CITY OF
CHULA VISTA

A Supplemental Environmental Impact Report for Amendments to the City of Chula Vista General Plan (GPA-09-01) and Otay Ranch General Development Plan (PCM-09-11)

SEIR-09-01

SCH No. 2004081066

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G: Salt Creek Interceptor Technical Sewer Study
H: Global Climate Change Analysis

ACRONYMS

AAQS	Ambient Air Quality Standards
AB	Assembly Bill
ac	Acre
AF	Acre-feet
ADT	Average Daily Traffic
AMR	American Medical Response
AHP	Affordable Housing Program
AIA	Airport Influence Area
ALUC	Airport Land Use Commission
ALUCP	Airport Land Use Compatibility Plan
APCD	San Diego Air Pollution Control District
APS	Alternative Planning Strategy
AQIP	Air Quality Improvement Plan
AQMD	California Air Quality Management Districts
BAT	Best Available Technology
BAU	Business-as-usual
BCT	Best Conventional Technology
BMPs	Best management practices
BRT	Bus Rapid Transit
CAA	Clean Air Act
CAFE	Corporate Average Fuel Economy
CalEEMod	California Emissions Estimator Model
CalEPA	California Environmental Protection Agency
Cal ISO	California Independent System Operator
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CCAA	California Clean Air Act
CCAP	Climate Change Action Plan
CCAR	California Climate Action Registry
CCR	California Code of Regulations
CCWG	Climate Change Working Group
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CH_4	Methane
CIP	Capital Improvement Program
City	City of Chula Vista
CMAP	Climate Mitigation Adaptation Plan
CMP	Congestion Management Program
CNEL	Community noise equivalent level
CO	Carbon Monoxide
CO_2	Carbon Dioxide

County	County of San Diego
CPF	Community purpose facility
CPAP	Climate Protection Action Plan
CPUC	California Public Utilities Commission
CPTED	Crime Prevention through Environmental Design
CVESD	Chula Vista Elementary School District
CVFD	Chula Vista Fire Department
CVPD	Chula Vista Police Department
CVPL	Chula Vista Public Library
CWA	Clean Water Act
dB	Decibels
dB(A)	A-weighted Decibels
d/D	Diameter Ration
DIF	Development Impact Fee
DOE	Department of Energy
DOF	Department of Finance
Du	Dwelling Unit
du/ac	Dwelling Units per Acre
EDUs	Equivalent Dwelling Units
EE	Environmental Element
EIA	Energy Information Administration
EIR	Environmental Impact Report
EO	Executive Order
EPA	Environmental Protection Agency
EPIC	Energy Policy Initiative Center
EUC	Eastern Urban Center
FEIR	Final Environmental Impact Report
FSMP	Fire Station Master Plan
FY	Fiscal year
GBS	Green Building Standards
GCC	Global Climate Change
GDP	General Development Plan
GDPA	General Development Plan Amendment
GHG	Greenhouse Gas
GM	Growth Management
GMO	Growth Management Ordinance
GMOC	Growth Management Oversight Committee
gpd	Gallons per Day.
GP	General Plan
GPA	General Plan Amendment
GPS	Global Positioning System
GPU	General Plan Update
GPU EIR	General Plan Update Environmental Impact Report

GSF	Gross Square Feet
GWP	Global Warming Potential
HCM	Highway Capacity Manual
HFCs	Hydrofluorocarbons
HRA	Health Risk Assessment
HOV	High-occupancy Vehicle
HRA	Health Risk Assessment
ICLEI	International Council of Local Environmental Initiatives
I	Interstate
IID	Imperial Irrigation District
IPCC	Intergovernmental Panel on Climate Change
IRP	Integrated Water Resources Plan, 2003 Update
IWMA	California Integrated Waste Management Act
JURMP	Jurisdictional Urban Runoff Management Program
kWh	Kilowatts-hours
LCFS	Low Carbon Fuel Standard
LEED	Leadership in Energy and Environmental Design
L_{eq}	Equivalent Continuous Noise Level
LLG	Linscott Law & Greenspan
LNG	Liquefied Natural Gas
LOA	Land Offer Agreement
LOS	Level of Service
LSP	Library Strategic Plan
LUT	Land Use and Transportation Element
MDC	Mobile Data Computers
METRO	Metropolitan Wastewater System
mgd	Million Gallons per Day
$MMTCO_2E$	Million Metric Tons of CO_2 Equivalent
mpg	Miles per Gallon
mph	Miles per Hour
MPO	Metropolitan Planning Organization
MSCP	Multiple Species Conservation Program
$MTCO_2E$	Metric tons of CO_2 equivalent
MTDB	Metropolitan Transit Development Board
MUR	Mixed Use Residential
MW	Megawatt
MWD	Metropolitan Water District of Southern California
NAAQS	National Ambient Air Quality Standards
NCCP	Natural Communities Conservation Planning Act
NDFE	Non-Disposal Facility Element
NOP	Notice of Preparation
NOx	Nitrogen Oxides
N_2O	Nitrous Oxide

NO_2	Nitrogen Dioxide
NPDES	National Pollutant Discharge Elimination System
O_3	Ozone
OLC	Otay Land Company
OPR	Office of Planning and Research
OS	Open Space
OSP	Open Space Preserve
OTAY RANCH	Otay Ranch Planned Community
OVRPCP	Otay Valley Regional Park Concept Plan
OWD	Otay Water District
Pb	Lead
PC	Planned Community
PEIR	Program Environmental Impact Report
PFCs	Perfluorocarbons
PFE	Public Facilities Element
PFFP	Public Facilities Financing Plan
PFS	Public Facilities and Services
PDO	Park Development Ordinance
$PM_{2.5}$	2.5-micron particulate matter
PM_{10}	10-micron particulate matter
ppm	Parts per million
PQ	Public/Quasi Public
PRK	Park
QSA	Quantification Settlement Agreement
RAQS	Regional Air Quality Strategy
RCAP	Regional Climate Action Plan
RCP	Regional Comprehensive Plan
RH	Residential High
RL	Residential Low
RLM	Residential Low/Medium
RM	Residential Medium
RMH	Residential Medium/High
RMP	Resource Management Plan
ROG	Reactive Organic Gases
ROW	Right-of-way
RSWMP	Regional Solid Waste Management Plan
RTCIP	Regional Transportation Congestion Improvement Program
RTP	Regional Technology Park
RTV	Regional Transit Vision
RWQCB	Regional Water Quality Control Boards
SAMP	Sub-Area Master Plan
SANDAG	San Diego Association of Governments
SB	Senate Bill

SBWRP	South Bay Water Reclamation Plant
SCAB	South Coast Air Basin
SCAQMD	South Coast Air Quality Management District
SCS	Sustainable Communities Strategy
SDAB	San Diego Air Basin
SDAPCD	San Diego Air Pollution Control District
SDCRAA	San Diego County Regional Airport Authority
SDCWA	San Diego County Water Authority
SDG&E	San Diego Gas & Electric Company
SDREO	San Diego Regional Energy Office
SEIR	Supplemental Environmental Impact Report
sf	Square feet
SF_6	Sulfur hexafluoride
SIP	State Implementation Plan
SOx	Sulfur Oxides
SO_2	Sulfur Dioxide
SoCalGas	Southern California Gas Company
SP	Specific Plan
SPA	Sectional Planning Area
SR	State Route
SRP	Subregional Plan
SRRE	Source Reduction and Recycling Element
Subarea Plan	MSCP Subarea Plan
SUHSD	Sweetwater Union High School District
SUSMP	Standard Urban Stormwater Mitigation Plan
SWP	State Water Project
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TACs	Toxic Air Contaminants
TC	Town Center
TCMs	Transportation Control Measures
TDIF	Transportation Development Impact Fee
TDM	Transportation Demand Management
TDV	Time Dependant Valuation
TIA	Traffic Impact Analysis
TMP	Traffic Monitoring Program
TWLTL	Two-way left-turn Lane
$\mu g/m^3$	Micrograms per Cubic Meter of Air
UBC	Uniform Building Code
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
UWMP	Urban Water Management Plan
VMT	Vehicle Miles Traveled

WCP	Water Conservation Plan
WRMP	Water Resource Master Plan
WSA&V	Water Supply Assessment and Verification
WTP	Water Treatment Plant
WURMP	Watershed Urban Runoff Management Program

1.0 EXECUTIVE SUMMARY

1.1 Project Synopsis

This summary provides a brief synopsis of: (1) the Proposed Project, (2) results of the environmental analysis contained within this environmental document, (3) alternatives to the Proposed Project that were considered, and (4) major areas of controversy and issues to be resolved by decision-makers. This summary does not contain the extensive background and analysis found throughout the individual chapters within the document. Therefore, the reader should review the entire document to fully understand the Proposed Project and its environmental consequences.

This document constitutes a Supplemental Environmental Impact Report (SEIR) pursuant to Section 15163 of the California Environmental Quality Act (CEQA) Guidelines. As detailed in Section 2.3, this SEIR provides a supplement to the Environmental Impact Report (EIR) certified by the City of Chula Vista (City) at the time of the approval of the 2005 General Plan Update (GPU) and Otay Ranch General Development Plan (GDP). This SEIR examines potential alterations to the analysis and conclusions in the 2005 GPU/GDP EIR attributed to the Proposed Project.

1.2 Project Location and Setting

The Proposed Project is located within the Otay Ranch Subarea of the City, in San Diego County (County) (see Figure 4-1). Specifically, the Project Area, consisting of approximately 1,281 acres, is located within the Otay Ranch GDP area and is comprised of multiple existing villages and planning areas as follows:

- Portions of Villages 4 and 7
- Village 8
- Village 9
- Planning Area 10 (which includes the University site and a proposed 85-acre Regional Technology Park [RTP])
- A portion of the southern edge of the Eastern Urban Center (the portion to be added to the proposed Village 9).

The Project Area is shown in Figure 2-1, identified by the dotted line. While circulation changes and some policy changes would affect the entire Project Area, proposed land use designations and their associated policy changes would affect only that portion of the Project Area identified as the Land Use Change Area. The Land Use Change Area, defined in greater detail in Chapter 3.0, includes the two proposed villages and the proposed RTP. The Land Use Change Area is depicted in Figure 2-1 by a solid blue line.

The Project Area includes an area known as the “Deferral Area” of the 2005 GPU. While the entire City was included in the 2005 GPU, the City Council did not take action on the proposed land use designations and policies pertaining to this “Deferral Area,” which is depicted as the gray area in Figure 2-1. Land use designations and policies within the “Deferral Area” are therefore currently subject to those designations and policies existing prior to approval of the 2005 GPU.

As shown in Figure 4-2, the Project Area is currently vacant. There is an existing water reservoir that is not part of the Proposed Project in the center of proposed Village 8 West. Water pipelines pass through the Project Area on the east side of the reservoir.

1.3 Project Description

The Proposed Project includes a General Plan Amendment (GPA) and Otay Ranch General Development Plan Amendment (GDPA) resulting in policy, circulation, and land use changes affecting the lands within the Project Area.

Specifically, the Proposed Project includes amendments to General Plan (GP) and Otay Ranch GDP revising policies applicable to the entire Project Area and specific to the Land Use Change Area and associated figures. The Proposed Project also includes amendments to the Circulation Plan–East. Additionally, the Proposed Project will redefine the boundaries within the GDP area to create proposed Village 8 West and Village 9 (see Figure 3-1). The Proposed Project would also add 85 acres of RTP within the University Site. Proposed land use designation changes would affect only land within the proposed village sites and the associated University and RTP area. As mentioned above, these areas are referred to throughout the document as the Land Use Change Area. The components of the project description are summarized briefly below and detailed in Chapter 3.0.

1.3.1 Project Objectives

The Proposed Project is intended to create consistency with the 2005 GPU within the "Deferral Area" to accommodate forecasted increases in population along with increased demands for housing and support services. The primary goals and objectives of the Proposed Project are as follows:

- Encourage social interaction and a diverse range of services to promote a mix of uses within a village atmosphere;
- Foster the goal of the 2005 GPU to expand the local economy by providing a broad range of business, facilitate provision of services for a University, and provide employment, and housing opportunities that support an excellent standard of living, and improve the ability for residents to live and work locally;
- Create a Town Center within newly defined boundaries for Village 8 West and Village 9, as encouraged by the GPU's emphasis on providing a mix of diverse land uses that meets community needs;
- Develop a circulation plan that deemphasizes the automobile, and places greater reliance on mass transit and pedestrian circulation;
- Target higher density and higher intensity development into specific focus areas in order to protect stable residential neighborhoods and to create mixed-use urban environments that are oriented to transit and pedestrian activity. This targeted development will be well designed, compatible with adjacent areas, and contribute to the continued vitality of the City's economy;
- Allow for higher-density residential development in order to encourage the development of off-campus student housing within the University Town Center adjacent to the University;
- Provide opportunities for higher-density development that accommodates off-site Student and Faculty Housing for the University;
- Provide opportunities for goods and services and other ancillary uses necessary to support the University and RTP to be provided within the University;

- Provide access to, and connections between, the City's open space and trails network and the regional network, in accordance with the Chula Vista Multiple Species Conservation Program (MSCP) Subarea Plan, Chula Vista Greenbelt Master Plan, and Otay Valley Regional Park Concept Plan; and
- Conserve the City's sensitive biological and other valuable natural resources.

1.3.2 Discretionary Actions

The following discretionary actions will be considered by the City Council:

- Chula Vista GPA
- Otay Ranch GDPA.

1.3.2.1 General Plan Amendment

The Proposed Project includes a GPA pertaining to land use changes within the Land Use Change Area, as well as policy additions and amendments affecting the entirety of the Project Area. Additionally, the Proposed Project includes changes to the Circulation Plan–East. The text of the GPA is included in Appendix B.

Textual Changes

The Proposed Project seeks to implement goals and policies to assure integration and conformance with the City's GP. The proposed amendments primarily affect the Town Center land use designation, allowable land uses within Planning Area 10/University Site, and the relationship of the Project Area to adjacent villages that are under separate ownerships.

Circulation Plan Changes

The Proposed Project also seeks to change portions of the Circulation Plan–East. These amendments will allow the circulation plan to be consistent with proposed land use changes.

Land Use Changes

As stated above and discussed in detail in Chapter 3.0, some of the land use designations within the Project Area are currently subject to pre-2005 GPU designations—this area is referred to as the "Deferral Area." A detailed definition of the "Deferral Area" is included in Chapter 3.0. This area includes the proposed RTP, proposed Village 8 West, and most of proposed Village 9. The small portion of Village 9 (north of Hunte Parkway), designated as EUC, is not part of the "Deferral Area"; its land use designation was approved in 2005. The proposed amendments to the GP would provide consistency with the 2005 GPU by implementing a Town Center land use designation in proposed Village 8 West and Village 9. The land use designation changes affect only land within the Land Use Change Area.

1.3.2.2 General Development Plan Amendment

The Proposed Project includes amendments to the Otay Ranch GDP in the form of revised text and graphics for the Project Area to increase the intensity and alter the character of the development allowed by the existing GDP. The proposed amendments would create consistency between the City's GP and the Otay Ranch GDP. The text of the GDPA is included in Appendix B.

1.4 Areas of Controversy

The Notice of Preparation (NOP) was distributed January 15, 2010 for a 30-day public review and comment period and a public scoping meeting was held January 26, 2010. Public comments were received on the NOP and comments from the scoping meeting reflect controversy related to several environmental issues. The NOP, comment letters, and comment forms are included in this SEIR as Appendix A.

Controversy associated with the Proposed Project primarily concerns the issues of traffic, air quality, global climate change (GCC), and energy. These issues are analyzed in the SEIR.

1.5 Issues to be Resolved by the City Council

The issues to be resolved by the decision-making body are whether to adopt the Proposed Project and how to mitigate significant effects created by its implementation.

The City will decide if benefits of the Proposed Project outweigh any significant unmitigable impacts associated with land use (community character), visual quality (degradation of rolling hills), energy resources (energy supply), transportation (freeway segments), air quality (consistency with existing plans, increased criteria pollutants), noise (traffic noise to existing receivers), water (expansion of facilities, additional supplies, inconsistency with Urban Water Management Plan). The City will also decide if the significant impacts associated with the environmental issues of transportation (roadway segments) have been fully mitigated below a level of significance. Lastly, the City should determine whether any alternative might meet the key objectives of the Proposed Project while reducing its environmental impact.

1.6 Project Alternatives

Section 15126.6 of the State CEQA Guidelines requires the discussion of "a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project" and the evaluation of the comparative merits of the alternatives. The alternatives discussion is intended to "focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project," even if these alternatives would impede to some degree the attainment of the project objectives.

The SEIR addresses two No Project Alternatives: the No Project-No Build Alternative and the No Project-No Change in Existing Plans Alternative. Additional alternatives analyzed include the Reduced Density Alternative and the La Media Road Alternative. Alternatives to the Proposed Project are evaluated in full in Chapter 10 of this document.

1.6.1 No Project–No Build Alternative

The No Project–No Build Alternative reflects the existing conditions of the Project Area. Under this alternative, the proposed village sites would remain vacant. The No Project–No Build Alternative would not attain most of the objectives of the Proposed Project. This alternative would not promote a mix of uses within a village atmosphere, expand the local economy by providing a broad range of business, employment and housing opportunities, create a Town Center within newly defined boundaries for Village 8 West and Village 9, or target higher density and higher intensity development into specific

focus areas in order to protect stable residential neighborhoods and to create mixed-use urban environments that are oriented to transit and pedestrian activity.

1.6.2 No Project–No Change in Existing Plans Alternative

The No Project–No Change in Existing Plans Alternative considers the situation where land uses within the Project Area would continue to be subject to the 2001 designations. Under this alternative, residential and commercial uses would be less than the Proposed Project. While this alternative would promote a pedestrian friendly land use pattern and some mixed-uses, it would fail to attain many of the Proposed Project's objectives including creating a vibrant and high density Town Center, as encouraged by the GPU. Additionally, this alternative would not target higher density and higher intensity development to create mixed-use urban environments that are oriented to transit and pedestrian activity.

1.6.3 Reduced Density Alternative

The Reduced Density Alternative would reduce the number of residential units within proposed Village 9 by 417 units, primarily along the western boundary closest to SR-125. All other land uses would remain the same as the Proposed Project. This alternative would fail to satisfy the most basic of Proposed Project objectives: higher density and higher intensity development. While the Reduced Density Alternative would provide cohesiveness through a compact, mixed-use, focused plan, this alternative provides fewer economic opportunities than the Proposed Project.

1.6.4 La Media Road Alternative

The La Media Road Alternative would result in the same land use plan as the Proposed Project. The difference is that the La Media Road Alternative includes construction of the La Media Road extension crossing the Otay River Valley, as it stands in the current circulation element plan. While all Proposed Project objectives would be met under this alternative, its failure to yield reduced impacts renders it an infeasible alternative.

1.6.5 Environmentally Superior Alternative

The Reduced Density Alternative would be considered the environmentally superior alternative due to its potential for reducing impacts to traffic, air quality, noise, public

services and utilities, and GCC while meeting most of the objectives of the Proposed Project.

1.7 Summary Table

Table 1-1 identifies the subject areas analyzed in the SEIR, providing a summary of potential impacts, mitigation measures, and significance of impacts.

TABLE 1-1
SUMMARY OF SIGNIFICANT ENVIRONMENTAL ANALYSIS RESULTS

Environmental Issue	Results of Impact Analysis	Mitigation	Impact Level After Mitigation
LAND USE			
Would the Proposed Project physically divide or adversely affect the community character of an established community?	The Proposed Project does not include design standards necessary to assure that community character issues are addressed. Therefore, direct impacts associated with community character issues would be significant. Due to its overall adherence to the smart-growth principles in the RCP and 2005 GPU, and through conformance with the GP, cumulative land use impacts associated with the Proposed Project would be less than significant	There is no mitigation available at this level of review. Until future SPA Plans containing zoning and specific design measures are approved and implemented, direct community character impacts remain unmitigated.	Significant
Would the Proposed Project conflict with any applicable land use plan, policy or regulation of an agency with jurisdiction over the Proposed Project adopted for the purpose of avoiding or mitigating an environmental effect?	The Proposed Project is conceptually consistent with all regulations and land use plans applicable to the project area. Additionally, because the Proposed Project will conform to amendments to the GP and GDP, implementation of the Proposed Project is self-mitigating and direct and cumulative impacts would be less than significant.	No mitigation is required.	Less than Significant
Would the proposed project result in a significant impact to land use if it would conflict with any applicable habitat conservation plan or NCCP?	The current configuration of the MSCP preserve retains the integrity of the preserve design while maintaining or improving the conservation of covered species and would not be altered by the Proposed Project. Therefore, the direct and cumulative impacts associated with the conservation planning goals of all relevant Habitat Conservation Plans would be less than significant.	No mitigation is required.	Less than Significant

TABLE 1-1
SUMMARY OF SIGNIFICANT ENVIRONMENTAL ANALYSIS RESULTS
(continued)

Environmental Issue	Results of Impact Analysis	Mitigation	Impact Level After Mitigation
LANDFORM ALTERATION/VISUAL QUALITY			
Would the Proposed Project result in a substantial adverse effect on a scenic vista, or substantially damage scenic resources, including, but not limited to, trees, and rock outcroppings?	Because all future development within the project area would be required to conform to relevant GP objectives and policies assuring the protection of all visual resource issues, direct and cumulative impacts would be less than significant.	No mitigation required.	Less than significant
Would the Proposed Project result in substantially degrading the existing visual character or quality of Chula Vista?	While compliance with the City's GP policies assures that future development projects apply design specifications to promote protection of the visual character of the project area, because the Proposed Project does not include a mechanism to assure their implementation, direct and cumulative impacts associated with visual character would be significant.	The following relevant mitigation measures are identified in the GPU EIR, and would apply to future development within the project area: **5.2.5-1** Within the East Planning Area, prior to approval of grading plans, the applicant shall prepare grading and building plans that conform to the landform grading guidelines contained in the grading ordinance, Otay Ranch GDP, and General Plan. The plans shall be prepared to the satisfaction of the Director of Development Services and the City Engineer. These plans and guidelines shall provide the following that serve to reduce the aesthetic impacts: · A landscape design that addresses streetscapes, provides landscape intensity zones, greenbelt edge treatments, and slope treatment for erosion control. · Grading concepts that ensure manufactured slopes that are contoured and blend and mimic with adjacent natural slopes. · Landscaping concepts that provide for a transition from the manicured appearance of developed areas to the natural landscape in open space areas. · Landscaping concepts that include plantings selected to frame and maintain views. Notwithstanding implementation of the mitigation measures identified, until SPA plans are approved implementing design measures, direct and cumulative impacts would remain unmitigated.	Significant

TABLE 1-1
SUMMARY OF SIGNIFICANT ENVIRONMENTAL ANALYSIS RESULTS
(continued)

