape design and management, particularly those conserving water and energy.

Policy COS-1.6e: Utilize the programs and assistance of state and regional water agencies to increase water conservation throughout the community.



LEGEND

- Storm Drain
- Parcels
- Sphere of Influence
- City Boundary

January 18, 2010

0 0.5 1
Miles

Source:
City of Murrieta
ESRI World Shaded Relief

RBF CONSULTING

1/18 JN 10-106976 StormDrains.mxd

Storm Drain Map

Exhibit 9.3-1

Back of 11 x 17 exhibit page

Policy LU-3.1a: Encourage development of vacant land that is presently served by existing urban services prior to the development of land that is not served by utilities. Urban services included streets, water, sewer, and other utilities and services.

Policy LU-3.2a: Review all development proposals to ensure adequate public facilities are available.

Policy LU-3.3b: Coordinate with other public agencies and private utilities to assist in their Master Plan efforts to ensure adequate utilities are available for future development.

Findings

- Increased development will continue to add impervious surface area within the Murrieta Creek Drainage basin.
- New development should incorporate Low Impact Development building standards to minimize surface water runoff.
- Landscape design should minimize the need for irrigation to reduce runoff and nuisance flows to the storm drains.
- Impact fees for the construction of maintenance of storm drains are critical to ensure adequate capacity is maintained for the 100-year storm.
- Water quality measures that encourage infiltration should be encouraged.
- Continued coordination with the Riverside County Flood Control and Water Conservation District will be important to ensure adequate drainage facilities are developed and funded.

Significance Thresholds

The following thresholds for determining the significance of impacts related to storm drainage systems are taken from the environmental checklist form contained in Appendix G of the most recent update of the *California Environmental Quality Act (CEQA) Guidelines*, and will be used in the Environmental Impact Report. Impacts related to storm drainage systems are considered significant if implementation of the General Plan would:

- Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems.

Sources Cited

City of Murrieta, Capitol Improvements Plan, Fiscal Years 2009-2014

City of Murrieta Final General Plan EIR, prepared by EIP Associates, June 1994.

City of Murrieta Municipal Code

Riverside County Local Agency Formation Commission, Central Valley, Pass Area, and Southwestern Municipal Services Review, Chapter 9, City of Murrieta Prepared by LSA Associates, Inc., September 2006

http://www.lafco.org/opencms/MSR/MSR-CentralValley_Pass_Southwestern_Final/September2006FinalDraft/9.0_Murrieta.pdf

Introduction

Solid waste is a mixture of items discarded as useless or unwanted arising from residential, commercial, industrial, institutional, agricultural, industrial, and mining activities. These wastes include construction and demolition wastes, as well as inert wastes. The general waste classifications are:

- *Non-hazardous solid waste* consisting mostly of household garbage, commercial wastes, agricultural waste, and litter.

- *Special waste*, which is any waste that requires special handling, includes infectious waste, pesticide containers, sewage sludge, oilfield waste, household hazardous waste, and asbestos waste.

- *Designated waste* is a waste that consists of or contains pollutants that could be released at concentrations in excess of applicable water quality objectives and standards, or hazardous waste that has been granted a variance from hazardous waste management requirements.

- *Hazardous waste* is a waste that, because of its quantity, concentration, physical, chemical, or infectious characteristics, may (a) either cause or significantly contribute to an increase in mortality or an increase in serious irreversible or incapacitating reversible illness; or, (b) pose a substantial present or potential hazard to human health or the environment when improperly managed.

- *Industrial wastes* are hazardous and non-hazardous by-products produced by oil and gas extraction, pesticide, paper, petrochemical, rubber, plastics, electronics, and other industries.

Not all of the above-defined wastes may be disposed of at a landfill. State law regulates the disposal of wastes at landfills.

Construction- and demolition-generated (C&D) waste is heavy, inert material. This material creates significant problems when disposed of in landfills. Since C&D debris is heavier than paper and plastic, it is more difficult for counties and cities to reduce the tonnage of disposed waste. For this reason, C&D waste debris has been specifically targeted by the State of California for diversion from the waste stream. Projects that will generate C&D waste should emphasize deconstruction and diversion planning, rather than demolition. Deconstruction is the planned, organized dismantling of a prior construction project, which allows maximum use of the deconstructed materials for recycling in other construction projects and transports a minimum of the deconstruction material to landfills.