Environmental Issue	Results of Impact Analysis	Mitigation	Impact Level After Mitigation
ENERGY RESOURCES			
Would the Proposed Project result in the reduction of the available supply of energy resources below a level considered sufficient to meet the City's needs or cause a need for new and expanded facilities?	While future development within the project area would be required to implement the City's Energy Strategy and Action Plan, Transit First Plan, and conform to objectives contained in the General Plan, there is still no long-term assurance that energy supplies will be available as needed. Therefore, direct and cumulative impacts associated with energy consumption are considered significant.	The following mitigation measure is identified in the GPU EIR, and would apply to future development within the project area: **5.8.5-1** Continued focus on the Energy Strategy and Action Plan, which addresses demand side management, energy efficient and renewable energy outreach programs for businesses and residents, energy acquisition, power generation, and distributed energy resources and legislative actions, and continuing implementation of the CO_2 Reduction Plan will lessen the impacts from energy. Notwithstanding implementation of the mitigation measures identified, because there is no assurance that energy resources will be available to adequately serve the projected increase in population resulting from the Proposed Project, direct and cumulative impacts could remain unmitigated.	Significant
TRANSPORTATION			
The TIA analyzed each study area location utilizing the appropriate jurisdictions' significance criteria. Therefore, City, City of San Diego, and County roadways were analyzed using each jurisdiction's own significance.	**Direct Impacts** Under Year 2030 conditions, <u>direct</u> traffic impacts would occur as follows: *Segment Operations* All segment operations within the City of Chula Vista and City and County of San Diego County were determined to operate at a less than significant level. *Freeway Mainline Operations* I-805 between · Olympic Parkway/Orange Avenue to Main Street/Auto Park Drive · Main Street/Auto Park Drive to Palm Avenue SR-905 between · I-805 to Ocean View Hills Parkway · Britannia Boulevard to La Media Road	**Direct Impacts** *Freeway Segments* The following is recommended to mitigate the potentially significant impacts to freeway segments: **5.4.5.1-1** The City of Chula Vista shall collect the appropriate RTCIP funds from the Proposed Project.	**Direct/ Freeways** Less than Significant

TABLE 1-1
SUMMARY OF SIGNIFICANT ENVIRONMENTAL ANALYSIS RESULTS
(continued)

Environmental Issue	Results of Impact Analysis	Mitigation	Impact Level After Mitigation
	Cumulative Impacts Under Year 2030 conditions, significant cumulative traffic impacts would occur as follows: *Segment Operations (City of Chula Vista)* · Otay Valley Road between SR-125 and Street "A" *Segment Operations (City of San Diego)* · Heritage Road between the City Boundary and Avenida de las Vistas · Heritage Road between Avenida de las Vistas and Datsun Street/Otay Valley Road · Heritage Road between Datsun Street/Otay Valley Road and Otay Mesa Road *Freeway Mainline Operations* I-805 · Olympic Parkway/ Orange Avenue to Main Street/Auto Park Dr · Olympic Parkway/ Orange Avenue to Main Street/Auto Park Dr · Main Street/Auto Park Drive to Palm Avenue · Palm Avenue to SR-905 SR-125 · Otay Valley Road to Lonestar Road · Otay Valley Road to Lonestar Road · Lonestar Road to Otay Mesa Road SR-905 · I-805 to Ocean View Hills Parkway · I-805 to Ocean View Hills Parkway · Ocean View Hills Parkway to Heritage Road · Ocean View Hills Parkway to Heritage Road · Heritage Road to Britannia Boulevard · Heritage Road to Britannia Boulevard · Britannia Boulevard to La Media Road · Britannia Boulevard to La Media Road · La Media Road to SR-125	**Cumulative Impacts** *Roadway Segments* The following is recommended to mitigate the significant cumulative impacts in the City: **5.4.5.2-1** To mitigate for the significant cumulative impact along Otay Valley Road between SR-125 and Street "A," the applicant shall increase the capacity of this segment to a 5-Lane Major with three lanes traveling in the westbound direction with the number three lane serving as an auxiliary lane onto the SR-125 NB Ramp on-ramp and two lanes traveling in the eastbound direction, resulting in LOS D operations. Implementation of **Mitigation Measure 5.4.5.2-1** identified above would reduce significant cumulative impacts to City roadway segments to below a level of significance. **5.4.5.2-2** To mitigate for the significant cumulative impact along Heritage Road between the City Boundary and Otay Mesa Road, the applicant shall increase the capacity of this segment located in the City of San Diego to 6-Lane Expressway standards. This would result in acceptable LOS D or better operations. The improvements required to mitigate the impacts along Heritage Road fall within the jurisdiction of the City of San Diego and are not within the authority of the City. Therefore, such mitigation measures are considered infeasible. *Freeway Segments* Implementation of **Mitigation Measure 5.4.5.1-1**, above, would also apply to cumulative freeway impacts.	**Cumulative/ Roadways** (Otay Valley Road between SR-125 and Street "A") Less Than Significant (City of San Diego Roadways) Significant **Cumulative/ Freeways** Significant

TABLE 1-1
SUMMARY OF SIGNIFICANT ENVIRONMENTAL ANALYSIS RESULTS
(continued)

Environmental Issue	Results of Impact Analysis	Mitigation	Impact Level After Mitigation
	Existing + Project Impacts Under Existing + Project conditions, significant traffic impacts would occur as follows: *Segment Operations (City of Chula Vista)* · Olympic Parkway between I-805 and Brandywine Avenue · Olympic Parkway between Brandywine Avenue and Heritage Road/Paseo Ranchero · Olympic Parkway between Heritage Road/Paseo Ranchero and La Media Road · Olympic Parkway between La Media Road and SR-125 · Birch Road between La Media Road and SR-125 · La Media Road between Olympic Parkway and Birch Road · Eastlake Parkway between Birch Road and Hunte Parkway *Freeway Mainline Operations* All freeway mainline operations under Existing + Project conditions were determined to operate at a less than significant level.	**Existing + Project Impacts** *Segment Operations* Mitigation under this scenario is not included as part of the proposed Project because while a potentially significant impact is identified, it is not realistic to expect the Proposed Project to be built at once and to generate the calculated traffic on existing roads. Rather, application of the City's Growth Management Program would apply. In the event the GMO threshold is reached, the following mitigation measure has been identified: 1. At any time prior to the issuance of the building permit for the 2,463rd dwelling unit for development east of 1-805 commencing from April 4, 2011 the applicant may; a. Prepare a traffic study that demonstrates, to the satisfaction of the City Engineer, that the circulation system has additional capacity without exceeding the GMO traffic threshold standards, or b. Demonstrate that other improvements are constructed which provide the additional necessary capacity to comply with the GMO traffic threshold to the satisfaction of the City Engineer, or c. Agree to the City Engineer's selection of an alternative method of maintaining GMO traffic threshold compliance, or d. Enter into agreement, approved by the City, with other Otay Ranch developers that alleviates congestion and achieves GMO traffic threshold compliance for Olympic Parkway. The Agreement will identify the deficiencies in transportation infrastructure that will need to be constructed, the parties that will construct said needed infrastructure, a timeline for such construction, and provides assurances for construction, in accordance with the City's customary requirements, for said infrastructure. 2. If GMO compliance cannot be achieved through 1a, b, c or d above, then the City shall stop issuing new building permits after building permits for 2,463 dwelling units (DU) have been issued	**Existing + Project** Less than Significant

TABLE 1-1
SUMMARY OF SIGNIFICANT ENVIRONMENTAL ANALYSIS RESULTS
(continued)

Environmental Issue	Results of Impact Analysis	Mitigation	Impact Level After Mitigation
		for any development east of 1-805 after April 4, 2011, until such time that GMO traffic threshold standard compliance can be assured to the satisfaction of the City Manager. 3. These measures shaft constitute full compliance with growth management objectives and policies in accordance with the requirements of the General Plan, Chapter 10 with regard to traffic thresholds set forth in the GMO.	
AIR QUALITY			
Would the Proposed Project result in a conflict or obstruct implementation of the applicable air quality plan?	Because the proposed land use changes would not be consistent with the adopted General Plan upon which the RAQS was based, the Proposed Project would not conform to the current Regional Air Quality Standards (RAQS) and direct and cumulative impacts would be significant.	Because the significant impact stems from an inconsistency between the Proposed Project and the adopted plans upon which the RAQS was based there is no mitigation available to the City to lessen the impacts. Any effort would be the responsibility of SANDAG and the SDAPCD. Therefore, direct and cumulative impacts remain unmitigated.	Significant
Would the Proposed Project violate any air quality standard or contribute substantially to an existing or projected air quality violation?	There are currently no air quality violations on or near the project area. The Proposed Project would allow residential, mixed use, and park uses. These land uses would not result in any significant stationary sources of emissions. Therefore, direct and cumulative impacts would be less than significant.	No mitigation is required.	Less Than Significant
Would the Proposed Project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	While the Proposed Project seeks to minimize air quality impacts by promoting mixed land use patterns creating walkable neighborhoods as encouraged by the General Plan, implementation of the Proposed Project would result in a significant direct and cumulative air quality impact.	The following mitigation measure is identified in the GPU EIR, and would apply to future development within the project area: **5.6.5-1** Mitigation of PM10 impacts requires active dust control during construction. As a matter of standard practice, the City shall require the following standard construction measures during construction to the extent applicable: 1. All unpaved construction areas shall be sprinkled with water or other acceptable San Diego APCD dust control agents during dust-generating activities to reduce dust emissions. Additional watering or acceptable APCD dust control agents shall be applied during dry weather or windy days until dust emissions are not visible.	Significant

TABLE 1-1
SUMMARY OF SIGNIFICANT ENVIRONMENTAL ANALYSIS RESULTS
(continued)

Environmental Issue	Results of Impact Analysis	Mitigation	Impact Level After Mitigation
		2. Trucks hauling dirt and debris shall be properly covered to reduce windblown dust and spills. 3. A 20-mile-per-hour speed limit on unpaved surfaces shall be enforced. 4. On dry days, dirt and debris spilled onto paved surfaces shall be swept up immediately to reduce resuspension of particulate matter caused by vehicle movement. Approach routes to construction sites shall be cleaned daily of construction-related dirt in dry weather. 5. On-site stockpiles of excavated material shall be covered or watered. 6. Disturbed areas shall be hydroseeded, landscaped, or developed as quickly as possible and as directed by the City and/or APCD to reduce dust generation. 7. To the maximum extent feasible: Heavy-duty construction equipment with modified combustion/fuel injection systems for emissions control shall be utilized during grading and construction activities; Catalytic reduction for gasoline-powered equipment shall be used. 8. Equip construction equipment with prechamber diesel engines (or equivalent) together with proper maintenance and operation to reduce emissions of nitrogen oxide, to the extent available and feasible. 9. Electrical construction equipment shall be used to the extent feasible. 10. The simultaneous operations of multiple construction equipment units shall be minimized (i.e., phase construction to minimize impacts). Notwithstanding implementation of the mitigation measure above, direct and cumulative impacts resulting from daily operation would remain unmitigated.	

TABLE 1-1
SUMMARY OF SIGNIFICANT ENVIRONMENTAL ANALYSIS RESULTS
(continued)

Environmental Issue	Results of Impact Analysis	Mitigation	Impact Level After Mitigation
Would the Proposed Project expose sensitive receptors to substantial pollutant concentrations?	The SDAB is in attainment of both the federal and state CO standards, and background CO concentrations are well below federal and state limits. For buildout conditions, all studied intersections are projected to operate at LOS D or better (LLG 2010). Therefore, CO hot spots are not anticipated; direct and cumulative impacts would be less than significant.	No mitigation required	Less Than Significant
Would the Proposed Project result in objectionable odors?	There are no existing sources of odors within the project area. The Proposed Project does not propose any specific new sources of odor that could affect sensitive receptors. Direct and cumulative impacts are less than significant.	No mitigation required.	Less Than Significant
NOISE			
Would the Proposed Project result in exposure of people to excessive noise?	Potentially significant impacts associated with new development completed in accordance with the Proposed Project would be self mitigating due to conformance to GP and GDP policies. However, a significant impact will occur to existing receivers adjacent to circulation element roadways where traffic volumes are projected to result in noise level increases of more than three decibels. This is a direct and cumulative significant impact.	Lessening potentially significant noise levels would require a project level exterior analysis to assess the feasibility of reducing noise levels to outdoor use areas. Since this level of analysis is infeasible at this stage of the analysis, direct and cumulative impacts remain significant and unmitigated.	Significant
Would the Proposed Project result in the generation of excessive noise?	The Proposed Project includes residential, school, commercial, mixed-use, and park uses. In general, increased commercial land increases the potential that noise producing uses will be developed. Conformance with GP and GDP policies, as well as ordinance compliance assures that potentially significant direct and cumulative impacts are less than significant.	No mitigation required.	Less Than Significant

TABLE 1-1
SUMMARY OF SIGNIFICANT ENVIRONMENTAL ANALYSIS RESULTS
(continued)

Environmental Issue	Results of Impact Analysis	Mitigation	Impact Level After Mitigation
Would the Proposed Project result in exposing people residing or working within an established AIA to excessive noise levels?	The Proposed Project has been deemed compatible with the Brown Field ALUCP and no additional analysis is required.	No mitigation required.	Less Than Significant
PUBLIC SERVICES			
Fire Protection and Emergency Services. Would the Proposed Project result in the inability for the City to provide an adequate level of service in accordance with the adopted standards and thresholds?	Implementation of the Proposed Project would result in an increase in both area and population required to be served by the fire department, thus potentially affecting CVFD's ability to provide an adequate level of service. Compliance with GP policies and the City Threshold Standard for emergency response time would assure that future development within the project area would not be approved unless the ability to meet these standards is demonstrated; direct and cumulative impacts would be would be less than significant.	No mitigation required.	Less Than Significant
Police Services. Would the Proposed Project result in the inability for the City to provide an adequate level of service in accordance with the adopted standards and thresholds?	The CVPD does not currently meet the threshold standards established for Priority II response times. Implementation of the Proposed Project would increase both area and population required to be served by the CVPD, potentially increasing response times an even greater extent. Compliance with GP policies and the City Threshold Standard for emergency response time would assure that future development within the project area would not be approved unless the ability to meet these standards is demonstrated; direct and cumulative impacts would be would be less than significant.	No mitigation required.	Less Than Significant
Schools. Would the Proposed Project result in the inability for the City to provide an adequate level of	The Proposed Project would result in an increase in population generating increased number students residing within the districts serving the project area. GP compliance required future development will be required to coordinate with	No mitigation required.	Less Than Significant

TABLE 1-1
SUMMARY OF SIGNIFICANT ENVIRONMENTAL ANALYSIS RESULTS
(continued)

Environmental Issue	Results of Impact Analysis	Mitigation	Impact Level After Mitigation
service in accordance with the adopted standards and thresholds?	the respective districts to assure that school facilities are available to accommodate projected student population. Potential direct and cumulative impacts would be less than significant.		
Library Services. Would the Proposed Project result in the inability for the City to provide an adequate level of service in accordance with the adopted standards and thresholds, which currently requires the provision of 500 GSF of library facilities per 1,000 residents for new development?	Implementation of the Proposed Project would increase the demand for library services to accommodate the population of new residents within the project area. Through City funding mechanisms, existing land use plans, and GP conformance, potential direct and cumulative impacts would be less than significant.	No mitigation required.	Less Than Significant
Parks and Recreation. Would the Proposed Project result in the inability for the city to provide an adequate level of service in accordance with the adopted standards and thresholds, which currently requires the provision of three acres of dedicated parkland per 1,000 residents for new development.	Implementation of the Proposed Project would result in an increase in the need for parkland and recreation facilities due to the proposed conversion of vacant land to residential uses. The Proposed Project includes multiple park areas and includes provisions for the creation of Town Squares and pedestrian areas to be included in future SPA plans. GP conformance requires that parklands are available in a timely manner as development occurs. Therefore the level of direct and cumulative impacts would be less than significant.	No mitigation required.	Less Than Significant

TABLE 1-1
SUMMARY OF SIGNIFICANT ENVIRONMENTAL ANALYSIS RESULTS
(continued)

Environmental Issue	Results of Impact Analysis	Mitigation	Impact Level After Mitigation
PUBLIC UTILITIES			
Water: Would the Proposed Project result in the construction of new water facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	The Proposed Project's increased demand for water would require corresponding improvements to treatment and distribution facilities. Significant impacts could occur as a result of the construction of these projects; however, at this level of planning, because the extent of those effects is speculative, direct and cumulative impacts would be significant.	There is no mitigation available at this level of review. Direct and cumulative impacts would remain significant and unmitigated.	Significant.
Water: Would the Proposed Project require new or expanded supplies or facilities to meet projected needs?	Although GP Objectives require adequate water supply, and larger projects would require conformance to SB 610 and SB 221; it is not possible to state conclusively that sufficient water supplies would be available for individual projects facilitated by adoption of the Preferred Plan. Direct and cumulative impacts would be significant.	The following mitigation measures are identified in the GPU EIR, and would apply to future development within the project area: **5.14.1.6-1** For any residential subdivision with 500 or more units or any commercial project of over 500,000 square feet, any CEQA compliance review shall include demonstration of compliance with the requirements of SB 610. **5.14.1.6-2** For any residential subdivision with 500 or more units, any CEQA compliance review shall include demonstration of compliance with the requirements of SB 221. Notwithstanding implementation of the mitigation measures above, direct and cumulative impacts would remain unmitigated.	Significant
Water: Would the Proposed Project be inconsistent with the UWMP prepared by the SDCWA?	Because the water supply assessment in the current UWMP is consistent with the Proposed Project, direct and cumulative impacts to would be less than significant.	No mitigation required.	Less Than Significant
Wastewater: Would the Proposed Project result in a determination by the wastewater treatment provider which serves or may serve the project that it	The existing Salt Creek Interceptor has sufficient capacity to serve the Proposed Project. Therefore, direct and cumulative impacts to would be less than significant. Projected future flows generated by buildout of the current GP will exceed the City's current	No mitigation required.	Less Than Significant

TABLE 1-1
SUMMARY OF SIGNIFICANT ENVIRONMENTAL ANALYSIS RESULTS
(continued)

Environmental Issue	Results of Impact Analysis	Mitigation	Impact Level After Mitigation
does not have adequate planned capacity to serve projected demand in addition to the provider's existing commitments	capacity in the METRO system. Policies in the GP require that the Proposed Project provides a public facilities financing plan that articulates needed facilities and identifies funding mechanisms, as well as provides the authority to withhold discretionary approvals and subsequent building permits from projects that are out of compliance with threshold standards. Through GP compliance direct and cumulative impacts would be self-mitigating and less than significant.		
Integrated Waste Management: Would the Proposed Project result in service by landfills with insufficient permitted capacity to accommodate the project's solid waste disposal needs?	The Otay Landfill has sufficient capacity to accommodate the projected increase in waste disposal needs. Direct and cumulative impacts would be less than significant.	No mitigation required.	Less Than Significant
HOUSING AND POPULATION			
Would the Proposed Project displace substantial numbers of existing housing necessitating the construction or replacement of housing elsewhere?	The Proposed Project would accommodate projected increases in population and meet regional housing needs, while meeting the City's Housing Element goals and RCP smart growth principles. Therefore, direct impacts would be less than significant.	No mitigation required.	Less Than Significant
Would the Proposed Project displace substantial numbers of people, necessitating the construction or replacement of housing elsewhere?	Because the project site area is currently undeveloped, construction of new housing would not result in the displacement of people already residing on-site. Therefore, direct impacts would be less than significant.	No mitigation required.	Less Than Significant

TABLE 1-1
SUMMARY OF SIGNIFICANT ENVIRONMENTAL ANALYSIS RESULTS
(continued)

Environmental Issue	Results of Impact Analysis	Mitigation	Impact Level After Mitigation
Would the Proposed Project result in cumulative impacts associated with increased population and growth within the project area?	Because the anticipated increase in population is due to the proposed homes within the cumulative area, and the homes will accommodate the growth, cumulative impacts associated with housing and population growth would be less than significant.	No mitigation required.	Less Than Significant
GLOBAL CLIMATE CHANGE			
Would the Proposed Project Conflict with or obstruct the achievement of the Scoping Plan reduction measures by not reducing its GHG emissions by at least 20 percent over that which would have been expected to occur in the BAU condition?	The Proposed Project is consistent with the City's threshold and would also be consistent with the Scoping Plan and AB 32 Year 2020 goals, since it would emit total annual emissions resulting from vehicle use, electricity, natural gas and water use, solid waste disposal, and construction activities equivalent to a 34-percent reduction in the total annual BAU conditions. Therefore, direct and cumulative impacts are less than significant.	No mitigation required.	Less Than Significant
Would the Proposed Project conflict with any other applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs?	The Proposed Project is consistent with the goals and strategies of local and state plans, policies, and regulations aimed at reducing GHG emissions from land use and development. Direct and cumulative impacts would be less than significant.	No mitigation required.	Less Than Significant

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2.0 INTRODUCTION

This introduction provides the background and rationale for the purpose, contents, and review procedures for this Supplemental Environmental Impact Report (SEIR) in accordance with the California Environmental Quality Act (CEQA).

2.1 Purpose of this Environmental Impact Report

In accordance with CEQA, the City of Chula Vista (City) is the lead agency for the preparation of this environmental document. This document constitutes a programmatic document under the provisions of Section 15168 and an SEIR under the provisions of Section 15163 of the CEQA Guidelines.

The major purposes of this SEIR are:

- To identify current and projected environmental conditions that may affect or be affected by the Proposed Project;
- To disclose potential environmental impacts of the Proposed Project to the public and to the decision makers;
- To inform the public and to foster public participation in the City's planning process;
- To identify mitigation measures which could eliminate or reduce potentially significant environmental impacts; and
- To evaluate alternatives that might be environmentally superior to the Proposed Project.

The environmental impact analysis outlines the environmental setting of the Proposed Project, identifies potential environmental impacts, determines the significance of the potential impacts, and identifies mitigation measures to avoid or reduce potentially significant adverse environmental impacts. This SEIR also addresses cumulative impacts, growth-inducing impacts, effects found not to be significant, irreversible environmental effects, and alternatives to the Proposed Project.

2.2 Overview of Analysis and Proposed Project

In December 2005, the City adopted a comprehensive General Plan Update (GPU), amended the Otay Ranch General Development Plan (GDP), and certified EIR 05-01 for said actions. As part of the GPU, amendments to land uses for a portion of Villages 4 and 7, all of Villages 8 and 9, as well as the Planning Area 10/University Site, were deferred by the City. While the action on the land uses was deferred, the certified EIR analyzed the impacts of the proposed amendments within this "Deferral" Area" as part of the 2005 General Plan Update Preferred Alternative. The Deferral Area, as it relates to the project, is more fully described on Page 26 of this document, and shown on Figure 2-1.

This document analyzes the impacts of the Proposed Project (defined on Page 26) which differ from the impacts analyzed under the 2005 GPU/GDP EIR Preferred Alternative. Table 2-1 shows a comparison of the proposed land uses to the land use types analyzed in the 2005 GPU/GDP EIR Preferred Alternative within the Land Use Change Area as defined on Page 26 (see Figure 2.1).

TABLE 2-1
COMPARISON OF LAND USE TYPES WITHIN LAND USE CHANGE AREA

Land Use*	Proposed Land Use	Land Use Plan Analyzed in 2005 GPU/GDP EIR Preferred Alternative in Land Use Change Area
Single-family (units)	887	640
Multi-family (units)	5,163	4,530
Commercial (acres)	32.3†	17.6
Community Purpose Facility (acres)	10.8	20.1
Middle School (acres)	20.2	25.0
Elementary School (acres)	31.2	20.0
Park (acres)	55.4	50.3
University (acres)	50.0‡	175‡
Industrial/Regional Technology Park	85.0	--

*The General Plan land use assumption in this table is a gross estimate and subject to further review and refinement.

†The maximum permitted commercial areas may alternatively be measured in square feet up to the maximum projected yield of 1,800,000 square feet.

‡As depicted on Figure 3-4, the Land Use Change Area accommodated 175 acres of university area (university is included within the public/quasi-public GP designation, along with other similar types of land uses such as schools) in the 2005 General Plan Update. The Proposed Project would convert 85 acres of this area into Regional Technology Park (RTP), and 40 acres into residential, leaving 50 acres of University within the Land Use Change Area.

Map Source: City of Chula Vista

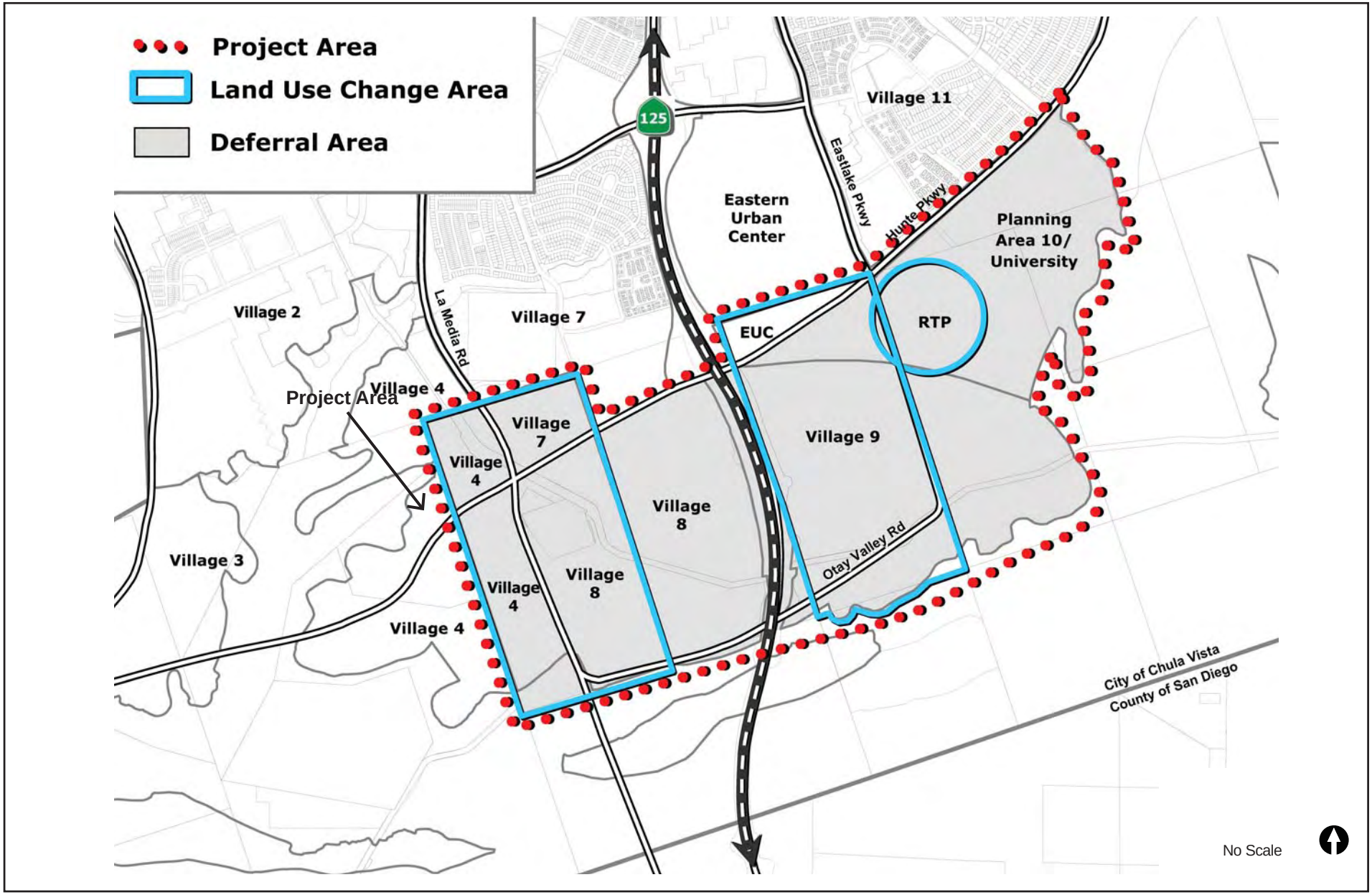

FIGURE 2-1

Project Area/Land Use Change Area/Deferral Area

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As detailed in Chapter 3.0, the Proposed Project is an amendment to the City's General Plan (GP) and Otay Ranch GDP, and involves changes to the policies of the GP and GDP, as well as changes to land use designations within a portion of the Project Area.

This SEIR uses five primary terms when considering the Proposed Project:

Project Area: The Project Area is a approximately 1,281-acre area within the Otay Ranch Subarea of the City's Eastern Planning Area that spans multiple existing villages and planning areas including portions of Villages 4 and 7, the entirety of Village 8 and Village 9; University/Planning Area 10, which includes a proposed 85-acre Regional Technology Park (RTP); and a portion of the southern edge of the Eastern Urban Center (EUC). The entire area is subject to the proposed changes in policies and to the circulation element; a portion of the area is also subject to changes to land use designations (Land Use Change Area, below).

Deferral Area: The portion of the Central and Eastern University Districts of the Otay Ranch Subarea of the City where land use and policy changes were analyzed in the GPU EIR 2005, but the land uses and certain policies were not approved as part of the 2005 GPU as described in Resolution 2005-424, and GDP Resolution 2004-427 (see Figure 2-1). The land uses within this area remain subject to those land use designations that existed prior to the 2005 GPU/GDP. Specifically, the land uses are based on the Otay Ranch GDP, as amended in October 2001. The entirety of the Deferral Area is located within the Project Area.

Proposed Project: The Proposed Project is all the discretionary actions and components associated with the proposal to amend the GP and GDP that apply to the Otay Valley Parcel of the Otay Ranch Subarea. These actions are detailed in Chapter 3.0.

Land Use Change Area: The Land Use Change Area includes a 728.0 -acre portion of the Project Area consisting of portions of Villages 4, 7, and 8, Village 9, the southern portion of the Eastern Urban Center, and the RTP. The Proposed Project would re-designate land uses within the Land Use Change Area.

Figure 2-1 illustrates the Project Area, the Deferral Area, and the Land Use Change Area.

2005 GPU/GDP Environmental Impact Report (EIR): The 2005 GPU/GDP EIR is the environmental document, identified as EIR 05-01, which was certified on December 13, 2005, along with the associated comprehensive update to the City's GP, and amendments to the Otay Ranch GDP. EIR–05-01 analyzed the environmental impacts associated with the adopted General Plan Preferred Alternative (as well as three other project level alternatives). The adopted General Plan land use map is provided in Figure 2-2. It is important to note that the 2005 GPU/GDP EIR analyzed all impacts associated with the General Plan Preferred Alternative on a City-wide basis. As explained in greater detail in Section 2.3, this EIR supplements the analysis provided in the 2005 GPU/GDP EIR.

Altogether, the Proposed Project includes:

- Revisions to GP and Otay Ranch GDP policies and maps affecting the Project Area.

- Revisions to the Circulation Plan–East to eliminate the southerly extension of La Media Road crossing the Otay River Valley; reclassification to "Other Roads" that portion of La Media Road south of Village 8 connecting to the Active Recreation Area; change name of Rock Mountain Road to Main Street from the point of existing Heritage Road easterly to Eastlake Parkway; reclassify Main Street from a Town Center Arterial easterly of State Route (SR-)125 to a Six-lane Gateway; reclassify Main Street/La Media Road Couplet from a Six-lane Town Center Arterial to a Four-lane Town Center Arterial within Village 8 West; reclassify and realign the segment of La Media Road from the southern end of the Main Street/La Media Road Couplet south easterly to SR-125 as a Four-Lane Major; clarify that the mid-arterial SR-125 bridge crossing between Village 8 and 9 is "pedestrian-only"; provide that Urban Level of Service (Level of Service [LOS] D) is acceptable for Town Center Arterials.

- Reconfiguration of lands to include portions of Villages 4 and 7 within the boundaries of Village 8.

Map Source: City of Chula Vista

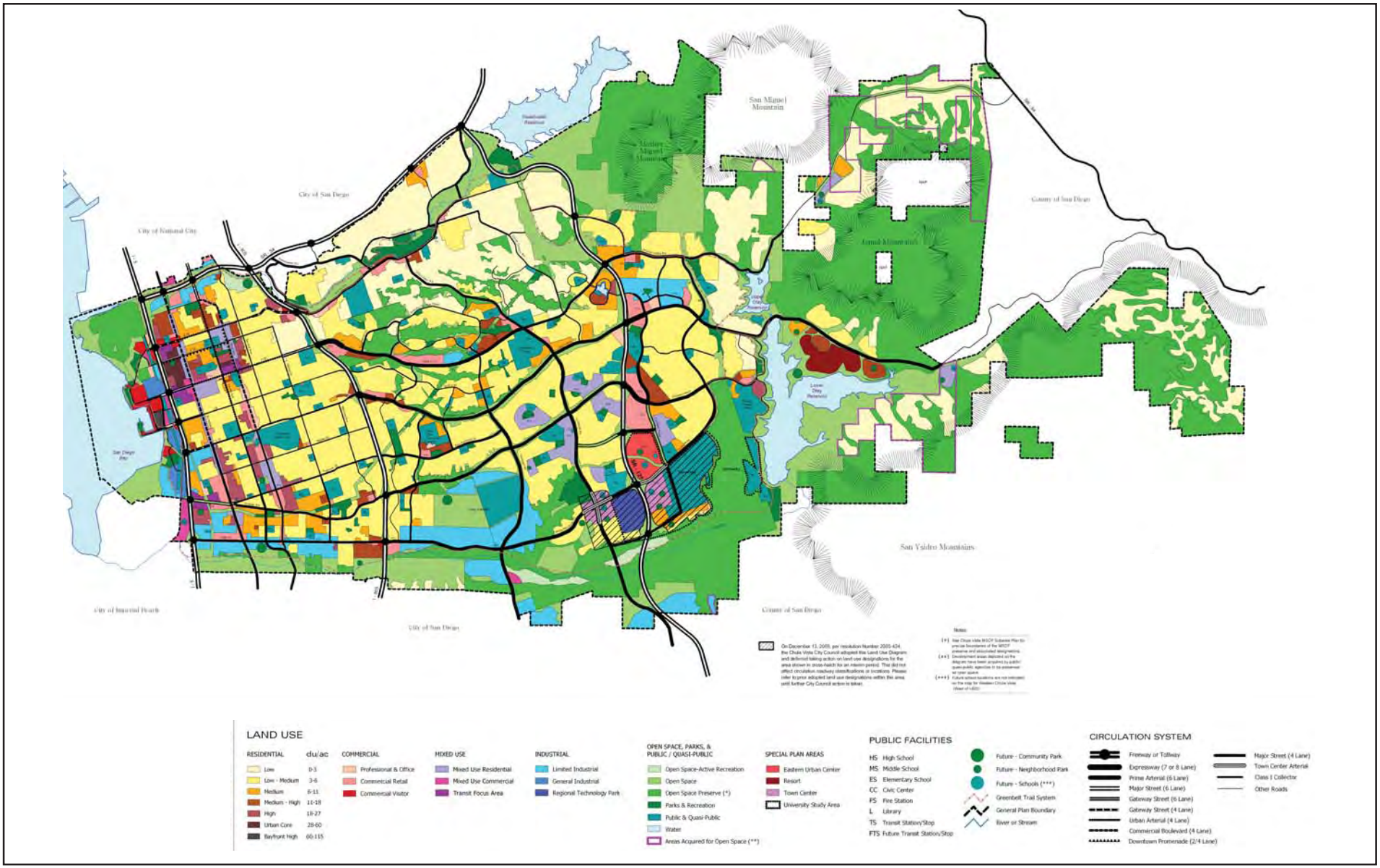

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FIGURE 2-2

2005 General Plan Diagram

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- Separation of Village 8 into Village 8 West and Village 8 East based on separate ownerships.

- Reconfiguration of lands to include a portion of the EUC within the boundaries of Village 9.

- Overall reduction of University area by 57 acres, for a total University acreage of 383 acres (within the Project Area). Total University acreage in the 2005 GP was 440 acres. University acres would be changed through the creation of an 85-acre RTP land use designation within Planning Area 10; change of 40 acres from University to Mixed-Use Residential in Village 9; and the conversion of 68 acres of residential to University in the southern portion of Planning Area 10.

- Amendments to land use designations within Village 8 West and Village 9 to allow up to 6,050 residential units; 1.8 million square feet of commercial space; and three elementary and one middle school sites.

- Reflection of previously adopted (2001) General Plan and General Development Plan land uses within Village 8 East.

2.3 Preparation of a Supplemental Environmental Impact Report

This SEIR constitutes a supplement to the first tier of documents (EIR #05-01). The SEIR has been prepared in accordance with the CEQA Guidelines to evaluate the Proposed Project as it relates to the analysis contained in the certified 2005 GPU/GDP EIR. As such, the SEIR, in conjunction with the 2005 GPU/GDP EIR can be used in the decision-making process for the Proposed Project. CEQA Guidelines Section 15163 explains that a SEIR is characterized as follows:

- A SEIR augments a previously certified Final EIR (FEIR) to address the fact that new information is now available and was not available at the time the FEIR was certified and to examine mitigation measures and project alternatives accordingly.

- A SEIR needs only to contain the information necessary to make the previous FEIR adequate for the project as revised.

- A SEIR is subject to the same public notice, review, and circulation requirements of a full EIR.

As a result of the proposed amendments to the City's GP and Otay Ranch GDP and associated land use changes, the City determined that the Proposed Project has the potential to alter the analysis and conclusions in the 2005 GPU/GDP EIR and has determined that a SEIR is required.

To complete the SEIR the following steps were taken:

- Each of the issues evaluated in the 2005 GPU/GDP EIR were reviewed to determine if the information in the 2005 GPU/GDP EIR was adequate to allow for an assessment of the changes proposed as part of the Proposed Project.

- For each issue, a determination was made as to whether there was new information that would affect the conclusions drawn in the SEIR or that would change the adequacy of the mitigation required.

- An assessment was made to determine if any new issues had arisen since the time of the adoption of the 2005 GPU/GDP EIR that could represent a significant adverse impact as a result of the Proposed Project.

- As a result of these steps, issues were grouped into two categories: (1) those requiring supplemental analysis and (2) those that required no supplemental analysis. The rationale for the determination that no supplemental analysis was required is discussed in Chapter 9.0, Effects Found Not to be Significant, of this SEIR.

2.4 Issues Requiring Supplemental Analysis

After following the steps above, the City identified the following subject areas for which new regulations, information, or data could affect the conclusions of the 2005 GPU/GDP EIR.

- Land Use
- Visual Quality
- Energy

- Transportation
- Air Quality
- Noise
- Public Services
- Public Utilities
- Housing and Population
- Global Climate Change

For these issues, the SEIR focuses on aspects which require further analysis to supplement the analysis contained in the 2005 GPU/GDP EIR, so that together the documents are sufficient to address the Proposed Project. With respect to land use and visual quality, this SEIR qualitatively addresses the new GP and GDP policies within the Project Area, as well as the changes in land use type, and density/intensity attributed to the Land Use Change Area. In the case of energy, transportation, air quality, noise, public services, public utilities, and housing and population, additional quantitative analysis is required to address the difference between the land use data analyzed in the 2005 GPU/GDP EIR and the proposed land uses within the Land Use Change Area (Villages 8 West, 9, and RTP). Specifically, for these issues, this SEIR quantifies the additional increment related to proposed changes in land use and considers whether this would result in a change in the level of significance or mitigation.

Since global climate change was not a CEQA issue at the time the 2005 GPU/GDP EIR was prepared, it is included in the SEIR as a new topic for evaluation.

2.5 Issues Not Requiring Supplemental Analysis

The following subject areas have been determined to not require supplemental analysis in the SEIR, since the Proposed Project does not contain any changes that would affect their analysis beyond that contained in the 2005 GPU/GDP EIR:

- Biology
- Cultural resources
- Geology and Soils
- Paleontology
- Agriculture

- Hydrology and Water Quality
- Hazards
- Mineral Resources

For these subject areas, impacts are primarily related to the resources or conditions present in the Project Area and are not necessarily dependent upon land use types or density. Thus, potential impacts would generally be the same regardless of the land uses approved in the 2005 GPU/GDP EIR or the Proposed Project. Additionally, no new regulations, information, or data have become available related to these subject areas. Further details of the rationale for this determination are discussed in Chapter 9.0 of this SEIR.

2.6 Environmental Review Procedure

This document provides environmental information to the public, agencies affected by the Proposed Project, or entities which are likely to have an interest in the Proposed Project, including, but not limited to the following:

- California Air Resources Board
- California Department of Conservation
- California Department of Fish and Game
- California Department of Toxic Substances Control
- California Department of Transportation
- California Environmental Protection Agency
- California Office of Emergency Services
- Chula Vista Elementary School District
- City of San Diego
- County of San Diego
- Otay Water District
- San Diego Association of Governments
- San Diego Regional Water Quality Control Board

- Sweetwater Union High School District
- U.S. Environmental Protection Agency
- U.S. Fish and Wildlife Service

A Notice of Preparation (NOP) was prepared and circulated on January 15, 2010. The purpose of the NOP is to solicit comments from the public on potential environmental issues to be examined in the SEIR. The NOP and comments are included in Appendix "A." Additionally, a public scoping meeting was held by the City on January 26, 2010 to review and discuss the SEIR process, answer questions, and receive input on the contents of the SEIR.

This Draft SEIR will be subject to review and comment by the public as well as other interested jurisdictions, agencies, and organizations.

Following the public review period, a Final SEIR will be prepared and will address the written comments received during the public review period. The Chula Vista City Council will review and consider the public comments and responses to comments incorporated into the Final SEIR in making their recommendations and decisions with respect to the Proposed Project.

Future projects will be required to refer to both the requirements in this SEIR and the 2005 GPU/GDP EIR to address site-specific impacts and potential mitigation. The mitigation requirements from both the 2005 GPU/GDP EIR and SEIR are provided in the Table 1-1 of this document and the Mitigation and Monitoring Report.

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3.0 PROJECT DESCRIPTION

3.1 Project Area

In 1993, the City approved the Otay Ranch GDP, creating the 22,899-acre Otay Ranch Planned Community (Otay Ranch). The western portion of Otay Ranch, comprising approximately 9,300 acres, was annexed to the City in 1997. Since that time, development of Otay Ranch has been guided by principles that encourage walkability, mixed-use, alternative modes of transportation, and preservation of a large amount of open space. While approximately half of the villages that constitute the Otay Ranch communities have been built or entitled, approximately 2,200 acres remain in their natural state and are yet to be entitled or developed. As described in Chapter 2.0, Introduction, the 1,281-acre Project Area within the Otay Ranch GDP area is comprised of multiple existing villages and planning areas as follows:

- Portions of Villages 4 and 7;
- Village 8;
- Village 9;
- Planning Area 10 (which includes the University site and a proposed 85-acre RTP); and
- A portion of the southern edge of the Eastern Urban Center (the portion to be added to the proposed Village 9).

Policy and circulation changes would affect the entire Project Area. In addition, the Proposed Project would redefine village boundaries to create Village 8 West and Village 9, add an 85-acre RTP within the Planning Area 10/University Site, and change land uses within a 728.0-acre Land Use Change Area. Figure 3-1 shows the proposed composition of villages within the Project Area. While Village 8 East is not part of the Land Use Change Area, its boundaries and land use quantities are being delineated through the reconfiguration of village lines within the Project Area.

The Proposed Project also includes the clarification that the “mid-arterial crossing” of the SR-125, as described in the Otay Ranch GDP is a “pedestrian” bridge.

Map Source: City of Chula Vista

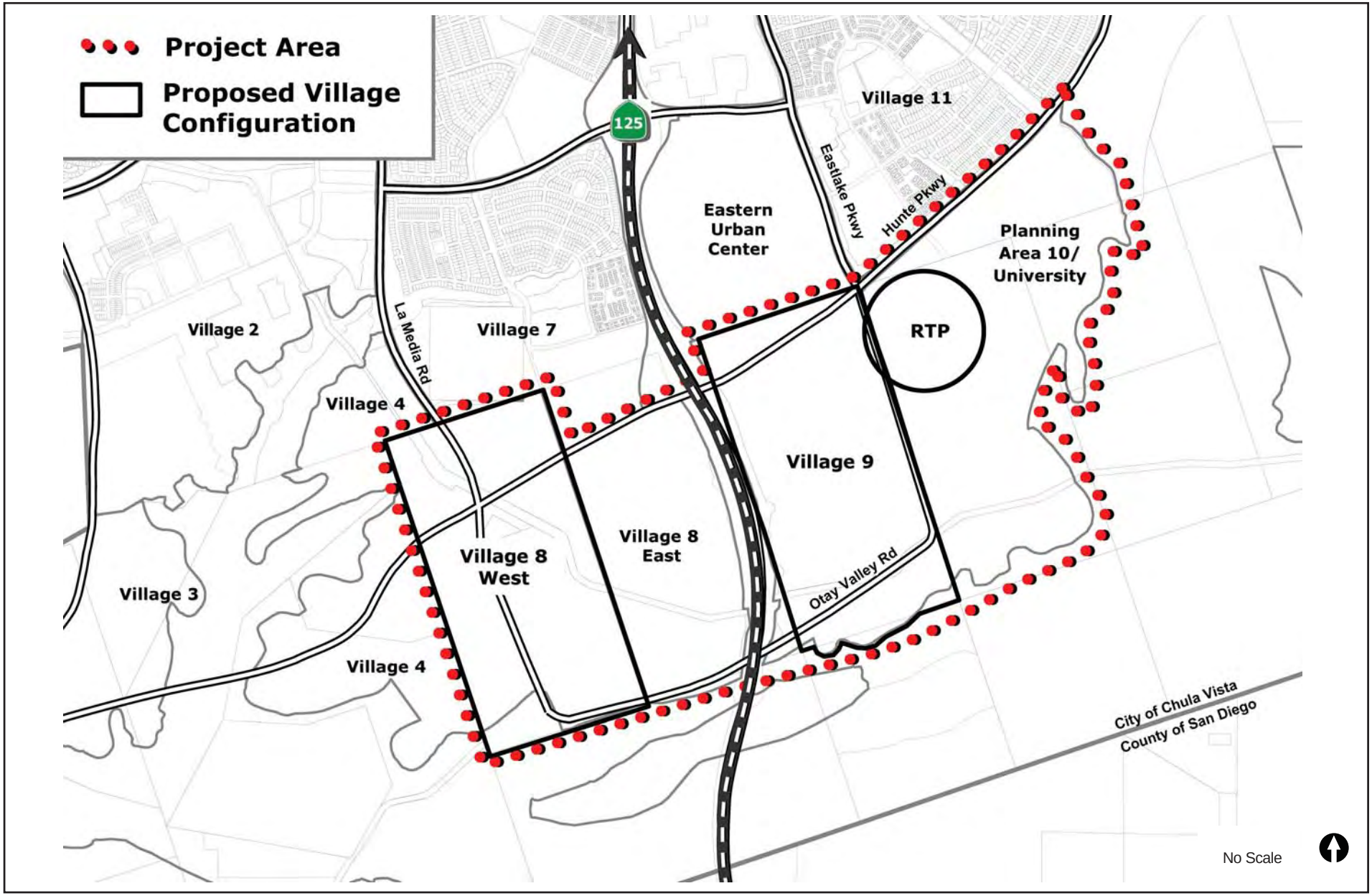

FIGURE 3-1

Proposed Village Configuration

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3.2 Relationship to the City of Chula Vista 2005 General Plan Update

The City's GPU was approved and the 2005 GPU/GDP EIR certified in December 2005. The GPU presented a long-term strategy to address planning issues for the growth and development of the City outlining the community's vision for the future through land use designations, goals, and policies. The 2005 GPU/GDP EIR addressed the entire City, including the Project Area, but the City Council did not approve certain land use policies nor the land use designations for the Deferral Area (see Figure 2-1). As a result, the pre-2005 GPU land use designations (established in 2001) are currently in effect within the Deferral Area as depicted on Figure 2-1.