Regulatory Context

FEDERAL

In cooperation with Section 4005(c)(1)(C) of the Resource Conservation and Recovery Act (RCRA), the Code of Federal Regulations, under Title 40 - *Protection of the Environment*, Chapter 1 – *Environmental Protection Agency*, Subchapter I *Solid Wastes*, the authority to regulate solid waste disposal facilities, including state programs and permits is granted to individual states.

STATE

The California Integrated Waste Management Board's (CIWMB) mandated responsibility is to reduce waste, promote the management of all materials to their highest and best use, and protect public health and safety and the environment. To meet these responsibilities, the Legislature has given the Board enforcement authority in the following programs:

Recycled-Content Newsprint: California's newsprint law mandates the use of a specified amount of recycled-content newsprint by printers and publishers located in California.

Recycled-Content Trash Bags: Manufacturers and wholesalers selling regulated trash bags in California must meet mandates for recycled content and be certified annually by the Board before State agencies and departments, pursuant to California Department of General Services policy, can purchase regulated trash bags under contract from these companies.

Solid Waste Facility Operation and Closure: The Board's regulation of solid waste facilities includes certifying local enforcement agency (LEA) programs; reviewing permitting and closure/post closure documents; providing inspection and oversight of local programs to ensure that State programs are effectively implemented; enforcing State standards and permit conditions in addition to (or in lieu of) the LEA; and administering a remediation program for orphaned, illegal, and abandoned sites.

Used Oil Recycling: The Board's used oil recycling program helps protect California's environment and the health of its inhabitants by increasing the amount of used lubricating oil recycled by the public.

Waste Diversion Planning: The Board's programs are designed to increase public participation in all aspects of diverting waste from landfill disposal, including waste reduction, reuse, recycling, and composting, as well as promoting the safe disposal of waste that cannot be diverted. This includes technical assistance to the residential, commercial, and manufacturing sectors, directly and/or through local government programs.

Waste Tire Hauling and Storage: The Board is charged with responsibility for tire pile stabilization and remediation where public health and safety and the environment may be at risk. Consequently, the CIWMB adopted regulations to establish and enforce waste tire storage and handling standards.

LOCAL

The City of Murrieta is responsible for meeting the California Integrated Wastewater Management Act of 1989, Assembly Bill 939 (AB 939). AB 939 requires that cities and counties reduce the amount of solid waste being sent to landfills by 50 percent by January 1, 2000, and requires cities and counties to prepare AB 939 solid waste planning documents. These documents include the Source Reduction and Recycling Element (SRRE), the Household Hazardous Waste Element (HHWE), and the Non-Disposal Facility Element (NDFE), all of which were adopted by the City in April 1998.

All solid waste disposals within the jurisdiction of the City of Murrieta are subject to the requirements set forth in Title 8 Health and Safety, Chapter 8.28 Waste Management, as provided in the City of Murrieta *Municipal Code*. Chapter 8.28 provides integrated waste management guidelines for service, prohibitions, and provisions of service. The provisions of service require that the City of Murrieta shall provide for or furnish integrated waste management services relating to collection, transfer, and disposal of refuse, recyclables, and compostables within and throughout the city.

Existing Conditions

All cities and counties in California are required to have in place programs that seek to keep as much trash out of landfills as possible. Local government has an ongoing obligation to meet a 50 percent diversion goal, meaning that no more than one-half of the trash sent to landfills in 1990 should be dumped today (annual adjustments allow for growth). Murrieta's 2006 diversion rate is 49 percent, which has steadily been increasing from 1995 where the diversion was 28 percent. The City has been found to be in compliance with state requirements, having made a "good faith" effort to meet the goal.

The City of Murrieta requires all residential and business properties to have trash collection services. The City contracts with Waste Management of the Inland Empire to provide collection and recycling services. No other haulers are authorized. The City of Murrieta, in collaboration with Waste Management, provides residential customers with three separate containers for waste separation: one for trash, one for commingled recyclables, and one for green waste and organic yard materials. In addition, the City of Murrieta has implemented a variety of Diversion Programs including, but not limited to the *Business Waste Reduction program*, in which Waste Management Inc. (WMI) and Western Riverside Council of Governments (WRCOG) offer businesses in the City waste assessments to promote recycling activities, *Procurement*, in which

the City continues to give preference to the purchase of recycled content materials when feasible, Economic Incentives, and School Recycling Programs.