Subsequent to approval of the GPU, the City entered into a Land Offer Agreement (LOA) with the Otay Land Company (OLC) on April 9, 2008. The LOA is an agreement between the OLC (owners of property within portions of the Deferral Area) and the City, allowing the future conveyance of land within the Project Area for the development of land uses compatible with a facility of higher education and for open space in conjunction with the development entitlements for the Proposed Project. Pursuant to the LOA, all approvals are subject to all applicable legal requirements, including, but not limited to CEQA.

In May 2008, the City also entered into a separate LOA with another land owner (JPB Development, who owns the remainder of the Deferral Area) with similar terms. The impact analysis contained herein focuses primarily on the properties owned by OLC, which are within the Land Use Change Area. The cumulative impact analysis provides a discussion of the potential future buildout of the JPB sites per the 2008 LOA between the City and JPB.

3.3 Project Objectives

The GPU was intended to accommodate forecasted increases in population along with increased demands for housing and support services. The role of the GP is to serve as a guide for rational decision-making regarding the City's long-term physical development, serving as a bridge between the City's vision and goals, and future decisions with respect to development and associated resource allocation.

The Proposed Project seeks to maintain consistency with the updated GP within the "Deferral Area" through the provision of walkable neighborhoods and vibrant town centers. The primary goals and objectives of the Proposed Project are as follows

- Encourage social interaction and a diverse range of services to promote a mix of uses within a village atmosphere;
- Foster the goal of the 2005 GPU to expand the local economy by providing a broad range of businesses, facilitate provision of services for a University, provide employment and housing opportunities that support an excellent standard of living, and improve the ability for residents to live and work locally;
- Create Town Centers within newly defined boundaries for Village 8 West and Village 9, as encouraged by the GPU's emphasis on providing a mix of diverse land uses that meets community needs;
- Develop a circulation plan that de-emphasizes the automobile, and places greater reliance on mass transit and pedestrian circulation;
- Target higher-density and higher-intensity development into specific focus areas in order to protect stable residential neighborhoods and to create mixed-use urban environments that are oriented to transit and pedestrian activity. This targeted development will be well designed, compatible with adjacent areas, and contribute to the continued vitality of the City's economy;
- Allow for higher density residential development in order to encourage the development of off-campus student housing within the University Town Center (Village 9) and the Eastern Urban Center adjacent to the University;
- Provide opportunities for higher density development that accommodate off-site Student and Faculty Housing for the University;
- Provide opportunities for goods and services and other ancillary uses necessary to support the University and RTP to be provided within Planning Area 10;
- Provide access to, and connections between, the City's open space and trails network and the regional network, in accordance with the Chula Vista Multiple

Species Conservation Program (MSCP) Subarea Plan, Chula Vista Greenbelt Master Plan, and Otay Valley Regional Park Concept Plan; and

- Conserve the City's sensitive biological and other valuable natural resources.

3.4 Discretionary Actions

The discretionary actions to be considered by the City Council associated with the Proposed Project include a General Plan Amendment (GPA) and a General Development Plan Amendment (GDPA) to the Otay Ranch GDP.

3.4.1 General Plan Amendment

The 2005 GPU included policies aimed at the development of town centers with intense land uses and pedestrian-friendly circulation within the existing villages. The 2005 GPU also created the vision for the Eastern University District as a vibrant urban center, comprising five Focus Areas intended to support 1) the university campus, 2) University Village, 3) RTP, 4) EUC, and 5) Freeway Commercial uses. These Focus Areas were described in the GPU as having strong relationships to each other through compatible land uses, traffic circulation, and urban form.

As described below, the Proposed Project seeks to augment GP policies and change portions of the Circulation Plan–East for the entire Project Area in order to provide further direction for the development of higher-intensity town centers specifically within the Land Use Change Area. The GPA also adjusts the vision for the Eastern University District by locating the RTP with the university campus to create a University Focus Area. As a result, the proposal reduces the number of Focus Areas within the University District from five to four. The intention of this specific revision is to allow the RTP to "capitalize on the research activities, incubator and start-up industries, and skilled labor force resulting from the presence of the adjoining university campus" (City of Chula Vista 2010, p. Land Use and Transportation (LUT) 263).

Additionally, the GPA proposes to change the land use designations within the Land Use Change area.

3.4.1.1 Goals, Objectives, and Policy Changes

This component of the Proposed Project entails modification or addition to the goals, objectives, and policies of the GP to assure the "development of comprehensive, well-integrated, and balanced land uses" within the Otay Ranch Subarea as first envisioned in the 2005 GPU (City of Chula Vista 2010, Objective LUT 72). The GPA additionally provides integration and conformance with the Otay Ranch GDP as described below.

Town Centers

The GPA seeks to identify the location of high-density, mixed-use Town Centers within the Land Use Change Area and ensure a cohesive relationship between the Town Centers and adjoining land uses. Specifically, the proposed amendments increase allowable density and intensity of uses within Town Centers in order to create a relationship between the four primary land use Focus Areas and the location of a future university campus and the RTP (Proposed Policy revision LUT 86.1 (formerly 84.1), including off-site housing opportunities for faculty, university employees, and students. The new policies promoting the development of Town Centers focus on providing neighborhood commercial services (Proposed Policies LUT 72.5 and 72.6), increasing pedestrian-friendly mobility choices (Proposed Policy LUT 72.7), and high- or medium-high-density residential uses (Proposed Policy LUT 73.4). Other new or amended policies include the requirement for diverse housing types with less intensive housing located furthest from the Town Centers, mobile and pedestrian circulation throughout the Town Centers, landscape design requirements, and the provision of community facilities and transit connections within a mixed-use Village Core.

Eastern University District

Pursuant to the proposed amendments, an 85-acre RTP is being located in conjunction with the University Site to create a University Focus Area, one of four Focus Areas that make up the Eastern University District. The other (existing) Focus Areas include the University Village, EUC, and Freeway Commercial. The intention of the University Focus Area is to create a symbiotic relationship between the economic development and employment opportunities of the RTP and the academic research and university campus activities (Proposed Section 1.5.4 of the LUT). The GPA recognizes that the four Focus Areas are interdependent both in land use location and physical development. It is,

therefore, proposed that prior to adoption of any Sectional Planning Area (SPA) Plans within the University or University Village Focus Areas, a set of University Strategic Framework Policies shall be created to assure coordinated development between land use, transportation, transit, grading, infrastructure, and drainage for the areas within which the University Focus Area or University Village Focus Area. The GPA describes these policies as ensuring orderly and cohesive development of the University areas. The completion of these policies will cause future SPA plans to be prepared in a coordinated effort. As a set of planning policies, they would not be subject to further environmental analysis.

The University Strategic Framework Policies (as detailed in Proposed Section 10.5.4 of the LUT and associated Objectives LUT 86 through 88) will be adopted as part of the Otay Ranch GDP. Thereafter, each subsequent SPA Plan within the University or University Village Focus Area is required to comply with the policies (Proposed Policy LUT 87.6).

The proposed amendments identify a vision for the RTP portion of the University Focus Area. The master-planned business park is envisioned to accommodate high-tech manufacturing, research, and other higher value job-generating uses. Proposed amendments associated with the RTP are detailed throughout Objectives LUT 92 through 94. These include developing regulations and floor-area ratios to accommodate and encourage businesses to relocate to the RTP (Proposed Policy LUT 92.4), locate accessory uses, and other uses which support the RTP within the Town Center and EUC, and to assure convenient access, parking, and pedestrian corridors (Proposed Policies LUT 92.2 and 92.6). Overall, the new and amended objectives and policies envision the goods and services necessary to support the RTP and University to be located in the adjacent Town Center.

The proposed amendments re-designate the University Village Focus Area of the Eastern University District from low-medium- to medium-high and mixed-use residential land use designations uses. The proposed vision for Village 9 (the University Village), includes the dedication of 50 net acres for the purposes described in the LOA, which include a university campus that “further facilitates the development of the university and integrates the Town Center with this expanded university campus…” (City of Chula Vista 2010, page LUT 278). The intent of these amendments is to plan for a Town Center that

serves the university campus and RTP, including an accessible shuttle service or local transit beyond mass transit, as well as a system of bicycle and pedestrian paths that connect the University, RTP, EUC, residential uses, and nearby Open Space (Proposed Objective LUT 95 and associated policies).

3.4.1.2 Circulation Plan Changes

The Proposed Project also seeks to change portions of the adopted Circulation Plan–East, as designated in the 2005 GPU and 2005 GDPA. These amendments will allow the circulation plan to be consistent with proposed land use changes and include the following:

1. Eliminate La Media Road southerly extension crossing the Otay River Valley;
2. Reclassify a portion of La Media Road from the southern portion of Village 8 extending south to the Active Recreation area from a six lane arterial to “Other Roads”;
3. Change name of Rock Mountain Road to Main Street from the point of existing Heritage Road easterly to Eastlake Parkway;
4. Reclassify Main Street from a Town Center Arterial easterly of SR-125 to a Six-lane Gateway;
5. Reclassify Main Street/La Media Road Couplet from a Six-Lane Town Center Arterial to a Four-lane Town Center Arterial within Village 8 West;
6. Reclassify and realign the segment of La Media Road from the Town Center Arterials at the Main Street/La Media Road Couplet southeasterly to SR-125 as a Four-lane Major;
7. Clarify that the mid-arterial SR-125 bridge crossing between Village 8 and 9 is “pedestrian-only”; and
8. Provide that Urban Level of Service (LOS D) is acceptable for Town Center Arterials. A more detailed discussion of Town Center Arterial LOS is included in Chapter 5.4 of this SEIR.

Figure 3-2 shows the existing Circulation Plan–East. Figure 3-3 shows the proposed circulation changes.

3.4.1.3 Land Use Changes

The proposed GPA creates a Town Center land use category to promote efficiency in land use and public infrastructure. The individual land use plans for proposed Village 8 West and Village 9, the University Site and RTP are discussed in detail in Section 3.6 below.

Overall, the plans are focused around village-level mixed-use proposals to implement GPU concepts for this type of land use and would entail the following:

- Eliminate the area of Residential Low (RL) land use and its unit count;
- Reduce the area of Residential Low/Medium (RLM) land use and its unit count;
- Add an area of Residential Medium (RM) land use and its unit count;
- Add an area of Residential Medium/High (RMH) land use and its unit count;
- Increase the area of Mixed-Use Residential (MUR) land use and its unit count;
- Add an area of Town Center (TC) land use and its unit count;
- Allocate a portion of the EUC to Village 9 and increase its unit count;
- Increase the area of Park (PRK) land use;
- Reduce the area of Public/Quasi Public (PQ) land use;
- Refine the area of Open Space (OS) land use; and
- Locate an 85-acre RTP within Planning Area 10 (University and Regional Technology Park), and accordingly adjust University land use acres.

Table 3-1 shows the breakdown of the proposed land uses within the Land Use Change Area as compared to those land uses proposed and analyzed as the Preferred Project (within the Land Use Change Area) in the 2005 GPU/GDP EIR. The table also highlights the specific number of acres and dwelling units proposed to be increased or decreased by the Proposed Project. As indicated in Table 3-1, the Proposed Project would account for a total of 6,050 residential units, representing an increase of 880 units over the 2005 GPU Preferred Plan, distributed throughout the Land Use Change Area.

Map Source: City of Chula Vista

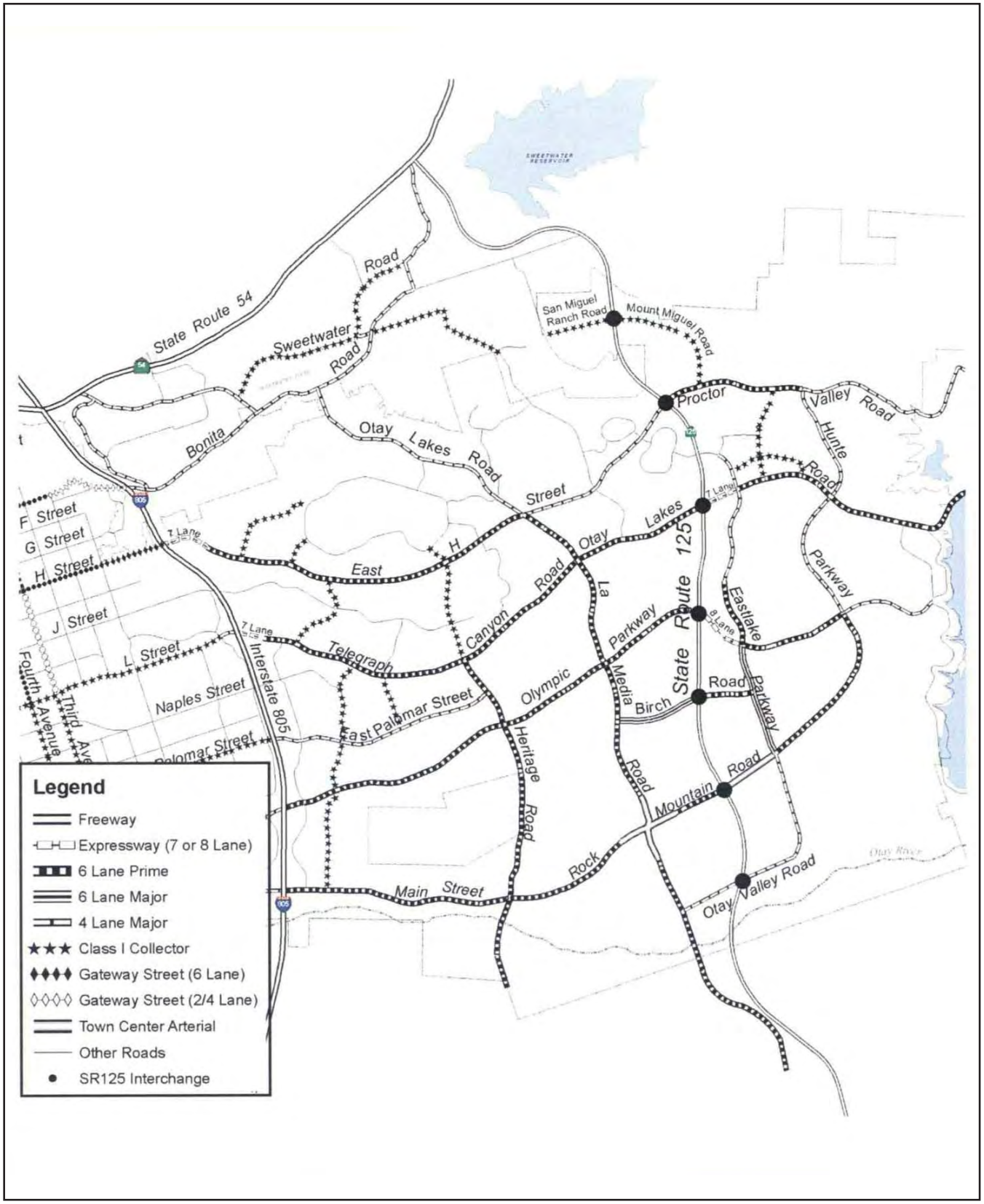

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FIGURE 3-2

Existing Circulation Plan-East

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Map Source: City of Chula Vista

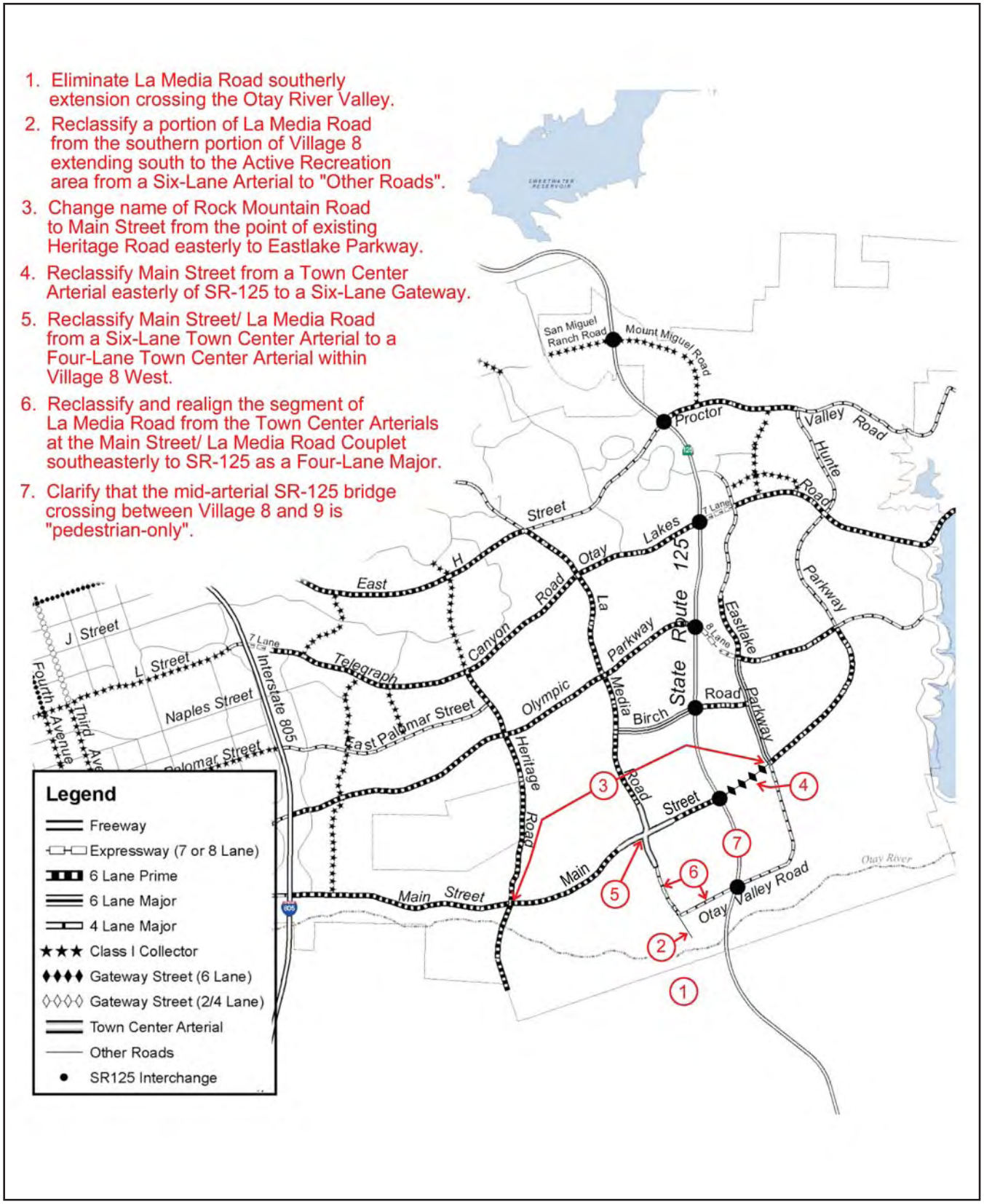

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FIGURE 3-3

Proposed GPA and GDPA Circulation Changes

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TABLE 3-1
PROPOSED PROJECT LAND USES COMPARED TO PREFERRED PROJECT LAND USE DESIGNATIONS ANALYZED IN THE 2005 GPU/GDP EIR WITHIN THE LAND USE CHANGE AREA

Land Use	Land Use Designations Analyzed in the 2005 GPU/GDP EIR[1]		Proposed Project Land Use Designations[2,3]		2005 GPU/GDP EIR Land Uses vs. Proposed Project	
	Acres	Units	Acres	Units	Acres	Units
RLM	148.6	640	95.1	436	-53.5	-204
RM	40.0	437	41.4	451	+1.4	+14
RMH	0.0	0	29.5	530	+29.5	+530
MUR	0.0	0	49.2	792	+49.2	+792
TC	149.4	3,773	85.0	1,929	-64.4	-1,844
PRK	50.3	0	55.4	0	+5.1	0
PQ	240.1	0	131.8	0	-108.3	0
OS	57.8	0	29.1	0	-28.7	0
OSP	19.6	0	19.6	0	0.0	0
EUC	22.2	320	48.3	1,912	+26.1	+1,592
RTP	0.0	0	85.0	0	+85.0	0
OTHER	0.0	0	58.6	0	+58.6	0
TOTAL	728.0	5,170	728.0	6,050	0.0	+880

[1]2005 GP statistics per City.
[2]Proposed Project includes 50 net acres in PQ category for university dedication; 19.6 acres for City of San Diego Reservoir in the PQ category; 58.6 acres for circulation roads and SR-125 right-of-way in the Other category.
[3]This exhibit is based on data that were current as of October 5, 2011.

Figure 3-4 illustrates the 2005 GPU Preferred Alternative land uses that were proposed within the Land Use Change Area. This figure corresponds to the column of Table 3-1 titled “Land Use Designations Analyzed in the 2005 GPU/GDP EIR”, above. By comparison, Figure 3-5 illustrates the land use designations included as part of the Proposed Project within the Land Use Change Area. This corresponds with the column of Table 3-1 titled “Proposed Project Land Use Designations.”

3.5 General Development Plan Amendment

The Proposed Project includes amendments to the Otay Ranch GDP in addition to those included in the 2005 GPU/GDP. Figure 3-6 illustrates the GDP land use plans as examined in the 2005 GDP/GPA EIR. Like the GP land uses, the GDP land uses were deferred. The current GDPA includes revised text, graphics, and an update of the GDP maps and statistics to reflect the following revisions and assure conformance with the GPU.

Map Source: City of Chula Vista

FIGURE 3-4

General Plan Uses Analyzed in 2005 EIR for the Land Use Change Area

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Map Source: City of Chula Vista

FIGURE 3-5

Proposed General Plan Land Uses within Land Use Change Area

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Map Source: City of Chula Vista

FIGURE 3-6

General Development Plan Land Uses Analyzed in 2005 EIR for the Land Use Change Area

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1. Revise the statistical description and policy standards for the proposed villages and the EUC;
2. Locate an 85-acre RTP within Planning Area 10/University Site, and accordingly adjust University acreage; and
3. Add detail regarding the requirement for the University Strategic Framework Policies; and
4. Reflect land uses previously approved in 2001 within the Village 8 East area.

Figure 3-7 illustrates the proposed GDP land use plans. The proposed GDPA sets the stage for preparation of each village's respective SPA Plans. Details of the proposed amendments are attached to the SEIR as Appendix B, *OLC General Plan Amendment and Otay Ranch General Development Plan Amendment.*

3.6 Land Use Plans (General Plan and General Development Plan)

As discussed above, the Proposed Project will result in the reconfiguration of existing village boundaries (see Figure 3-1). The purpose of the reconfiguration is to allow the village borders to coincide with ownership. Overall, approval of the proposed land use plans would result in the development potential of 880 additional dwelling units, 550,000 square-feet more of commercial uses than contemplated in the 2005 GPU, and 85 acres of industrial/RTP uses. Figures 3-8 and 3-9 depict the proposed General Plan and General Development Plan land uses as they would appear on the area wide General Plan and General Development Plan land use maps.

3.6.1 Village 8 West Land Use Plan

Table 3-2 provides a summary of the proposed land uses for Village 8 West compared to the land uses analyzed in the 2005 GPU/GDP EIR. A comparison of the proposed Village 8 West land use plan with the 2001 designations is included in Chapter 10, under the No Project–No Change in Existing Plans Alternative.

Map Source: City of Chula Vista

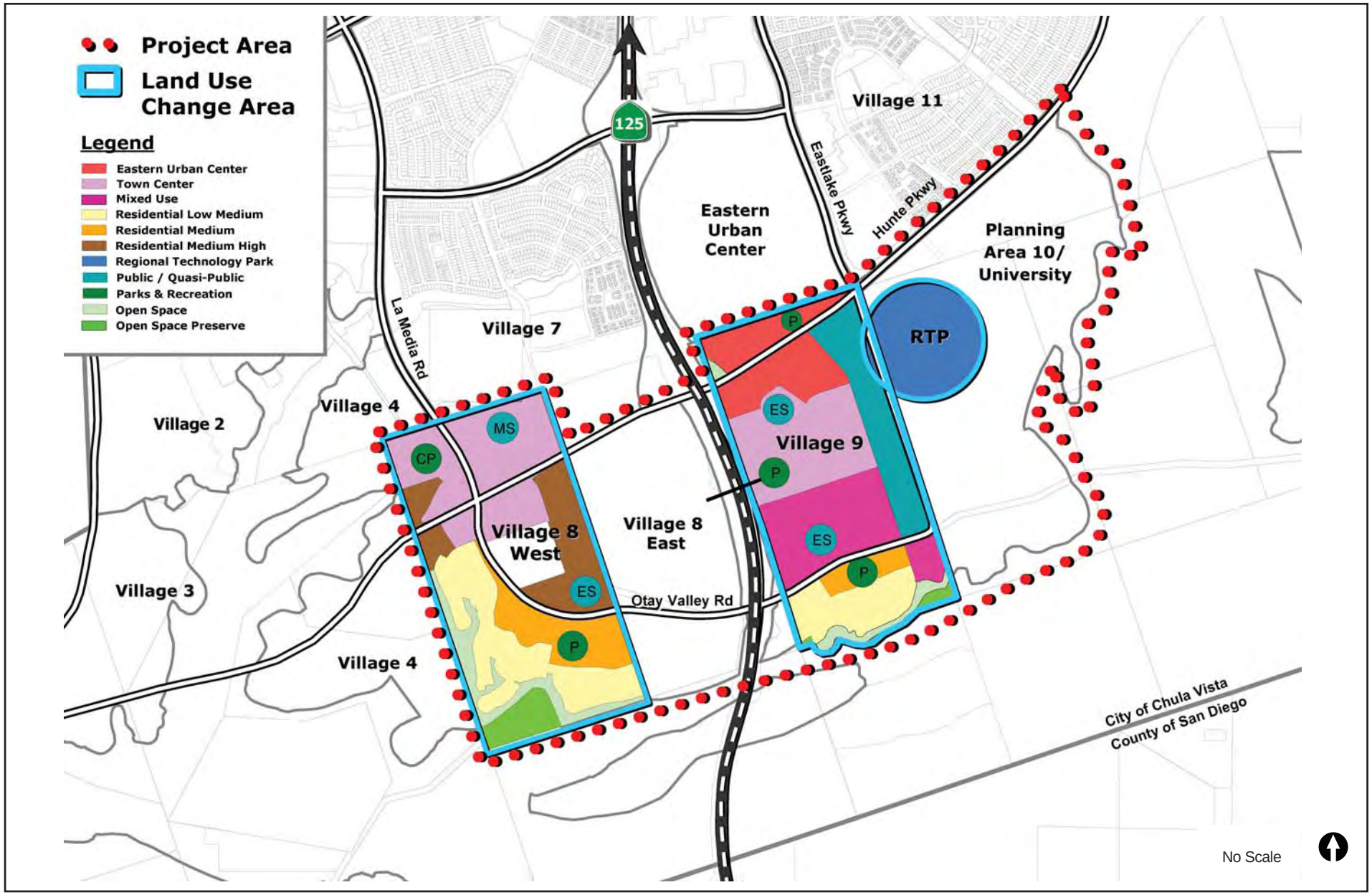

FIGURE 3-7

Proposed General Development Plan Land Uses within Land Use Change Area

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Map Source: City of Chula Vista

FIGURE 3-8

Proposed General Plan Land Uses within Project Area

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Map Source: City of Chula Vista

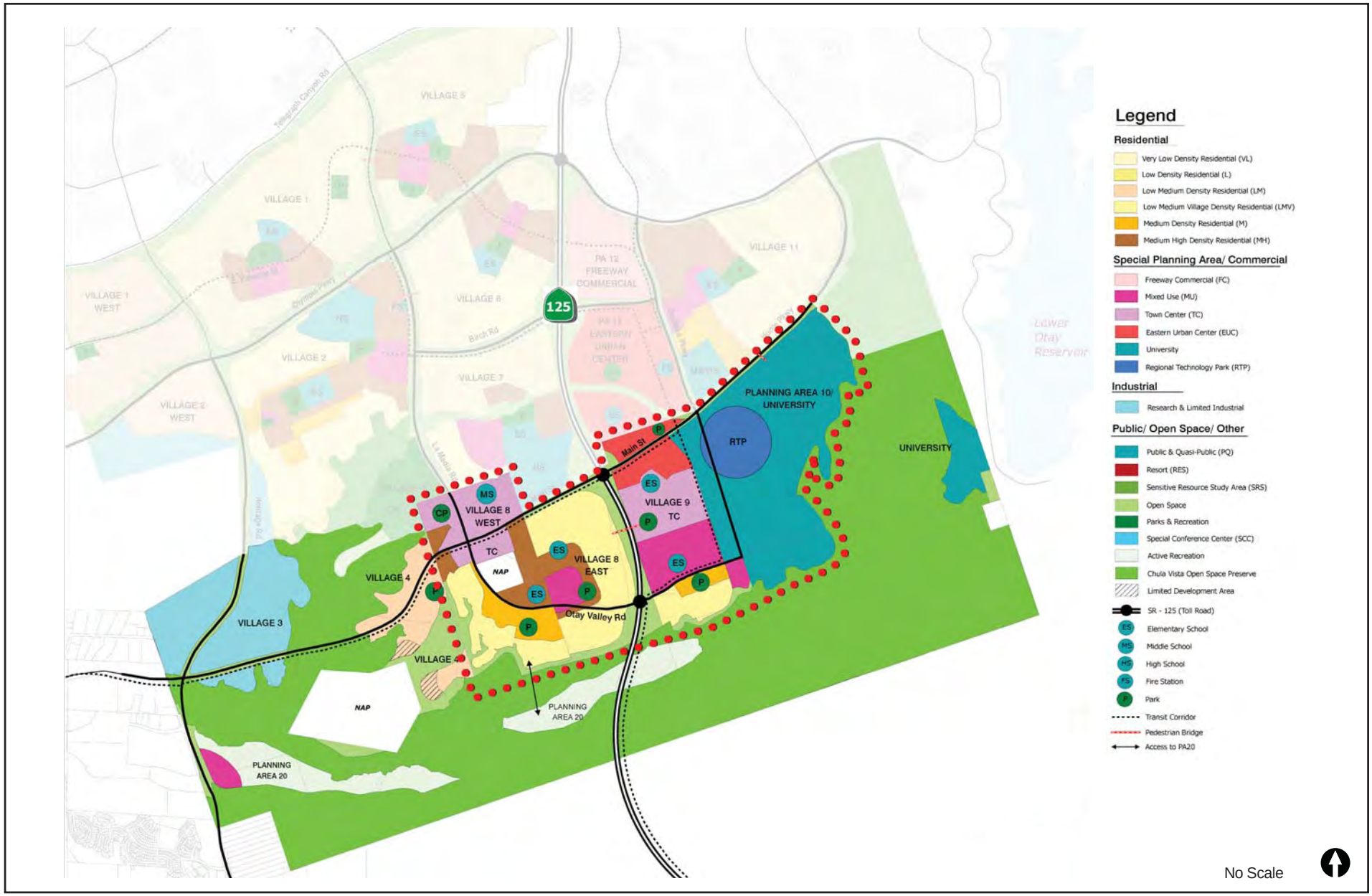

FIGURE 3-9

Proposed General Development Plan Land Uses within Project Area

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TABLE 3-2
PROPOSED LAND USES–VILLAGE 8 WEST

Land Use[1]	Land Uses Analyzed in 2005 GPU/GDP EIR		Proposed Project Land Uses		2005 GPU/GDP EIR Land Uses vs. Proposed Project	
	Acres	Units	Acres	Units	Acres	Units
RLM	132.3	539	67.0	331	-65.3	-208
RM	0.0	0	26.2	290	+26.2	+290
RMH	0.0	0	29.5	530	+29.5	+530
TC	60.5	1,017	40.7	899	-19.8	-118
PRK	20.5	0	27.9	0	+7.4	0
PQ[2]	41.3	0	57.0	0	+15.7	0
OS	49.7	0	23.5	0	-26.2	0
OSP	15.6	0	15.6	0	0.0	0
Other	0.0	0	32.5	0	+32.5	0
TOTAL	319.9	1,556	319.9	2,050	0.0	+494

[1]Estimates land use figures based on OLC Proposed Land Uses/Gross estimates land use acres and units of OLC property
[2]Includes schools, university, public facilities, and community purpose facility (CPF) acres

Land uses proposed for Village 8 West would create a mixed-use pedestrian- and transit-oriented village focused around a town center located at the intersection of Main Street (Rock Mountain Road) and La Media Road. The area within the Town Center land use designation would include neighborhood shopping, a transit station, urban parks and plazas, a portion of the planned 70-acre community park, commercial/retail opportunities, high-density residential, and a middle school. Lower-density residential uses would radiate in a southerly direction. A neighborhood park and an elementary school are proposed within areas outside the Town Center. The proposed residential land use designations for Village 8 West include RLM, RM, RMH and TC. Non-residential land use designations include PRK, PQ, OS, Open Space Preserve (OSP), and “Other.” The “Other” category provides for roadways and infrastructure.

The portion of the current Village 8 not included in Village 8 West will be identified as Village 8 East. Village 8 East is not a part of the Land Use Change Area, but policies that apply to the Project Area are applicable within Village 8 East.

3.6.2 Village 9 (University Village) Land Use Plan

The Proposed Project will create an interface between Village 9 (University Village), the EUC, and the adjacent university campus, all of which are currently within the Project Area. The borders of Village 9 will include a land use designation of “EUC” along the

northern edge of the parcel, and a 50-acre strip of land designated for university land use along most of the eastern edge. Table 3-3 provides a summary of the proposed land uses for Village 9, compared to the land uses analyzed in the 2005 GPU/GDP EIR. A discussion of a comparison of the 2001 designations is included in Chapter 10.0, under the No Project–No Change in Existing Plans Alternative.

TABLE 3-3
PROPOSED LAND USES–VILLAGE 9 & RTP

	Land Uses Analyzed in 2005 GPU/GDP EIR		Proposed Project Land Uses		2005 GPU/GDP EIR Land Uses vs. Proposed Project	
Land Use[1]	Acres	Units	Acres	Units	Acres	Units
RLM	16.3	101	28.1	105	+11.8	+4
RM	40.0	437	15.2	161	-24.8	-276
MUR	0.0	0	49.2	792	+49.2	+792
TC	88.9	2,756	44.3	1,030	-44.6	-1,726
EUC	22.2	320	48.3	1,912	+26.1	+1,592
PRK	29.8	0	27.5	0	-2.3	0
PQ[2]	198.8	0	74.8	0	-124.0	0
RTP	0.0	0	85.0	0	+85.0	0
OS	8.1	0	5.6	0	-2.5	0
OSP	4.0	0	4.0	0	0.0	0
Other	0.0	0	26.1	0	+26.1	0
TOTAL	408.1	3,614	408.1	4,000	0.0	+386

[1]Estimates land use figures based on OLC Proposed Land Uses/Gross estimates land use acres and units of OLC property
[2]Includes schools, university, public facilities, and CPF acres

Proposed land uses for Village 9 would result in the creation of a higher density Town Center. Overall, Village 9 is proposed to be organized with residential densities decreasing from the EUC and Main Street towards the Otay River Valley. The proposed land uses south of the EUC are intended to transition to a Town Center promoting a 24-hour living environment with proximity to transit, residential, and employment opportunities.

The Town Center is designed with a grid system of streets centered on Campus Boulevard, an east–west street connecting a proposed neighborhood park on the west to the university campus on the east. Integral to this design pattern is the premise that the east-west grid connections would penetrate the university. Additionally, a north/south spindle extending through the Town Center, connecting the EUC with Otay Valley Road, is proposed.

South of the Town Center, proposed uses would be less intense and primarily residential in character. The proposed mix of residential land use designations for Village 9 includes RLM, RM, MUR, TC, and EUC. Non-residential land use designations include PRK, PQ, OS, OSP, and “Other.”

A north/south extension of the planned Bus Rapid Transit (BRT) line is located within the eastern portion of the project connecting BRT right-of-way (ROW) from the EUC in the north to the SR-125 in the south.

3.6.3 Planning Area 10

The Proposed Project will designate an 85-acre RTP within Planning Area 10, and accordingly lower University designated acres. The RTP is intended to provide research and development and high-tech manufacturing uses supportive of a university, and serve as a needed local employment base.

In addition, a portion of Planning Area 10 will retain its secondary land use designation for village purposes as described in Part II, Chapter 1, Sections F9 and F10 of the Otay Ranch GDP.

3.7 Future Actions

Subsequent actions to implement the Proposed Project would be subject to the following discretionary actions. While future actions will require future environmental review, once certified, this SEIR can be relied upon for relevant environment analysis.

3.7.1 SPA Plans

A SPA Plan is a comprehensive plan that addresses a portion of a planned community area. It is intended to implement the goals, objectives, and development parameters prescribed in the GDP. Future SPA Plans would specify the permitted land uses within the Project Area, as well as the standards and criteria for development and conservation of resources. More precisely, the SPA plans would describe the proposed distribution, location, extent, and intensity of major infrastructure components necessary to support the land uses set forth in the Proposed Project. Such infrastructure components include public and private transportation facilities, sewage, water, drainage, solid waste disposal infrastructure, and energy facilities.

Additionally, the SPA Plans would include standards and criteria by which development consistent with the Proposed Project would proceed, as well as standards for the conservation, development, and utilization of natural resources, if applicable. These shall consist of integrated guidelines and development standards that provide detail on the land use mix, design criteria, pedestrian and vehicular circulation pattern, open space, recreation, and infrastructure requirements to assure consistency with the GPU and GDP. All future SPA Plan applications will be subject to project-level environmental review.

3.7.2 Tentative Map

A tentative map will be required for any subsequent project seeking to subdivide property within the Project Area. Any future application for a tentative map will be subject to project-level environmental review.

3.7.3 Design Review

Future development within the Project Area may be subject to formal design review. This discretionary process involves a comprehensive evaluation of the site plan, and all architectural and landscape design components of development. The principles and required guidelines for design review are set forth in the City of Chula Vista Design Manual and SPA design guidelines. Generally, approval is determined by the Zoning Administrator and the Design Review Board. Appeals from the Zoning Administrator and Design Review Board are directed to City Council.

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4.0 ENVIRONMENTAL SETTING

This section briefly describes the regional setting and on-site characteristics of the Project Area. A more detailed description of existing conditions is provided in the beginning of each impact issue area addressed in Chapter 5.0 of the SEIR.

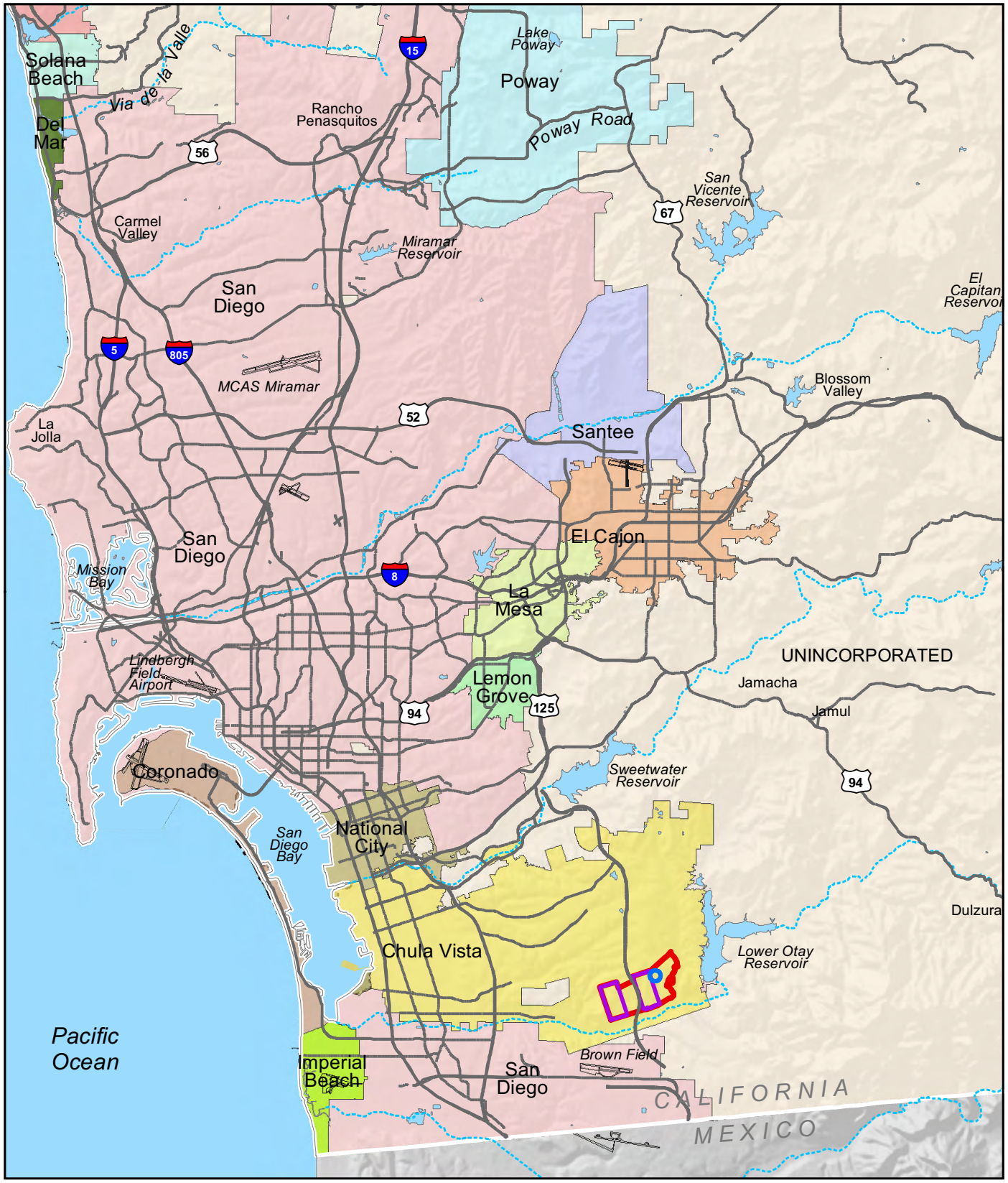
4.1 Project Location and Regional Setting

Regionally, Chula Vista is an incorporated city located approximately 12 miles south and southeast of the downtown area of the City of San Diego and 4 miles north of the Otay Mesa border crossing via the SR-125 toll road. The City is approximately 50 square miles in extent. The regional location is depicted in Figure 4-1.

Otay Ranch is located within the East Planning Area of the City, which predominantly consists of master planned communities in various stages of development and of open space. The East Planning Area is generally bounded on the west by Interstate 805 (I-805); on the north by State Route 54 (SR-54) and the Sweetwater River Valley, where the City's corporate and Sphere of Influence boundaries lie; on the northeast and east by Highway 94 (SR-94), within the unincorporated County, in the San Miguel Mountain/Proctor Valley area; and on the south within and adjacent to the boundaries designated by the Otay Ranch GDP. Land within the unincorporated portion of the County is also located east of the Project Area outside of the East Planning Area, and land within the jurisdiction of the City of San Diego is located south of the Project Area along the banks of the Otay River and the Otay River Valley.

Specifically, the Project Area is located in the south-central portion of the Otay Ranch GDP. The Project Area is composed of approximately 1,281 acres, spanning multiple existing villages and planning areas including Villages 4, 7, 8, and 9; Planning Area 10/University Site; portion of the EUC; and a small portion of the Chula Vista Open Space Preserve.

The Land Use Change Area includes the proposed village sites (Village 8 West and Village 9) and the proposed 85-acre RTP located within Planning Area 10/University Site. The proposed village sites are separated by Village 8 East (not a part of the Proposed Project) and SR-125.



0 Miles 4

Project Area

Village 8 West and Village 9

RTP

FIGURE 4-1

Regional Location

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As shown in Figure 3-1, adjacent planning areas within the GDP include Village 4 to the west; Villages 2, 7, and the EUC to the north; and the remainder of Planning Area 10/University Site to the east.

4.2 Physical On-Site Characteristics

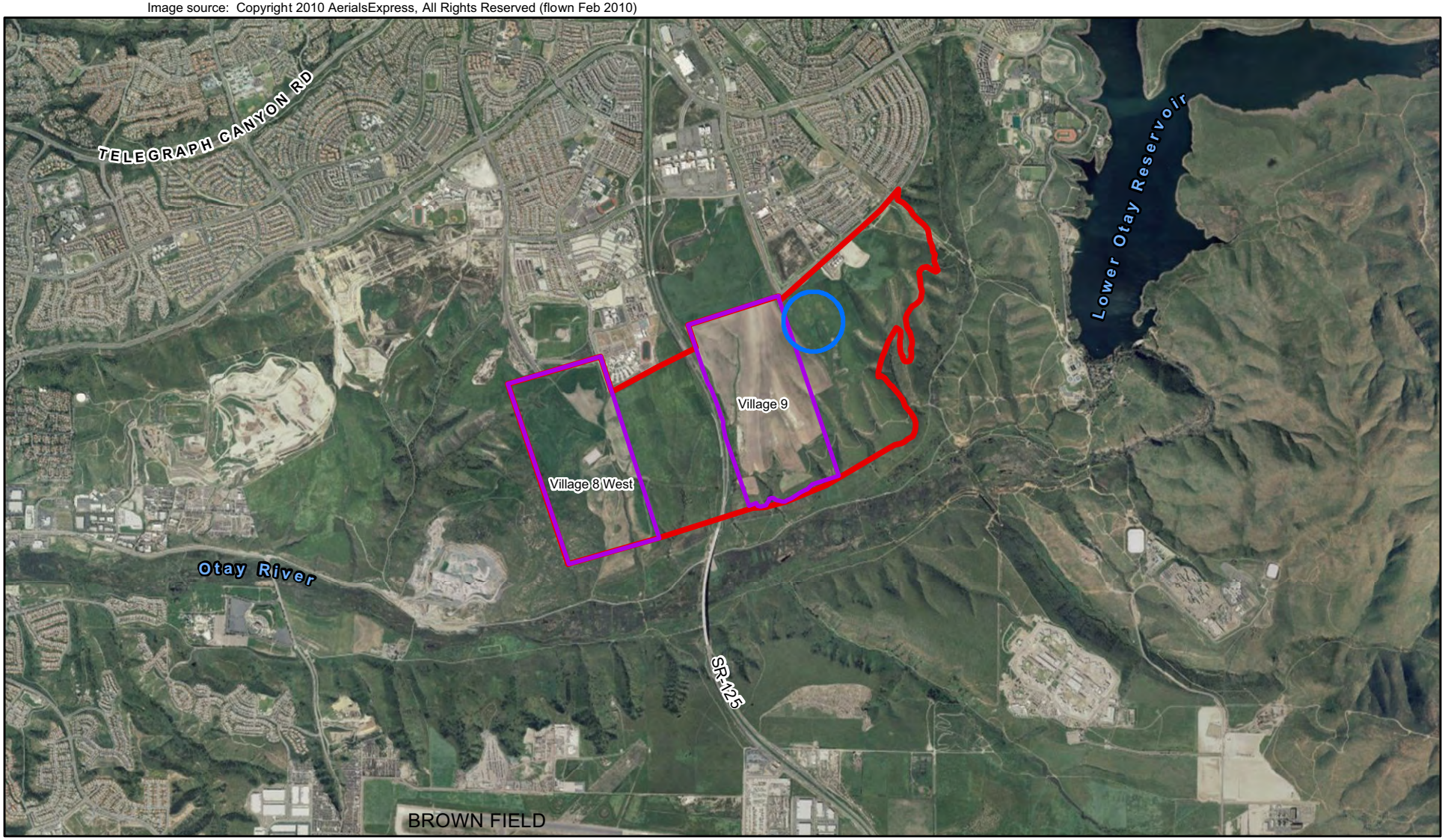
Figure 4-2 shows an aerial photograph of the Project Area in relation to the surrounding area. Major landform features include Rock Mountain, Otay River Valley, Lower Otay Reservoir, and San Ysidro Mountain and are shown in Figure 4-3. On-site elevation is approximately 200 to 400 feet above mean sea level, with a large relatively flat mesa dissected on the southern end by ephemeral drainage swales. Additional information regarding the topographic character of the Project Area is provided in Section 5.2, Landform/Visual Quality, of this SEIR.