Trash collected from the City of Murrieta is primarily disposed of in three landfill sites, all located outside of the City limits: El Sobrante Landfill located at 10910 Dawson Canyon Road, Corona, California, Badlands Landfill located at 31125 Ironwood, Moreno Valley, California, Lamb Canyon Landfill located at 16411 Lamb Canyon, Beaumont California; refer to *Table 9.4-1*, *Disposal Facilities Used by Murrieta (2008)*.

These waste disposal sites are limited to non-hazardous wastes and inert solid wastes. Typical non-hazardous wastes include: garbage, trash, refuse, paper, ashes, industrial wastes, demolition and construction wastes, manure, vegetable or animal solid and semi solid wastes and other discarded solid and semi solid wastes. These landfill sites do not acceptable hazardous wastes, designated wastes, or special wastes such as liquids, oils, waxes, tars, asbestos, soaps, solvents, or readily waster soluble slats such as borax, lye, caustic, or acids. In addition the disposal of toxic, infectious, or septic materials is prohibited.

Table 9.4-1
Disposal Facilities Used by Murrieta (2008)

Facility	Amount Disposed from Murrieta (tons/year)[1]	Permitted Throughput (tons/day)[2]	Permitted Capacity (cubic yards)[2]	Remaining Capacity (cubic yards)[2]	Anticipated Closure Date[2]
Azusa Land Reclamation Co. Landfill	3	6,500	66,670,000	34,100,000	01/01/2025
Badlands Sanitary Landfill	399	4,000	30,386,332	21,866,092	01/1/2016
Bakersfield Metropolitan (Bena) Sanitary Landfill	1	4,500	53,000,000	44,818,958	12/31/2038
El Sobrante Landfill	65,215	10,000	184,930,000	118,573,540	01/01/2030
Lamb Canyon Sanitary Landfill	205	3,000	34,292,000	20,908,171	01/01/2023
Olinda Alpha Sanitary Landfill	22	8,000	74,900,000	38,578,383	12/13/2013
Prima Deshecha Sanitary Landfill	5	4,000	172,900,000	87,384,799	12/31/2067
San Timoteo Sanitary Landfill	1	1,000	24,400,000	9,491,163	05/01/2016

Table 9.4-1 (continued)
Disposal Facilities Used by Murrieta (2008)

Facility	Amount Disposed from Murrieta (tons/year)[1]	Permitted Throughput (tons/day)[2]	Permitted Capacity (cubic yards)[2]	Remaining Capacity (cubic yards)[2]	Anticipated Closure Date[2]
Simi Valley Landfill & Recycling Center	19	3,000	43,500,000	23,201,173	12/01/2033
Sycamore Sanitary Landfill	2	3,965	48,124,462	47,388,428	12/31/2031
Victorville Sanitary Landfill	1	3,000	83,200,000	82,200,000	10/01/2047
Total	**65,873**	**68,200**	**928,071,000**	**518,511,964**	NA

[1] California Integrated Waste Management Board official website, Disposal Reporting System, 2008, http://www.ciwmb.ca.gov LGCentral/Reports/DRS/Destination/JurDspFa.aspx, 2008 data, Accessed December 12, 2009.
[2] California Integrated Waste Management Board official website, Solid Waste Information System, 2009, http://www.ciwmb.ca.gov/SWIS/Search.aspx, Accessed December 12, 2009.

The top four specific materials in the household waste (based upon 1999 statewide estimates) are:

- Food (20 percent)
- Leaves and grass (10.5 percent)
- Remainder/composite organic (9.5 percent)
- Remainder/composite paper (8.1 percent)

The types of overall materials by materials category in household waste (based upon 2000 statewide estimates):

- Other organic (45 percent)
- Paper (27.5 percent)
- Plastic (8.8 percent)
- Metal (4.6 percent)
- Construction and demolition (4.5 percent)
- Glass (4.0 percent)
- Mixed residue (4.0 percent)
- Household hazardous waste (0.3 percent)
- Special waste (0.0 percent)

The top four specific materials in the business waste (based upon 1999 statewide estimates) are:

- Food (18.2 percent)
- Remainder/composite paper (10.5 percent)

- Uncoated corrugated cardboard (6.5 percent)
- Lumber (5.4 percent)

The types of overall materials by materials category in business waste (based upon 2000 statewide estimates):

- Paper (31.1 percent)
- Glass (2.9 percent)
- Metal (5.9 percent)
- Plastic (8.5 percent)
- Other organic (31.2 percent)
- Construction and demolition (12.8 percent)
- Household hazardous waste (0.2 percent)
- Special waste (0.1 percent)
- Mixed residue (0.5 percent)

The top four business types with the most disposal (based upon 2000 statewide estimates)

- Services – Medical/Health (16.9 percent)
- Retail Trade – Restaurants (16.8 percent)
- Construction (14.3 percent)
- Retail Trade – Food Store (7.5 percent)

Findings

- Future development proposals shall adhere to all source reduction programs for the disposal of demolition and construction materials and solid waste.