The Otay Ranch is former agricultural land historically used for ranching, grazing, and dry farming. The Project Area is currently vacant, consisting primarily of previously tilled land and some associated drainage swales at the southern portion. Natural vegetation on-site is associated with the Otay River valley slope and consists of a mixture of disturbed and relatively undisturbed natural vegetation, including freshwater marsh, maritime succulent scrub, and coastal sage scrub. There is an existing water reservoir sitting in the center of the Project Area (not part of the Proposed Project), within the proposed Village 8 West site. Water pipelines pass through on the east and northeast side of the reservoir.

4.3 Surrounding Land Uses

As shown on Figure 4-2, the Project Area is surrounded by existing development to the north and northeast, agricultural lands to the east and west, and an access road that parallels the Otay River to the south. Existing and proposed land uses surrounding the Project Area include planned single- and multi-family residential neighborhoods, commercial uses, institutional, and research and development uses. An existing quarry and MSCP land also surrounds the Project Area.

Image source: Copyright 2010 AerialsExpress, All Rights Reserved (flown Feb 2010)



Project Area

Village 8 West and Village 9

RTP

0 Feet 4,000

FIGURE 4-2

Aerial Photograph of Project Area

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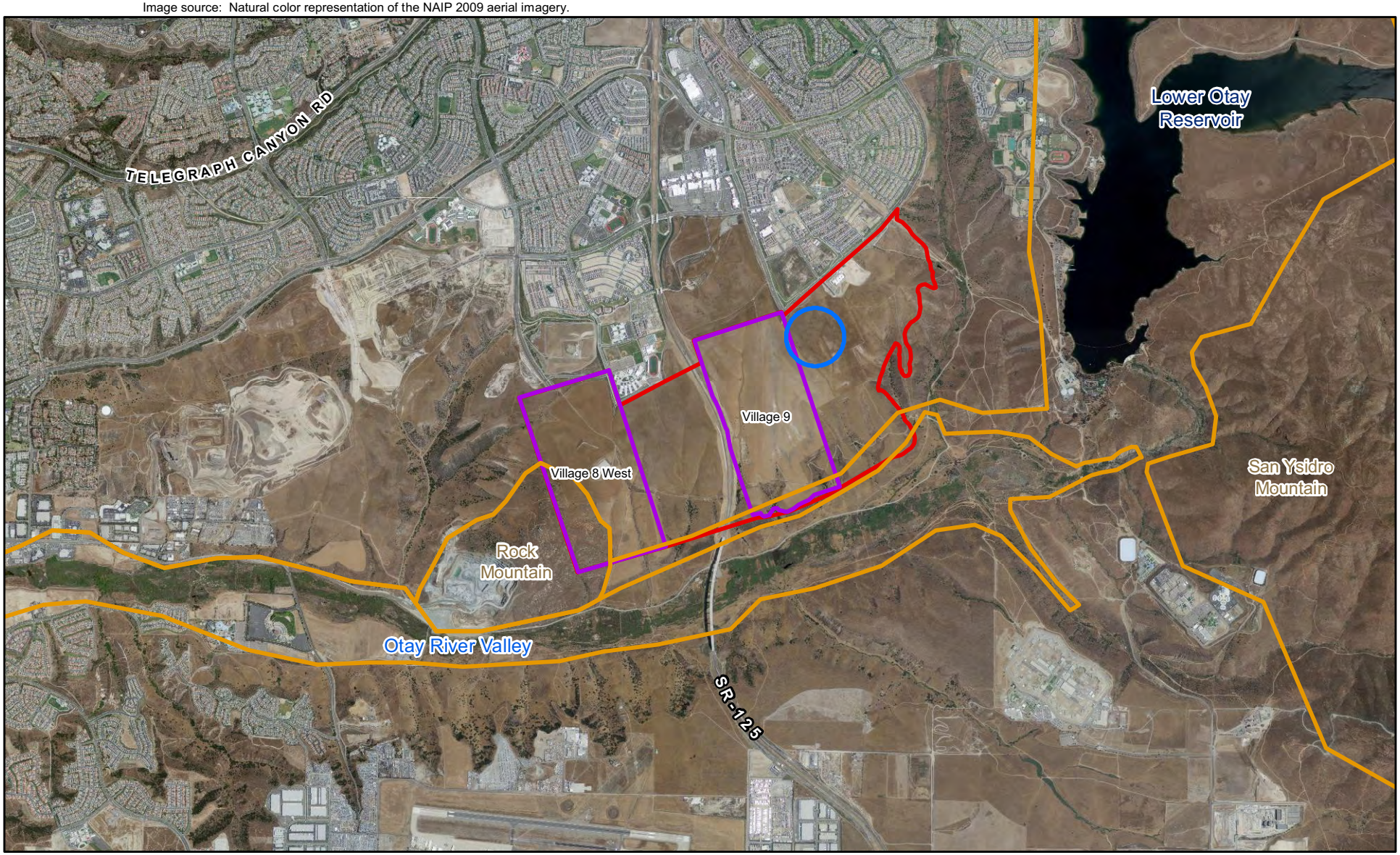
Image source: Natural color representation of the NAIP 2009 aerial imagery.



Project Area
Village 8 West and Village 9
RTP
Major Landform

0 Feet 4,000

FIGURE 4-3
Existing Landform Features

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The surrounding villages all feature school sites, public parks and open space, as well as a range of residential densities. Additionally, the Otay Ranch Town Center, an approximately 865,000-square-foot commercial center, is located north of the Project Area across Birch Road. Region-serving recreational uses that would serve the entire Otay Ranch include a future 70-acre community park and a larger Otay Valley Regional Park to the south.

Unless otherwise stated, the existing environmental conditions are used as the baseline against which impacts of the Proposed Project are measured.

5.0 ENVIRONMENTAL IMPACT ANALYSIS

As discussed in Chapter 2.0, the analysis included in the SEIR is based on the review of changes in the Proposed Project, changes in circumstances, or emergence of new information since certification of the 2005 GPU/GDP EIR in order to provide an update to the analysis contained within the 2005 GPU/GDP EIR for the GPU Preferred Plan. Although the land use designations of the Preferred Plan in the Deferral Area were not adopted by the City in 2005, they were analyzed in the 2005 GPU/GDP EIR and certified by the City. This supplemental analysis is focused on whether and to what extent, the implementation of the Proposed Project would change the results of the 2005 GPU/GDP EIR's impact analysis. A plan-to-plan analysis (comparison of the Proposed Project to what is currently allowed [2001 land uses]) is included as the No Project-No Change in Existing Plans Alternative in Chapter 10.0.

Because this document provides a program-level supplemental analysis to the 2005 GPU/GDP EIR, future SPA plans shall provide project-level environmental analyses related to detailed site utilization plans, specific land uses and acreages, identification of detailed physical features and easements, standards for planned public and private streets, development standards and design guidelines, and detailed conformance with relevant guidelines and policies.

5.1 Land Use

This section presents a supplement to the land use analysis included in the 2005 GPU/GDP EIR. Proposed land use changes only affect the Land Use Change Area, as defined in Chapter 2.0, while policy amendments affect the entirety of the Project Area. The 2005 GPU/GDP EIR, along with the supporting documents including, but not limited to, regional planning documents, zoning ordinance, community planning documents, and the MSCP, relevant to the entirety of the GP planning area are incorporated by reference.

Because the Land Use Change Area is located within the Deferral Area, it remains subject to the land uses in effect prior to the 2005 GPU. However, the 2005 GPU/GDP EIR provided an analysis of the land uses that were proposed within the Deferral Area. This chapter of the SEIR analyzes the Proposed Project against the land use plan proposed by and analyzed as the 2005 GPU/GDP EIR Preferred Plan.

5.1.1 Existing Conditions

5.1.1.1 Regulatory Plans and Policies

Regional Land Use Plans

The San Diego Association of Governments (SANDAG) functions as a forum for decision-making on regional issues such as growth, transportation, and land use in the County. The agency membership is composed of representatives from each of the County's local jurisdictions, including the City. SANDAG programs relevant to the Proposed Project include the Regional Comprehensive Plan (RCP) and Regional Transportation Plan. Other programs also include the Congestion Management Program (CMP), Regional Housing Program, Employment Lands Inventory, BRT, including the Otay Ranch Transitway Alignment and alternatives, and Transit First studies.

REGIONAL COMPREHENSIVE PLAN

SANDAG's RCP serves as the long-term planning framework for the region. Adopted in 2004 and based on smart-growth principles, it provides a broad context in which local and regional decisions can be made to move the region toward a sustainable future. In concert with the Regional Transportation Plan, the RCP promotes the integration of land use and transportation planning, a key component of sustainable development. SANDAG's RCP and Regional Transportation Plan both have the goal to better connect freeway, transit, road, and bicycle/pedestrian networks to homes, schools, work, shopping, and other activities.

In the RCP, smart-growth development is seen to incorporate the following principles designed to strengthen land use and transportation integration:

- Development directed towards existing communities to reduce urban sprawl;
- Preserved open spaces, ecological resources and agricultural land;
- Mixed land uses in close proximity to one another;
- Variety of housing types, densities and levels of affordability;
- Compact building footprints to minimize land consumption and maximize energy efficiency;

- Distinctive, attractive community design;
- Neighborhoods designed for pedestrian activity;
- Provision of a broad range of mobility options to improve community health, conserve energy, and reduce greenhouse gas (GHG) emissions; and
- Community and stakeholder collaboration in development decisions.

Additionally, since the practice of smart-growth is dependent on private sector investment, local governments can promote quality development by providing economic incentives for innovative projects, investing in vital infrastructure, and establishing efficient land use policies.

The RCP defines seven categories of smart-growth area types that are identified on a smart-growth concept map. With almost 200 locations identified throughout the region, the smart-growth concept map is intended to help guide planning and development of the region's future transit networks, providing higher priority for peak-period transit services that link smart-growth areas to one another and to other major activity centers. Smart-growth areas will also receive higher priority for transportation improvements, lending additional support to the smart-growth principles contained in the RCP.

Smart-growth area types can qualify as either Existing/Planned or Potential, depending upon whether they meet certain housing and employment density targets and transit service thresholds specified in the RCP. If the areas on the map meet the targets, they are identified as Existing/Planned areas. If they do not, but they show future opportunities for smart-growth, they are identified as Potential areas. As shown in Figure 5.1-1, the smart-growth concept map identifies the proposed villages as well as a number of locations in proximity to the Project Area as smart-growth areas, both Existing/Planned and Potential.

REGIONAL TRANSPORTATION PLAN

On October 28, 2011, SANDAG adopted the 2050 Regional Transportation Plan and Sustainable Communities Strategy (SCS), a balanced vision for the evolution of the San Diego region's transportation system. SANDAG adopted the Regional Transportation Plan, Mobility 2030, in November 2003. The 2050 strategy lays out a plan for investing an estimated $214 billion in local, state, and federal transportation funds expected to come into the region over the next 40 years. Along with the 2050 Regional Transportation Plan,

Map Source: Sandag

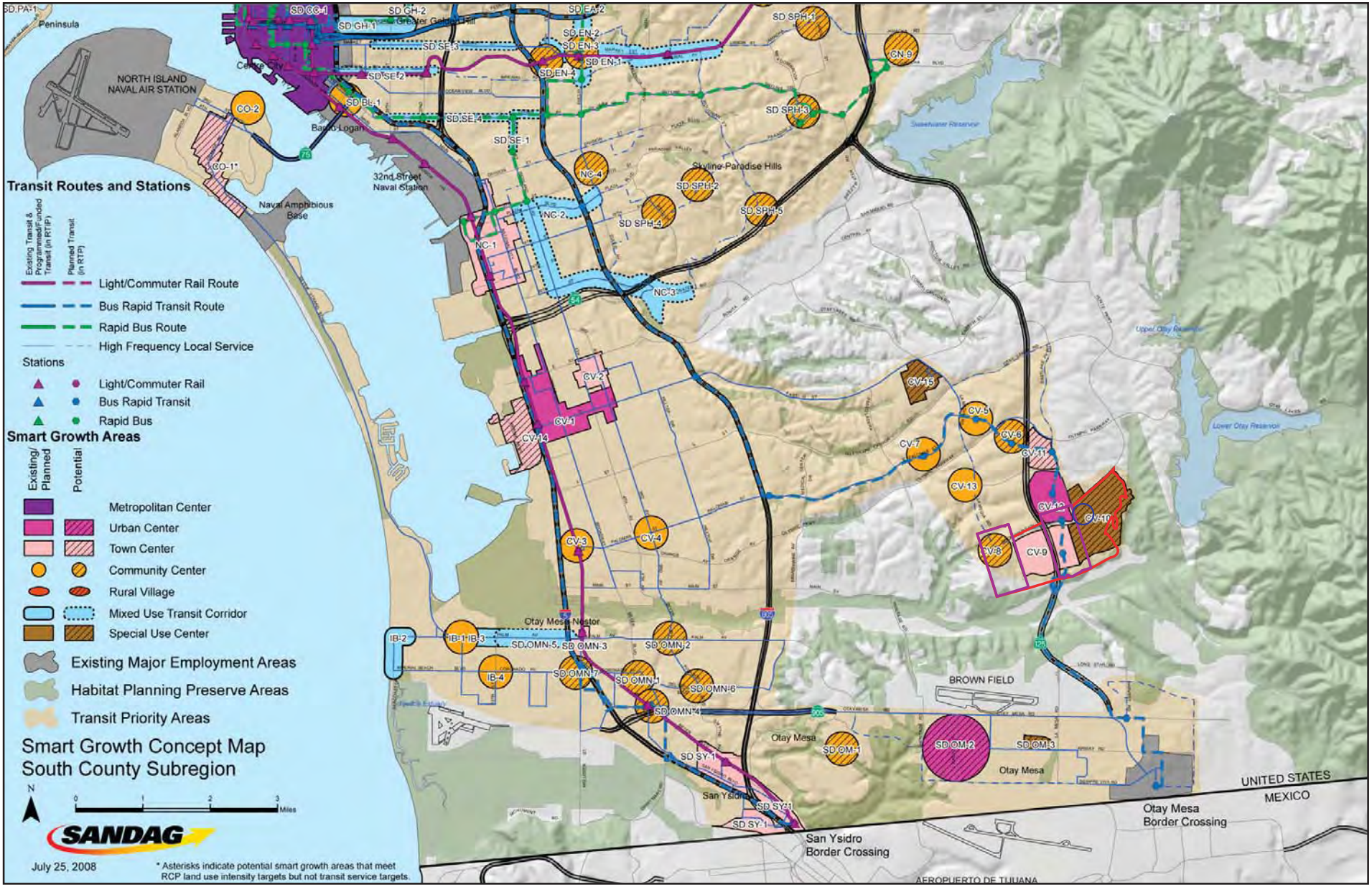

FIGURE 5.1-1

SANDAG Smart Growth Concept Map: South County

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SANDAG adopted the SCS. The SCS details how the region will reduce greenhouse gas emissions to state-mandated levels over time. The inclusion of the SCS is required by SB 375, and the San Diego region is the first in California to produce a regional transportation plan with an SCS. Additional discussion of SB 375 and the SCS can be found in Chapter 5.10 of this SEIR.

The vision for the 2050 Regional Transportation Plan describes a transportation system that supports a prosperous economy, promotes a healthy and safe environment, including climate change protection, and provides a higher quality of life for all San Diego County residents. The plan also seeks to better link jobs, homes, and major activity centers by enabling more people to use transit and to walk and bike, efficiently transport goods, and provide fast, convenient, and effective transportation options for all people (www.sandag.org: providing a comprehensive overview of the 2050 Regional Transportation Plan).

Local Land Use Plans

CITY OF CHULA VISTA GENERAL PLAN

The City's GPU, known as Vision 2020, was adopted on December 13, 2005. The GPU is intended to provide guidance in the development of the City using smart-growth principles. As set forth in the GPU, the basic elements of smart-growth, with respect to the City include:

- Provide a mixture of compatible land uses;
- Take advantage of compact building design;
- Create a range of housing opportunity and choices;
- Create walkable neighborhoods;
- Foster distinctive, attractive communities with a strong sense of place;
- Preserve open space, natural beauty, and critical environmental areas;
- Strengthen and direct development towards existing communities;

- Provide a variety of transportation choices;
- Make development decisions predictable, fair, and cost effective; and
- Encourage community and stakeholder collaboration in development decisions.

(City of Chula Vista 2010, page LUT 31)

As previously discussed, at the time of the GPU's adoption the City Council deferred final action, per Resolution No. 2005-424 (Final Deferral Action), on provisions relating to the Deferral Area for an interim period. The action deferred land use designations and policies applying to the Deferral Area. It did not affect the circulation plan, roadway classifications, or locations. The text affected by Resolution 2005-424 is shown as shaded within the adopted GP. While these goals and policies were previously analyzed in the 2005 GPU/GDP EIR, they were not adopted and are not currently enforceable without further action by the City Council.

This chapter of the SEIR analyzes the Proposed Project against the land use plan proposed by and analyzed within the 2005 GPU/GDP EIR as the Preferred Plan.

GP land use objectives and policies applicable to the Proposed Project are included in the LUT, and Economic Development Element. The LUT of the City's GP contains objectives addressing physical development patterns and character of the City, specifically focusing on themes that (1) support strong community character and image; (2) support strong and safe neighborhoods; and (3) improve mobility. The Economic Development Element (ED) establishes policies to ensure the long-term vitality of the City's local economy helping to develop, guide, and encourage appropriate employment and business.

The left side of Table 5.1-1 provides a list of currently adopted applicable land use objectives contained in the existing GP relevant to the programmatic level of analysis within this SEIR. Other objectives and policies related to specific environmental issues are included in applicable analyses throughout Chapter 5.0 of this SEIR.

TABLE 5.1-1
ADOPTED APPLICABLE OBJECTIVES OF THE CITY OF CHULA VISTA GENERAL PLAN

GP Objective	Proposed Project Consistency with GP Policies
Objective LUT 1: Balance residential and non-residential development.	The Proposed Project is **consistent** with this objective, because it provides for a variety of uses to meet future needs of residents.
Objective LUT 5 Designate opportunities for mixed-use areas, higher-density housing near shopping, jobs, and transit.	The Proposed Project is **consistent** with this objective, because services for mixed-use residential areas can be provided within each proposed Town Center and within a walkable distance from residences.
Objective LUT 6 Ensure adjacent land uses are compatible with one another.	The Proposed Project is **consistent** with this objective, because each proposed land use designation within the Land Use Change Area corresponds and is interrelated to each existing or proposed land use designations throughout the project area. The intention is to create independent villages with cohesive relationships.
Objective LUT 16 Integrate land use and transportation planning and related facilities.	The Proposed Project is **consistent** with this objective, because proposed Objective 96 (Policies 96.1 through 96.3) addresses the establishment of a unified community with public facilities, and pedestrian and bicycle paths that connect residential areas to the Town Center, RTP, EUC, and open space.
Objective LUT 17 Plan and coordinate development to be compatible and supportive of planned transit.	The Proposed Project is **consistent** with this objective because the inclusion of a couplet system within the Village 8 West Town Center creates a transit-oriented center which is proposed to include Rapid Bus stops.
Objective LUT 20 Make transit-friendly roads a top consideration in land use and development design.	The Proposed Project is **consistent** with this objective because the inclusion of a couplet system within the Village 8 West allows the incorporation of transit-friendly and pedestrian-friendly elements into the roadway design standards, such as signal priority and adequate sidewalk widths for pedestrians.
Objective LUT 61: Create balanced communities that can provide a high quality of life for its residents.	The Proposed Project is **consistent** with this objective, because proposed amendments support the development of mixed-use Town Centers which, at build out, will offer residential, employment, and retail opportunities providing for balanced communities and a high quality of life.
Objective LUT 63: Provide efficient multi-modal access and connections to and between activity centers (East Planning Area).	The Proposed Project is **consistent** with this objective, because proposed Objective LUT 83 and associated policies support the development of transit and pedestrian connectivity between land uses, especially between the EUC, University, and RTP.
Objective LUT 65: Promote and provide for the future location of a multi-institutional university center or traditional university in the East Planning Area.	The Proposed Project is **consistent** with this objective, because proposed amendments to Objective LUT 95 solidify the University site and address the location of the RTP within the University as a business park focused on providing manufacturing, research, and other job-generating uses thereby diversifying the economic base of Otay Ranch.

TABLE 5.1-1
ADOPTED APPLICABLE OBJECTIVES OF THE CITY OF CHULA VISTA GENERAL PLAN
(continued)

GP Objective	Proposed Project Consistency with GP Policies
Objective LUT 72: Develop comprehensive, well-integrated, and balanced land uses within villages and town centers, compatible with the surroundings.	The Proposed Project is **consistent** with this objective, because the proposed amendments including Policies LUT 72.5 through 72.7 provide the basis for the development of integrated, mixed-use land uses within villages and town centers which will be compatible with each other.
Objective LUT 74: Accommodate land uses that diversify the economic base within Otay Ranch and the surrounding south San Diego County region.	The Proposed Project is **consistent** with this objective, because the proposed Objective LUT 95 adds the RTP to the University site and the associated proposed policy addresses the RTP as a business park focused on providing manufacturing, research, and other job-generating uses thereby diversifying the economic base of Otay Ranch.
Objective LUT 81: Develop a higher density, mixed-use, transit oriented town center positioned on the intersection of Rock Mountain Road (Main Street) and La Media Road, surrounded by lower density (intensity) residential use and a large community park and preserve (that preserves) Rock Mountain as an important landform and visual resource.	The parenthetical language represents proposed changes to the wording of this objective. The Proposed Project is **consistent** with this objective, because proposed Village 8 West is positioned in this location, although the name of Rock Mountain Road is proposed to be changed to Main Street. The GPA also proposes to change the word "density" to "intensity," which is satisfied by the Proposed Project's inclusion of a community park and RM and RLM land use designation south of the Main Street/ La Media Road intersection.
Objective LUT 91: Establish a unified community that provides public facilities, such as parking, schools, parks, and open spaces; and promotes walking and biking, comparable to the prevailing patterns of residential development within Otay Ranch.	Although this provision is currently part of the Final Deferral Action, the Proposed Project is **consistent** with the objective. The GPA renumbers this objective to LUT 96 and includes a land use plan which supports connectivity, among the Otay Ranch Villages, parks, Town Centers, EUC, RTP and University Site. The Proposed Project provides modality choices for motorists, bikers, and pedestrians.
Objective LUT 92: Establish a high-quality industrial park that is oriented to and accommodates high-technology businesses conducting research and light industrial/ manufacturing activities that provide job opportunities for residents of Otay Ranch, Chula Vista, and the greater south San Diego County region.	Although this provision is currently part of the Final Deferral Action, the Proposed Project is **consistent** with the objective. The GPA includes changing the definition of the RTP from "industrial" to "business" park and, along with associated policies, enhances the vision of the area as a light industrial park accommodating research and high-tech development, utilizing the resources of the university site and interacting with the adjacent Town Center and EUC.
Objective ED 2: Maintain a variety of job and housing opportunities to improve Chula Vista's jobs/housing balance.	The Proposed Project is **consistent** with this objective, because proposed land use designations create a variety of residential densities and unit types to be located in proximity to transit and employment opportunities.