- Develop a better understanding of disposal generated by different users to develop new policies and programs to reduce both consumption and waste generation.

- The City should continue to explore and develop new programs that encourage the reuse and recycling of products and materials.

- The City should maintain compliance with the source reduction requirements of AB 939.

- Building and site design conservation measures shall be considered in to reduce the demands of individual development projects.

Significance Thresholds

The following thresholds for determining the significance of impacts related to solid waste are taken from the environmental checklist form contained in Appendix G of the most recent update of the *California Environmental Quality Act (CEQA) Guidelines*, and will be used in the Environmental Impact Report. Impacts related to solid waste are considered significant if implementation of the General Plan:

- Is served by a landfill that does not have sufficient permitted capacity to accommodate the project's solid waste disposal needs; or,
- Does not comply with federal, state, and local statues and regulations related to solid waste.

Sources Cited

City of Murrieta Municipal Code, Chapter 8.28

City of Murrieta General Plan

City of Murrieta Recycling Resources Brochure, April 2003

www.ciwmb.ca.gov/lgcentral/Reports/ReportViewer.aspx?OriginJurisdictionIDs=329&ReportYear=2008&ReportName=ReportEDRSJurisDisposalByFacility, Accessed December 12, 2009

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9.5 Electricity and Natural Gas

Introduction

Electrical power is provided to the City of Murrieta by the Southern California Edison Company (SCE). There is a local SCE office located at 27450 Ynez Road, Suite 124 in Temecula. There are a total of six existing substations that service the area, of which three are within the City of Murrieta.

The City of Murrieta receives its natural gas service from the Southern California Gas Company (SCG), a subsidiary of Sempra Energy. Currently SCG is the nation's largest natural gas distribution utility, serving approximately 20.5 million consumers throughout 20,000 square miles of central and Southern California.[1]

Regulatory Context

FEDERAL

State and federal governments extensively regulate corporate utilities. The states' power to regulate municipal utilities varies greatly. The federal government has almost no power to regulate municipal utilities, except as they are parties to certain contracts that must be filed with the Federal Energy Regulatory Commission (FERC).[2]

STATE

California Code of Regulations Energy Efficiency Standards (Title 24, Part 6)

The Energy Efficiency Standards for Residential and Nonresidential Buildings were established in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods.

The California Public Utilities Commission (CPUC) regulates privately owned electric, natural gas, telecommunications, water, railroad, rail transit, and passenger transportation companies.

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1 Sempra Energy, *Companies*, 2008, http://www.sempra.com/companies/utilities.htm#scg, accessed, December 11, 2009.

2 http://www.econlib.org/library/Enc1/ElectricUtilityRegulation.html

LOCAL

Electric power supply and distribution to the City of Murrieta is furnished by Southern California Edison (SCE). The SCG provides natural gas service to the City of Murrieta. Electrical and natural gas services must be provided in accordance with SCE and SCG policies and extension rules on file with the California Public Utilities Commission at the time contractual agreements are made.

On July 17, 2008 the City of Murrieta City Council adopted Ordinance No. 408-08 establishing standards for regulating non-commercial wind energy conversion systems in the Rural Residential District.[3]

Existing Conditions

SOUTHERN CALIFORNIA EDISON

SCE maintains and operates the transmission and distribution infrastructure necessary to provide electricity to end users throughout its entire service area. SCE provides electricity to approximately 13 million people, 180 cities and communities in 50,000 square miles of service area, encompassing 11 counties in central, costal and southern California, excluding the City of Los Angeles and certain other cities. Electricity can be generated from a combination of natural gas, hydroelectric, nuclear or renewable sources (wind and solar). SCE facilities include hydroelectric, nuclear, and coal power plants as identified below: [4]

- Big Creek Hydroelectric Facilities is located in Shaver Lake, California. This hydroelectric facility began operating in 1911, and consists of 23 hydroelectric generating units in nine powerhouses with a generating capacity of approximately 1,000 Megawatts, and six major reservoirs with a storage capacity of more than 560,000 acre-feet.

- San Onofre Nuclear Generating Station (SONGS), located in San Clemente, California, is jointly owned by SCE (75 percent share), San Diego Gas & Electric (20 percent share), and the cities of Riverside and Anaheim (remaining interests). In operation since 1968, SONGS is one of the largest nuclear generating stations in the United States. SONGS' two active units can serve 2.2 million households. Unit 1 of the facility has been decommissioned in 2007.

- Four Corners Generating Station is located in Fruitland, New Mexico. Arizona Public Service and SCE jointly own this facility. SCE owns 48 percent (approximately 754

[3] City of Murrieta City Council Meeting Minutes, June 17, 2008, http://www.murrieta.org/uploads/minutes/council/cm061708.doc, accessed January 14, 2010

[4] Southern California Edison Company, *Our Company*, 2008, http://www.edison.com/ourcompany/sce.asp, accessed December 11, 2009.

Megawatts) in shares. The plant is fueled by coal and has a generating capacity of approximately 2,048 Megawatts.

- Mohave Generating Station, located in Laughlin, Nevada, is jointly owned by the SCE (56 percent share), the Salt River Project (20 percent share), Nevada Power (14 percent share), and Los Angeles Department of Water and Power (10 percent share). The Mohave Generating Station temporarily ceased operations on December 31, 2005 in order make significant upgrades to the plant and its emissions control systems. The plant owners are working to bring the plant back online as soon as possible. Prior to the facility ceasing operations, the plant's generating capacity was approximately 1,580 Megawatts and utilized low-sulfur coal. Coal was mixed with water off-site and delivered to the Mohave plant via a 275-mile pipeline, the only pipeline coal delivery system in the world.

- Palo Verde Nuclear Generating Station, located in Wintersburg, Arizona, is owned by both SCE (16 percent share) and Arizona Public Service (84 percent share). This facility is fueled by nuclear power and has a generating capacity of 3,600 Megawatts.

Locally, SCE is in the process of developing the Triton transmission substation. The substation project consists of constructing a new 115/12 kilovolt substation that would serve the cities of Temecula, Murrieta, and unincorporated southwestern Riverside County. The substation would be located in the City of Temecula with the purpose of strengthening SCE's electrical network in order to maintain reliability and meet the area's forecasted electrical demands due to population and density growth. The project has an expected in service date of June 2010.[5]

SOUTHERN CALIFORNIA GAS COMPANY

The City of Murrieta is located within SCG's Ramona District of the Inland Empire. SCG provides the City with customer and distribution services. The City of Murrieta does not have any natural gas storage facilities. Natural gas is brought to the City through an existing network of gas transmission pipelines. Natural gas is distributed through existing mains located under City streets which can be extended to serve new projects. When new gas supply lines are required, SCG obtains encroachment permits from the City in advance of construction.

For service meter installation and maintenance procedures SCG possesses a "blanket permit" agreement with the City where the work is performed and SCG notifies the City after the work is completed.[6]

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[5] Southern California Edison, Project Update Triton 115/12 Kilovolt Substation, October 2008; http://www.sce.com/NR/rdonlyres/7787C52B-A994-455E-8FD2-157955FC8BFF/0/081009_TritonSubProjectUpdate.pdf, accessed January 14, 2010.

[6] City of Murrieta Master Environmental Assessment, October 28, 1992

In areas of the City where natural gas infrastructure is not available, homes or businesses use propane gas. Individual propane tanks are located on the property and the owners or occupants execute private agreements with propane companies to maintain and refill the tanks.

RENEWABLE ENERGY

Southern California Edison[7]

In 2008, SCE delivered approximately 12.6 billion kilowatt-hours of renewable energy to its customers, representing approximately 16 percent of the total energy delivered. Based on current renewable energy contracts, SCE expects that upon delivery, 20 percent or more of its customers energy needs with be met with renewable energy. *Table 9.5-1*, *Southern California Edison, 2008 Renewable Energy Summary***,** provides a summary of the renewable energy SCE generated in 2008.

SCE has signed two wind-energy contracts. One agreement, with Puget Sound Energy signed in January 2009, calls for 2 billion kilowatt-hours over the next two years. The projects are located in Columbia and Kittitas counties in Washington State. The other, with AES Mountainview, calls for 66.6 megawatts from a wind farm in the San Gorgonio Pass near Palm Springs. This 10-year contract was signed in November 2008.