OTAY RANCH GENERAL DEVELOPMENT PLAN/SUBREGIONAL PLAN

The Otay Ranch GDP was approved jointly by the City and San Diego County (County) in 1993 for the future development of Otay Ranch, and land uses were amended in 2001. In 2005, simultaneous with the GPU, an Otay Ranch GDPA was approved; however, like the GP land uses, GDP land use designations within the Deferral Area were not approved. Therefore, the Project Area remains subject to the 2001 land use designations as depicted in Figure 2-1.

The GDP addresses uses on a total of 22,899 acres, divided into 14 urban villages and five special planning areas, including a site for a university (City of Chula Vista 1993a). The goals of the Otay Ranch GDP are to (1) create a well-integrated, balanced land use; (2) reduce reliance on the automobile and promotion of alternative modes of transportation; and (3) diversify the economic base within Otay Ranch. Its intention was to serve population growth forecasted at the time (SANDAG 1987), and guide the coordinated development of Otay Ranch by creating a balance of housing, shops, workplaces, schools, parks, civic facilities, and open spaces. The majority of development is intended to be clustered in the villages, with conveniently located features and well-defined edges such as the Chula Vista Greenbelt, open spaces, and wildlife corridors. The GDP is a “general-plan level” document jointly prepared and adopted by the County and the City. Within the City, the GDP is the planning document required to implement the City’s Planned Community (P-C) zone (see Zoning Code below). As a means of implementing the City’s zoning ordinance, the GDP is consistent with, and subordinate to, the City’s GP.

The GDP provides a foundation for the subsequent consideration and approval of more detailed planning processes prior to the subdivision of land. The City requires the preparation and adoption of individual SPA and Village Design Plans for each village and planning area providing detailed design and development criteria. Thereafter, the property may be subdivided in accordance with the California Subdivision Map Act and the City’s Subdivision Ordinance.

The Project Area is composed of portions of Villages 4, and 7; the entirety of Villages 8 and 9; Planning Area10/University Site; a small portion of the EUC; and a small portion of the Chula Vista Open Space Preserve. Village 9 is primarily designated University and EUC. Villages 4 and 8 are designated TC, RMH, RM, and RLM and are planned around a mixed-

use residential town center, with RLM density surrounding it. While currently meeting the intention of the GDP, the Proposed Project will intensify land uses, allowing the establishment of a unified Town Center to establish high-density and more active mixed-use development and a better utilization of the GDP strategy to meet current population forecasts and housing needs and the future demands of a university.

Currently adopted GDP policies applicable to land use strategies relevant to the programmatic level of analysis within this SEIR are listed on the left side of Table 5.1-2. Other GDP policies related to specific environmental issues are included in applicable analyses throughout Chapter 5.0 of this SEIR.

ZONING CODE

The designated zoning within the Otay Ranch GDP is P-C, which requires the preparation of a SPA Plan. Future SPA plans will provide more detailed design and development criteria for the SPA area and must be consistent with the Otay Ranch GDP which it implements.

CITY OF CHULA VISTA MSCP SUBAREA PLAN

The MSCP Subarea Plan (Subarea Plan) is a subregional plan under the California Natural Communities Conservation Planning Act (NCCP) (1991). The City adopted the Subarea Plan on May 13, 2003 as a comprehensive, long-term habitat conservation plan intended to protect species against the potential impacts of habitat loss associated with development of both public and private lands. The Subarea Plan is an implementation mechanism for the broader MSCP Subregional Framework Plan, which ultimately implements the NCCP. As part of the GP, any projects subject to City approval must be in conformance with the Subarea Plan.

TABLE 5.1-2
APPLICABLE GOALS/POLICIES OF THE
OTAY RANCH GENERAL DEVELOPMENT PLAN

Goal/Policy	Proposed Project Consistency
Part II, Chapter 1 **Section B: Goals, Objectives, and Policies**	
Goal: Develop comprehensive, well-integrated and balanced land uses which are compatible with the surroundings.	The Proposed Project is **consistent** with this goal. The proposed land uses within the Land Use Change Area allow the development of mixed-use Town Centers which, at buildout, will offer residential, employment, and retail opportunities. This is compatible with surrounding developed villages and the overall concept of the Otay Ranch GDP.
Goal: Promote villages and town center land uses which offer a sense of place to residents and promotes social interaction.	The Proposed Project is **consistent** with this goal. The proposed land uses within the Land Use Change Area allow the development of mixed-use, Town Centers which, at buildout, will provide residents with employment, retail and recreational opportunities. The land use plans will result in the creation of a sense of place and promote social interaction representing the needs of the residences and surrounding areas, including the university.
Goal: Promote synergistic uses between the villages and town centers of the Otay Ranch to provide a balance of activities, services and facilities.	The Proposed Project is **consistent** with this goal. The land use plans for the Land Use Change Areas provide a relationship between residents of each proposed Village by allowing the development of walkable, mixed-use communities. The proposed land uses within the Land Use Change Area also creates a dependency within the area, and the Otay Ranch GDP area, through the establishment of recreational, retail, and university-driven uses.
Part II, Chapter 1 **Section D: Land Use Design, Character, and Policies** ***1a. Village Land Use Policies***	
Goal: Organize land uses based upon the village/town center concept to produce a cohesive, pedestrian-friendly community. Encourage non-vehicular trips and foster interaction amongst residents. ***Policies:*** · Master-plan each village consistent with the GDP/SRP goals, objectives, policies, and standards. · Include a variety of uses and housing types within each village to meet the needs of residents.	The Proposed Project is **consistent** with this goal and associated policies. · While this SEIR provides a programmatic level analysis of the proposed changes within the Land Use Change Area, SPA plans will be required within Villages 8 West and 9 and the RTP. These subsequent plans will require CEQA review to assure that each is consistent, on a more detailed level, with GDP goals, objectives, policies and standards. · Proposed residential land uses within the Land Use Change Area include a wide range

TABLE 5.1-2
APPLICABLE GOALS/ POLICIES OF THE
OTAY RANCH GENERAL DEVELOPMENT PLAN
(continued)

Goal/Policy	Proposed Project Consistency
· Establish a unique character and sense of place within each village.	of densities and formats within multi-family and single-family residential uses which will accommodate a variety of housing types to meet the needs of all potential residents. · Pursuant to the Proposed Project's land use plan, both of the proposed villages, Village 8 West and Village 9, will have a unique character associated with its Town Center and its location within the Otay Ranch GDP. Village 9, for example, will provide ancillary uses to the adjacent university site.
1b. Village Core Policies	
Policies: · The village core is defined by the Mixed-Use (MU) and Medium-high (MH) land use categories as depicted within the GDP/SRP Land Use Map. · Village cores should be centrally located, within approximately one-quarter mile of the majority of a village's population. · The location and form of the village core shall reflect the physical constraints of the village and the village's relationship to surrounding land uses and the circulation system. · A town center shall provide for a more defined grid system of roadways the center of which is the town center arterial. The town center arterial provides for greater support to mixed-use retail centers by accommodating high-traffic volumes yet does so in a pedestrian friendly environment.	The Proposed Project is **consistent** with relevant Village Core policies. · As shown in Figure 3-6, Proposed General Development Plan Land Uses, the Town Centers for proposed Villages 8 West and 9 are surrounded by MU and MH land uses. · The proposed Town Centers are centrally located to a majority of the populations within the proposed villages. The proposed configurations support walkable communities and access to transit. · The siting of the proposed Town Centers reflect surrounding land uses including the university site to the east and Villages 4 and 7 to the north and west, respectively. In proposed Village 8 West, the village core area is situated at the intersection of Main Street and La Media Road. · The Town Center within proposed Village 9 is designed with a grid system of streets centered on Campus Boulevard, an east–west street connecting a proposed neighborhood park on the west to the university campus on the east.
1d. Village Core Residential Policy	
Policy: · Medium-high (MH) residential uses shall be located in the village core, on two or more sides of mixed-use areas.	The Proposed Project is **consistent** with relevant Village Core Residential policies. · As shown in Figure 3-5, implementation of the Proposed Project will allow high-density residential uses to be located within MH or MU use designations, both of which surround the proposed Town Centers.
1e. Secondary Areas Policies	
Policies: · The residential areas outside of the village core are "Secondary Areas" predominately comprising residential uses oriented to the	The Proposed Project is **consistent** with relevant Secondary Areas policies.

TABLE 5.1-2
APPLICABLE GOALS/ POLICIES OF THE
OTAY RANCH GENERAL DEVELOPMENT PLAN
(continued)

Goal/Policy	Proposed Project Consistency
village core, through the design of street, pedestrian, and bicycle systems and alternative modes of transportation. · Secondary areas shall be areas outside of the village core, predominately comprising residential uses. · Outside the village core, densities shall generally decrease with distance from the transit station	· It is the intention of the Proposed Project that surrounding lower density residential land uses remains connected to the Town Center through pedestrian and bicycle systems, transit availability and general design measures. · The Proposed Project includes reduced density residential land uses in areas adjacent to the core area. · As shown in Figure 3-5, allowable residential density decreases with distance from the core area. The lowest density, single family homes within the Low Density Residential (L) land use designation are located along the outer limits of the proposed villages.
1g. Village Street System Policies	
Policies: · Access from villages to prime arterials roads should be limited to maintain prime arterials as high-capacity regional connections. · Town Center Arterials serve the Town Centers by bringing arterial traffic into the town centers with a pedestrian-oriented grid system of streets.	The Proposed Project is **consistent** with relevant Village Street System policies. · Access to prime arterial roadways is limited throughout the proposed villages in order to maintain high capacity on regional roads. · The Proposed Project includes a grid system of streets within the proposed Town Centers which will provide pedestrian-friendly access throughout the core area.
4. University Policy	
Policy: · The area indicated on the GDP/SRP Land Use Map as the University Site has a primary land use designation as a university site. At any time, this area may be developed for a university campus and ancillary uses such as campus-related commercial, residential, and research and development support services.	The Proposed Project is **consistent** with relevant University policies. The proposed RTP is located within the University Site. The RTP is intended to provide research and development and high-tech manufacturing uses supportive of academic research and university campus activities.
Part II, Chapter 4 Parks, Recreation, Open Space **Section B: Goals, Objectives and Policies***	
Goal: Provide diverse park and recreational opportunities within Otay Ranch which meet the recreational, conservation, preservation, cultural, and aesthetic needs of project residents of all ages and physical abilities.	The Proposed Project is **consistent** with this goal. The Proposed Project includes multiple park areas to be included in future SPA plans which will allow the proposed villages to provide diverse opportunities for all residents.

*Only a goal follows this heading.

As shown in Figure 5.1-2, a portion (15.6 acres) of the southwest corner of proposed Village 8 West as well as small sections of the southwest corner (0.7 acre) and the southeast corner (3.3 acres) of proposed Village 9 are situated within land designated Habitat Preserve under the MSCP Subarea Plan.

CITY OF CHULA VISTA GREENBELT MASTER PLAN

The Greenbelt Master Plan provides guidance and continuity for planning development of a continuous 28-mile open space and park system and trails that encircle the City. The Greenbelt Master Plan was adopted by the City Council on September 16, 2003. The Plan's primary purpose is to provide goals and policies, trail design standards, and implementation tools that guide the creation of a greenbelt system of multi-use trails through open space corridors. As shown in Figure 5.1-3, a small portion of the southwest corner of proposed Village 8 West is situated within the Greenbelt Master Plan area as well as a portion of Village 9.

OTAY RANCH RESOURCE MANAGEMENT PLAN

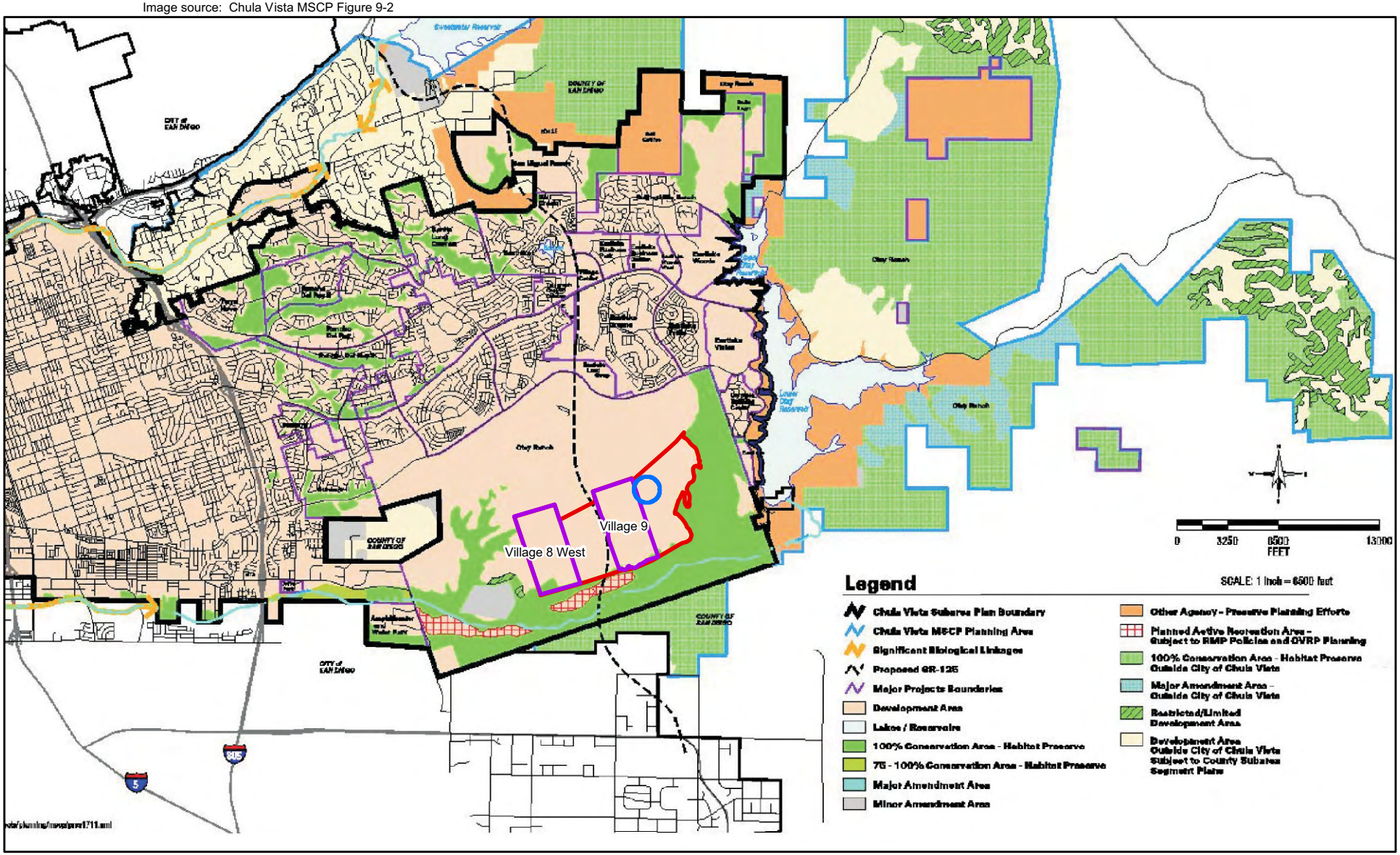
The Otay Ranch Resource Management Plan (RMP) comprises two phases of documentation. The RMP I was adopted by the City in October 1993 and the RMP II was adopted in 1996. RMP I and II provide guidance for resource protection within Otay Ranch. An important part of the RMP I was the creation of the Otay Ranch Preserve. The Otay Ranch Preserve includes approximately 11,375 acres to be set aside as mitigation for impacts to sensitive resources resulting from Otay Ranch development that would occur both within the City and in the County. The Otay Ranch Preserve has been designed and would be managed specifically for protection and enhancement of natural resources present within Otay Ranch, including sensitive biological resources.

As shown in Figure 5.1-4, a portion of the southwest corner of proposed Village 8 West and small sections of the southwest and the southeast corners of proposed Village 9 are situated within the Otay Ranch Preserve.

BROWN FIELD AIRPORT LAND USE COMPATIBILITY PLAN

The purpose of an Airport Land Use Compatibility Plan (ALUCP) is to provide for the orderly growth of airports and the areas surrounding the airports, and to safeguard the

Image source: Chula Vista MSCP Figure 9-2



Project Area

Village 8 West and Village 9

RTP

FIGURE 5.1-2

City of Chula Vista MSCP Subarea Plan

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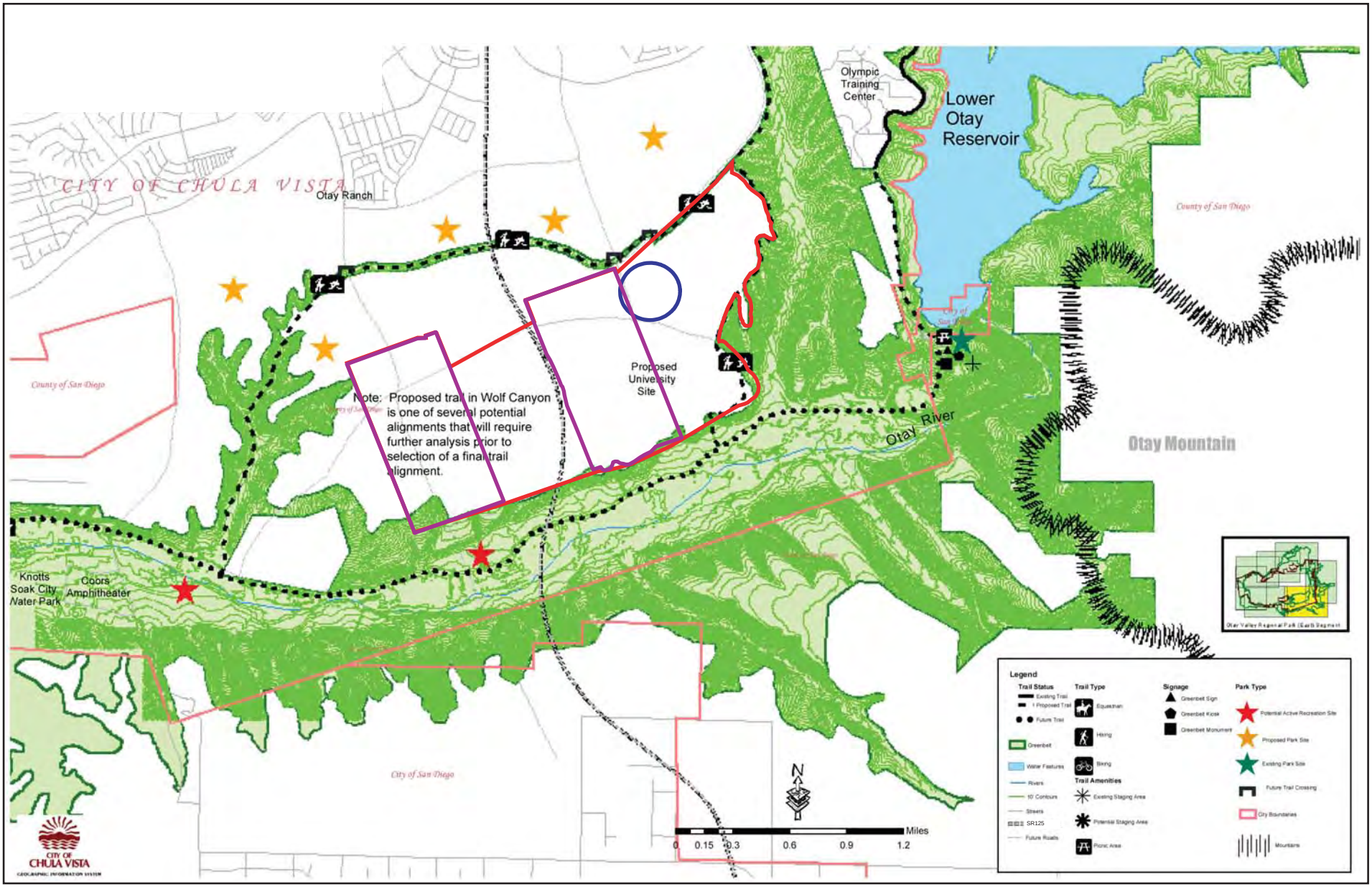
Map Source: City of Chula Vista



Project Area | Land Use Change Area | RTP

FIGURE 5.1-3
City of Chula Vista Greenbelt Master Plan
Otay Valley Regional Park (East) Segment

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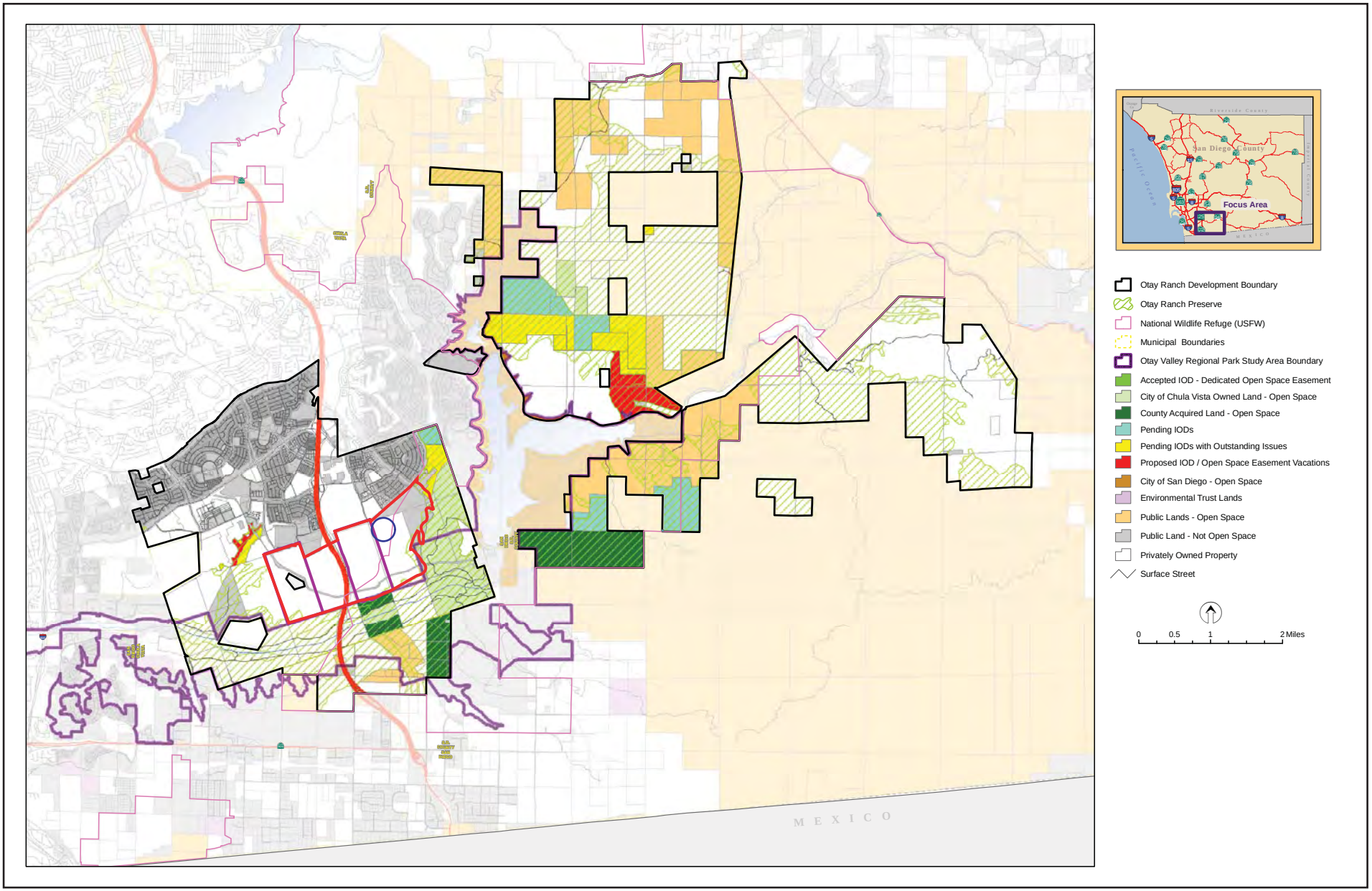
Map Source: City of Chula Vista



Project Area Land Use Change Area RTP

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FIGURE 5.1-4
Otay Ranch Preserve

general welfare of inhabitants within an airport's vicinity. An ALUCP addresses compatibility between airport operations and future land uses that surround them by providing policies and criteria for noise, safety, airspace protection, and overflight. An ALUCP serves to both minimize the public's exposure to excessive noise and safety hazards within an Airport Influence Area (AIA) and preserve the viability of airport operations.