In addition, SCE has implemented the *Renewables Standard Contract Program***,** which is available for all renewable technologies of 20 megawatts or less. This program is designed to help smaller renewable generators contribute to reaching California's renewable energy and environmental goals. It also provides a faster, simpler way for renewable projects under 20 megawatts to sell their power to utility customers.

Table 9.5-1
Southern California Edison
2008 Renewable Energy Summary

	Capacity (MW)	Delivered in 2008 (MWh)	Percentage of SCE's Renewable portfolio (%)
Wind	1,137	2,572,011	21%
Geothermal	906	7,839,726	62%
Solar	356	730,712	6%
Biomass	185	904,465	7%
Small hydro	200	526,193	4%
Total	**2,784**	**12,573,107**	**100.0%**
Source: SCE, http://www.sce.com/PowerandEnvironment/Renewables/ accessed January 14, 2010			

[7] SCE, http://www.sce.com/PowerandEnvironment/Renewables/ accessed January 14, 2010

Southern California Gas Company

SCG participates in the Self-Generation Incentive Program (SGIP) which was established in 2001 in response to Assembly Bill (AB) 970. This legislation required the CPUC to initiate certain program activities that allowed customers of the utility to generate their own power and sell it back to a utility. The first SGIP application was accepted by the CPUC in July 2001. Today, the SGIP represents the single largest incentive program of its kind in the country. Approximately 860 facilities representing slightly over 200 megawatts of rebated generation capacity have been installed and received rebate checks under the program.[8] *Table 9.5-2, Southern California Gas Company Self-Generation Incentive Levels*, outlines the incentives provided by SCG for participating in the program.

Table 9.5-2
Southern California Gas Company
Self-Generation Incentive Levels

Incentive Levels	Eligible Technologies	Incentive Offered ($/Watt)[2]	Minimum System Size	Maximum System Size[3]
Level 2 (Renewable)	Wind turbines	$1.50/W	30 kW	5 MW
	Renewable fuel cells	$4.50/W		
Level 3 (Non-Renewable)	Non-Renewable fuel cells[1]	$2.50/W	None	5 MW
Advanced Energy Storage	Coupled with eligible self generation technology and four hour discharge period rate capacity	$2.00/W	None	5 MW

Source: SCG, http://www.socalgas.com/business/selfGen/
1. System must utilize waste heat recovery meeting Public Utilities Code 218.5.
2. O - 1 MW -- 100% of incentive
   1 - 2 MW -- 50% of incentive
   2 - 3 MW -- 25% of incentive
3. Maximum incentive payout capped at 3 MW.

GOALS, OBJECTIVES, AND POLICIES

The following goals, objectives, and policies from the *City of Murrieta General Plan*, dated June 21, 1994, Utilities, updated February 6, 2001, shall be applied to all projects within the General Plan Study Area:

[8] CPUC Self-Generation Incentive Program Fifth Year Impact Evaluation, Final Report, prepared by Itron, Inc, March 1, 2007

Policy COS-4.2a	Decrease dependence on nonrenewable energy sources such as electricity, natural gas, and transportation fuels by applying energy conservation techniques in public facilities. Appropriate conservation concepts include improved technology, the reduction of unnecessary use, and the conservation of related resources.
Policy COS-4.2b	Implement Title 24 Building Energy Standards for residential, commercial, institutional, and industrial structures through the process of issuing building permits.
Policy COS-4.2c	Promote utility-sponsored conservation programs for the community.
Policy COS-4.2d	Implement the proposals of the Regional Air Quality Management Plan (AQMP) and the Air Quality Element of the Murrieta General Plan.
Policy COS-4.2e	Develop and implement an Integrated Waste Management Program, in compliance with state law.

Findings

ELECTRICITY

- Any new developments must provide verification from an electricity service provider that the utility is able to accommodate the additional demand for service.
- The use of photovoltaic solar panels on businesses and residences will help reduce the City's future electrical demand.
- Incorporation of energy efficient building codes will help new development and renovations to existing development reduce energy consumption.
- Land use planning that focuses on sustainable development patterns and practices will result in reduced energy demands over the long term.
- Where appropriate, land use planning should encourage transportation oriented development to reduce energy use.

NATURAL GAS

- Any new developments must provide verification from the natural gas service provider that the utility is able to accommodate the additional demand for service.

Significance Thresholds

The following thresholds for determining the significance of impacts related to electrical and natural gas supplies and facilities are taken from the environmental checklist form contained in Appendix G of the most recent update of the *California Environmental Quality Act (CEQA) Guidelines*, and will be used in the Environmental Impact Report. Impacts related to electrical and natural gas supplies and facilities are considered significant if implementation of the General Plan would:

- Exceeds the capacity of the electrical and natural gas facilities within the General Plan Study Area.
- Result in adverse secondary effects for the expansion of any utility system
- Require additional staff or substantial equipment to maintain acceptable levels of service.

Sources Cited

CPUC Self-Generation Incentive Program Fifth Year Impact Evaluation, Final Report, prepared by Itron, Inc, March 1, 2007

City of Murrieta City Council Meeting Minutes, June 17, 2008, http://www.murrieta.org/uploads/minutes/council/cm061708.doc, accessed January 14, 2010

City of Murrieta Final General Plan EIR, prepared by EIP Associates, June 1994.

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City of Murrieta Master Environmental Assessment, October 28, 1992

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Sempra Energy, *Companies*, 2008, http://www.sempra.com/companies/utilities.htm#scg, accessed, December 11, 2009.

South Coast Air Quality Management District CEQA Air Quality Handbook, April 1993, Table A9-11-A

Southern California Edison, http://www.sce.com/PowerandEnvironment/Renewables/ accessed January 14, 2010

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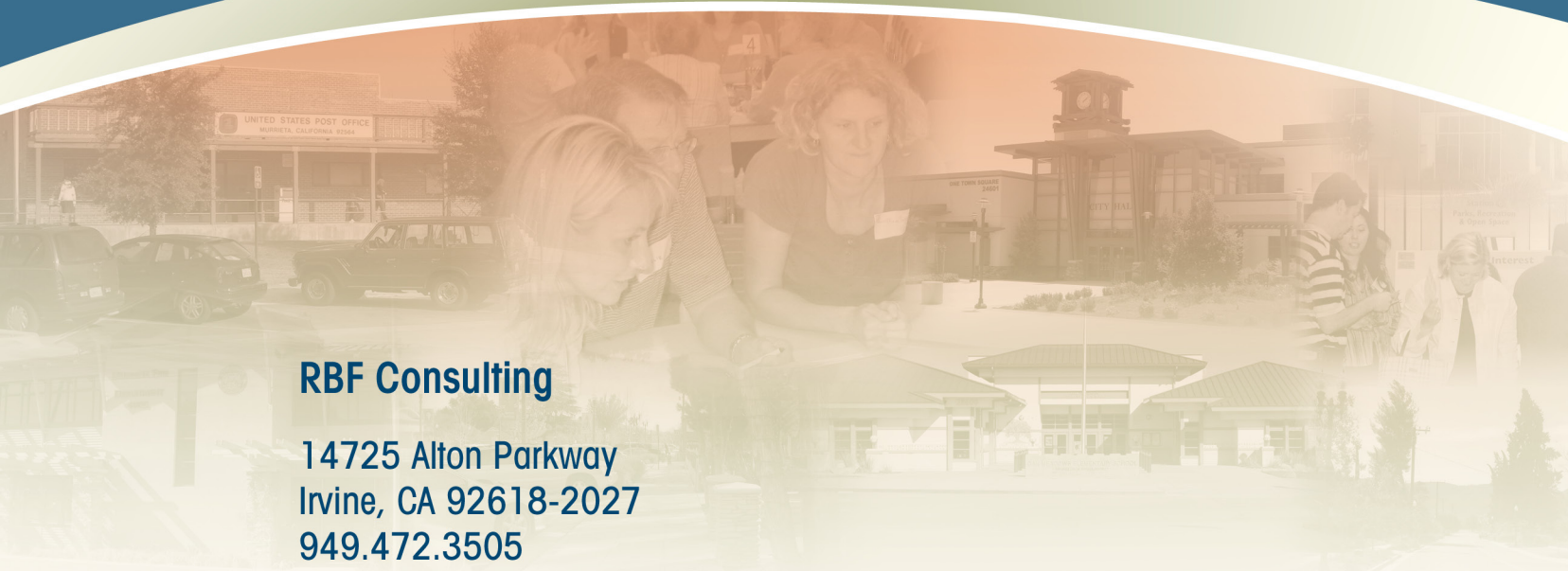

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