The 2004 Brown Field ALUCP was revised and adopted by the County Airport Land Use Commission (ALUC) on January 25, 2010. The GPU was previously reviewed by the San Diego County Regional Airport Authority (SDCRAA) for consistency with the 2004 ALUCP and determined to be compatible. Because the Proposed Project's GPA application was deemed complete prior to the adoption of the revised ALUCP and because the Project Area is beyond the AIA of the 2004 ALUCP, the Proposed Project is considered a pipeline project and consistent with the 2004 ALUCP.

5.1.1.2 Existing Land Uses

As described in Chapter 4, Environmental Setting, the Project Area is currently vacant, consisting of previously tilled land and some associated drainage swales at the southern portion. Surrounding land uses include existing development to the north and northeast, agricultural lands to the east and west, and an access road that parallels the Otay River to the south. MSCP preserve land is located to the south of the Project Area and an existing quarry adjacent to the Otay River Valley. Existing and proposed land uses surrounding the Project Area include planned single and multi-family residential neighborhoods, commercial uses, institutional, and research and development uses.

5.1.2 Thresholds of Significance

The Proposed Project would result in a significant impact to land use, if it would:

1. Physically divide or adversely affect the community character of an established community;

2. Conflict with any applicable land use plan, policy, or regulation or an agency with jurisdiction over the Proposed Project adopted for the purpose of avoiding or mitigating an environmental effect; or

3. Conflict with any applicable habitat conservation plan or NCCP.

5.1.3 Impacts

5.1.3.1 2005 GPU/GDP EIR Conclusion

Threshold 1: Community Character

As shown in Table 3-1, the Preferred Plan analyzed in the 2005 GPU/GDP EIR allowed the development of 640 single-family and 4,530 multi-family residential units. The total of 5,170 residential units translated to an anticipated population of approximately 13,818 within the Land Use Change Area.

The 2005 GPU/GDP EIR concluded that community character impacts associated with the Preferred Plan would be significant, because implementation of the GPU would result in adjustments to the boundaries and overall intensities of use within the City. Within the Project Area, this included the development of open, undeveloped lands. The 2005 GPU/GDP EIR concluded that until the development of design standards through zoning and SPA plans, these impacts would remain significant. According to the 2005 GPU/GDP EIR, the level of impacts associated with the Preferred Plan's conformance with regulatory plans and policies are less than significant because implementation of the GPU and the associated GPA and GDPA result in the synchronization of policies with proposed land uses.

Threshold 2: Regulatory Plans and Policies

The 2005 GPU/GDP EIR concluded that revisions to the City's adopted land use plan in association with development of Town Centers would be consistent with existing plans and policies including the goals and objectives of the GPU transportation policies and the existing Otay Ranch GDP mobility goals and policies.

Threshold 3: MSCP Subregional Plan and Chula Vista MSCP Subarea Plan

No impacts associated with the GPU Preferred Plan were identified.

5.1.3.2 Analysis of Proposed Project

Threshold 1: Physically Divide or Adversely Affect Community Character

Threshold 1 states that impacts to land use would be significant, if the Proposed Project would physically divide or adversely affect the community character of an established community.

Community character addresses two main points: (1) the degree to which a project's objectives and policies or land use changes have the potential to divide an established neighborhood or community; and (2) whether a project would introduce changes that substantially change the community character by placing incompatible land uses together.

PHYSICALLY DIVIDE AN ESTABLISHED COMMUNITY

Although the project site does not contain an established community, implementation of the Proposed Project will result in the adjustment of village boundaries, creating the proposed Villages 8 West and 9, and the designation of the RTP within Planning Area 10/University Site. The land use plans for the proposed villages would result in an increase in intensity of uses compared to the Preferred Plan analyzed in the 2005 GPU/GDP EIR. As shown in Table 3-2, implementation of the proposed land use designations within Village 8 West could result in the future development of 494 additional dwelling units beyond the Preferred Plan contemplated in the 2005 GPU/GDP EIR. As shown in Figures 3-5 (Proposed Project General Plan Land Uses) and 3-7 (Proposed Project General Development Plan Land Uses), the proposed land use plan would decrease total acres and number of units within the TC designation; however, the plan would intensify land uses with proposed Village 8 West by pushing the higher density residential area closest to the Town Center, with lower density uses radiating southerly. Even with a reduced TC designated area, all of the activity, including neighborhood shopping, transit, commercial/retail opportunities, and high-density residential uses would be within proximity of each other.

Table 3-3 shows how the implementation of the Proposed Project could result in the future development of an additional 386 residential units within proposed Village 9 as compared to the contemplated amount in the 2005 GPU/GDP EIR. As shown in Figures 3-5 and 3-7, the proposed land use plan removes the density from the TC designation and places it within the surrounding EUC and MUR designations. Lower-density residential uses are located

south of the MUR closest to the Otay River Valley. Implementation of the proposed plan would increase the intensity of uses by creating an active Town Center surrounded by 24-hour living environment within proximity to transit, and residential and commercial opportunities. The plan would be further intensified as a result of its connectivity to the University campus on the east.

The Proposed Project includes several revisions to existing or proposed new GP policies focused on supporting the proposed land uses and establishing connectivity within the Project Area, and between the Project Area and surrounding uses:

- Proposed Policies LUT 72.5 through 72.7, Proposed Objective LUT 82, and associated policies LUT 82.1 through 82.4, Revised Objectives LUT 95 establish a walkable mixed-use Town Center providing community services and pedestrian-friendly connectivity between villages and the RTP;

- Proposed Objective LUT 94 and associated policies LUT 94.1 through 94.3 support the coordination of infrastructure between the proposed village, EUC and RTP; and

- Proposed Objective 96 provides direction for looping main roadways to connect to existing villages and establishes a unified community with public facilities and pedestrian and bicycle paths that connect residential areas to the Town Center, RTP, EUC and open space.

The Proposed Project also includes revisions to the GDP policies focused on further supporting the GP's vision of connectivity. For example, redefined land use designations in Part II, Chapter 1, Section C of the GDP promote higher density within Town Centers which concentrates commercial and residential activities closer together in order to stimulate pedestrian activity. Likewise, Part II, Chapter 1, Section D of the GDP has been revised to further emphasize the TC designation as a means to create concentrated areas of activity that would promote connectivity through walkability and transit.

Adoption of the proposed land use designations and implementation of the proposed policies would enhance community connectivity among the proposed villages, Planning Area 10/University Site and RTP, as well as existing surrounding communities and would not result in the division of the Otay Ranch community. Therefore, potential impacts associated with physically dividing an established community would be less than significant.

ADVERSELY AFFECT COMMUNITY CHARACTER

The Otay Ranch GDP is composed of a number of villages that integrate neighborhoods, shops, and employment opportunities with parks, schools, and other civic facilities. Since the land within the proposed villages and RTP is currently vacant, any introduction of land uses would be of different character than what currently exists. The GDP is intended to guide the development of the Project Area. Therefore, while a change in the character of the existing conditions is inevitable, implementation of the GDP through future SPA plans would assure that the Project Area will be developed in a cohesive and balanced manner, assuring similarity with the community character of the existing and surrounding land uses.

Implementation of the Proposed Project would result in an increase in the number of total residential units allowed within the Land Use Change Area by an additional 880 dwelling units. This increase in residences could increase population by 2,456 people compared to the land use plan analyzed in the 2005 GPU/GDP EIR.[1]

As shown in Table 2-1, the Proposed Project would increase single-family development potential by 247 units, increase multi-family development by 633 units, and increase commercial and industrial land uses within the Land Use Change Area compared to the 2005 GPU Preferred Plan. As illustrated in Figures 3-5 and 3-7, the multi-family units would be located within the RM, RMH, MUR, TC, and EUC designations within the central and northern portions of the proposed village sites. The lower density residential units within the RLM designation would be located furthest from the Town Center and mixed-use areas. This configuration allows the most intense land use areas to be the focal points of the villages, with less intense uses and lower-density residential areas located furthest away.

To assure that future development pursuant to the Proposed Project is a cohesive part of the Otay Ranch community, all future projects within the Project Area will require detailed planning through subsequent SPA plans. All SPA plans prepared for future projects shall be based upon the objectives and policies of the GP, and the guiding principles as expressed in the Otay Ranch GDP.

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[1]Population calculations throughout the SEIR use the City of Chula Vista average household size of 3.33 persons per single-family and 2.58 persons per multi-family residential units.

The following are existing GP objectives that address the compatibility of new development with the existing character of the City:

- Objective LUT 3 directs the design of new buildings to blend with the social and physical character of the City;
- Objective LUT 5 supports the placement of higher-density mixed-use areas in proximity to shopping, jobs, and transit;
- Objectives LUT 6 and 7 assure that adjacent land uses are compatible in both use and transition;
- Objective LUT 11 ensures that building sites are compatible with surrounding development;
- Objective LUT 72 requires the development of comprehensive, well-integrated, and balanced land uses within villages and town centers;
- Objective LUT 73 promotes alternatives modes of transportation;
- Objective LUT 74 requires accommodating land uses that diversify the economic base within Otay Ranch and the surrounding County regions;
- Objective LUT 75 focuses on preserving Otay Ranch's resources and open space lands with environmentally sensitive development; and
- Objective 81 focuses development of a higher-density, mixed-use, transit-oriented Town Center within the Project Area.

The Proposed Project includes amendments to the GP and GDP intended to assist in the facilitation of compatible new development. The following proposed revisions or new GP policy amendments would assist in the development of land uses compatible with existing and planned surrounding communities:

- Proposed Policy LUT 72.7 requires a wide range of mobility choices for pedestrians and automobiles resulting in greater connectivity between villages;

- Proposed Objective LUT 82, and associated Policies LUT 82.1 through 82.4, ensure a cohesive relationship between the Town Center and adjoining land uses within Village 8; and

- Proposed Objective LUT 83, and associated Policies LUT 83.1 through 83.5, focuses on compatibility between pedestrians and transit in proximity to the Town Center.

Implementation of the Proposed Project would result in a change to the community character of the Land Use Change Area compared to the Preferred Plan land use plan analyzed in the 2005 GPU/GDP EIR. Specifically, the Proposed Project increases residential use by 880 units and increases commercial and industrial/RTP acreage within reconfigured village boundaries. The Proposed Project would conform to existing GP/GDP objectives and associated policies that focus on community character. Additionally, the Proposed Project includes amendments to GP objectives and policies aimed at providing connectivity and integration between proposed and existing communities, and assuring the development of a higher-density Town Center, RTP, and future university. However, the Proposed Project does not include design standards necessary to assure that all community character issues are addressed. Therefore, until future SPA plans containing zoning and specific design measures are implemented, community character impacts would be significant.

Threshold 2: Regulatory Plans and Policies

Threshold 2 states that the Proposed Project would result in a significant impact to land use if it would conflict with any applicable land use plan, policy, or regulation.

REGIONAL LAND USE PLANNING

The Proposed Project is consistent with the smart-growth principles found in SANDAG programs including the RCP and Regional Transportation Plan. The RCP is the long-range planning document developed to address the region's housing, economic, transportation, environmental, and overall quality of life needs. Goals of the RCP are to establish a planning framework and implementation actions that increase the region's sustainability and encourage "smart-growth while preserving natural resources and limiting urban sprawl" (SANDAG 2004b). The Regional Transportation Plan integrates a set of policies, planned

investments, and identified mobility system improvements in order to improve local transportation systems, and promote pedestrian and bicycle mobility and connectivity (SANDAG 2003a).

In conformance with the goals of these programs, the Proposed Project includes the following:

- Promotes mixed compatible land uses;
- Creates a range of housing opportunities and choices;
- Creates walkable neighborhoods;
- Fosters distinctive, attractive communities with a strong sense of place;
- Preserves open space, natural beauty, and critical environmental areas;
- Strengthens and directs development towards existing communities; and
- Provides a variety of transportation choices.

Overall, the Proposed Project is consistent with the existing long-term planning goals expressed in the aforementioned programs. Therefore, impacts associated with consistency with regional plans would be less than significant.

CITY OF CHULA VISTA GENERAL PLAN

As detailed in Section 3.0 of this SEIR, the Proposed Project creates a program-level mixed-use land use plan that implements GP concepts. The 2005 GPU was intended to accommodate forecasted growth throughout the City; however, the land uses proposed for the “Deferral Area” were not adopted at the time of the GPU’s approval. Implementation of the proposed GPA would establish consistency between the Project Area and the adopted 2005 GPU policies. As examined in Table 5.1-1, the Proposed Project would be consistent with policies creating balanced land uses (Objectives LUT 1, 61) and the development of higher-intensity town centers and be compatible with pedestrian-friendly mixed-uses (Objectives LUT 5, 72). Implementation of the Proposed Project would establish a unified community within Otay Ranch with public facilities, and pedestrian and bicycle paths that connect residential areas to the Town Center, University, RTP, EUC, and open space, allowing the integration of higher-density areas with surrounding communities (Objectives LUT 6, 16, 63, 81, 91). The Proposed Project identifies the development of a university

campus and the development of the RTP within Planning Area 10/University Site (Objective LUT 65, 92). The Proposed Project also supports the diversification and improvement of the economic base within Otay Ranch (Objectives LUT 65, 74, and ED 2).

The Proposed Project allows for an increase in the intensification and reconfiguration of the Project Area from the 2005 GPU/GDP EIR Preferred Plan. Land use designations are based on the 2005 GPU concepts for a high-density, transit-focused, mixed-use area with an energized Town Center in Village 8 West and an intensified urban core in Village 9. The proposed amendments create village areas that are compatible with the proposed RTP and the future adjacent university, including both revisions to existing objectives and policies, as well the addition of new objectives and policies that support the Proposed Project. The most relevant amendments include the following:

- New Policies LUT 72.5 through 72.7 provide requirements for neighborhood commercial services in proximity of Town Center. Town Centers would provide community-serving uses and the provision for pedestrian friendly connectivity between Villages;
- Revised Objective 81 changes the name of Rock Mountain Road to Main Street and provides for lower-intensity (rather than lower-density) residential uses;
- Revised Policy LUT 81.2 provides for lower-density residential uses south of the Town Center, away from major roadways;
- New Objective LUT 82 and associated Policies LUT 82.1 through 82.4 address the interface between Villages 8 West and 8 East, ensuring a cohesive relationship between the Town Center and adjoining land uses in the villages, including transit service;
- New Objective LUT 83 and associated Policies LUT 83.1 through 83.5 develop a pedestrian-oriented and transit-friendly community east and south of the Town Center addressing connectivity between Village 8 West and 8 East;
- Revised Policy LUT 86.1 (formerly LUT 84.1) adds language to define the RTP, as “a research- and technology-oriented, light industrial business park” within one of four land use focus areas;

- New Policy LUT 87.6 requires the inclusion of the Framework Analysis, as discussed in Chapter 3.0 of the SEIR, to assure coordinated development between land use, transportation, transit, grading, infrastructure, and drainage for the areas within the ”University Focus Area” or “University Village Focus Area”;

- Revised Objectives LUT 88, 89 and 90 (formerly LUT 86, 97 and 88) delete reference to a “multi-institutional university”, replacing it with the term “university campus”;

- Revised Objective LUT 91 (formerly LUT 89) references a university campus rather than multi-institutional university and adds the requirement that the University site be developed cohesively with the RTP;

- Revised Objective LUT 92 changes the definition of the RTP from an “industrial” to a “business” park;

- Revised Policies LUT 92.1 through 92.8 (include replacement of LUT 92.5 and the addition of LUTs 92.7 and 92.8) detail the vision of the RTP portion of the University Focus Area as a business park accommodating high-technology uses, as well as accessory and ancillary professional uses that enhance the adjacent Town Center and EUC. It is important to note that ancillary uses will not be provided in the RTP but rather will be provided in the Town Center. The purpose of providing these uses in the Town Center is to reserve as much of the RTP as possible in order to maximize the availability of land for the primary uses and providing jobs. These policies also call for portions of the RTP to be located in proximity to the Town Center to achieve visual continuity and pedestrian orientation so that workers in the RTP can access the goods and services provided in the Town Center in areas such as outdoor dining, plazas, malls, and squares.

- New Objective LUT 94 and associated Policies LUT 94.1 through 94.3 address coordination and sizing of infrastructure between Village 9, EUC, and RTP;

- Revised Objective LUT 95 (formerly LUT 90) and associated Policies LUT 95.1 through 95.16, including new Policies LUT 95.10 and 95.13, detail the vision of the University Village Focus Area as pedestrian-oriented mixed-use Town Center that

serves the university, RTP, and surrounding residential areas solidifies the location of the RTP within the University; and

- Revised Objective LUT 96 (formerly LUT 91) addresses developing a unified community with public facilities and pedestrian and bicycle paths that connect residential areas to the Town Center, RTP, EUC, and open space.

The Proposed Project also includes minor changes to wording in the policies, as well as revisions to narrative text and exhibits. A complete list of the proposed amendments and existing versus proposed text and exhibits of GP is included in its entirety in Appendix B, *Otay Land Company General Plan Amendment and Otay Ranch General Development Plan Amendment*.

Overall, the Proposed Project amends the GP based on existing strategies, revised to meet proposed population forecasts and housing needs. Specifically, the GPA includes new and revised objectives and policies, as well as revised exhibits to provide the framework for creating higher-density villages and RTP and improved transportation modalities. Because the Proposed Project is consistent with the vision and policies in the adopted GP and further promote the smart-growth vision that was established with the adoption of the GPU, impacts associated with consistency with the GP would be less than significant.

OTAY RANCH GENERAL DEVELOPMENT PLAN

As shown in Table 5.1-2, the Proposed Project is consistent with the relevant land use goals and policies contained in the existing Otay Ranch GDP. Because the Proposed Project includes land uses different from those analyzed in the 2005 GPU Preferred Project, amendments to the GDP are included to allow specific consistency between the GDP and Proposed Project's land uses. Additionally, the proposed GDPA would provide overall consistency between the GDP and the GP throughout the Project Area. The text of the proposed amendments is also included in its entirety in Appendix B, *Otay Land* Company *General Plan Amendment and Otay Ranch General Development Plan Amendment*.

The Proposed Project would allow increased intensities of land uses beyond the 2005 GPU/GDP EIR including an additional 880 residential units, 550,000 square feet of commercial uses (to meet a maximum allowable 1.8 million square feet of commercial use), and an 85-acre RTP (2.2 million square feet of industrial uses) within Planning Area

10/University Site. As shown in Figures 3-7 and 3-9, the proposed land use plans place the most intense land use areas closest to the mixed-use, pedestrian- and transit-oriented town centers as the focal points of the villages, with less intense uses and lower-density residential areas located furthest away.

As stated above, the Proposed Project includes new GP Policy LUT 87.8 requiring the inclusion of a Framework Analysis for the coordinated development of land uses within the University Focus Areas. The GDPA includes the establishment of Strategic Framework policies as a means to provide for an organized planning relationship between Planning Area 10/University Site and its surrounding land uses. The Strategic Framework policies provide guidance and direction for the future SPA plans associated with these individual planning areas. These GDP policies will be applied to the review and approval process for each of these individual planning areas and their SPA plans. The specific policies include land use planning policies, mobility, pedestrian-oriented policies and infrastructure, and grading policies. Compliance with the policies will assure that future SPA plans conform to associated GP policies and the visions of the Otay Ranch GDP. Details of the Strategic Framework policies are included in Appendix B, *Otay Land* Company *General Plan Amendment and Otay Ranch General Development Plan Amendment.*

The Proposed Project also includes textual clarification relating to the “mid-arterial crossing” of the SR-125. The Otay Ranch GDP identifies a planned bridge over the SR-125 located north of Otay Valley Road and south of Main Street, between existing Villages 8 and 9. As illustrated in Figures 3-7 and 3-9, the Proposed Project continues to include the provision of a pedestrian bridge between Village 9 and Village 8 East. The inclusion of the bridge crossing as part of the Proposed Project allows the Proposed Project to conform to the vision of the GDP for a localized connection between the villages.

The GDPA also includes textual revisions to the statistical description and policy standards for the subject villages and the remainder of the Project Area. Overall, the GDPA provides clarification and detail based on the smart-growth design principles to provide consistency with, and achieve the vision and character envisioned in the GP. Therefore, impacts associated with consistency with the GDP would be less than significant.

BROWN FIELD AIRPORT LAND USE COMPATIBILITY PLAN

The Proposed Project is not subject to the 2010 Brown Field ALUCP. Pursuant to the San Diego County Regional Airport Authority, the previous compatibility review under the 2004 ALUCP is adequate and no further review of the GPA is required under the 2004 ALUCP (County of San Diego 2010). Airport compatibility impacts would be less than significant.

Threshold 3: Habitat Conservation Planning

Threshold 3 states that the Proposed Project would result in a significant impact to land use, if it conflicted with any applicable habitat conservation plan or NCCP.

As identified in Figures 5.1-2 through 5.1-4, a portion of the southwest corner of proposed Village 8 West and a small section of the southeast and southwest corners of proposed Village 9 are designated as part of the Otay Ranch Open Space Preserve. Previous environmental analysis determined that the configuration of the MSCP preserve would retain the integrity of the preserve design while maintaining or improving the conservation of covered species (Chula Vista 2005). The Proposed Project does not include any changes affecting the MSCP Subregional Plan, Greenbelt Master Plan, or Otay Ranch RMP. The Proposed Project would be consistent with the conservation planning goals of all relevant Habitat Conservation Plans. Therefore, impacts associated with consistency to habitat conservation planning would be less than significant.

5.1.4 Level of Significance Prior to Mitigation

Threshold 1: Community Character

While the Proposed Project conforms to the GP goals relating to community character, the Proposed Project does not include design standards necessary to assure that these community character issues are addressed. Therefore, until future SPA plans containing zoning and specific design measures are implemented, community character impacts are significant.

Threshold 2: Regulatory Plans and Policies

The Proposed Project is consistent with regional planning documents, as well as the City's GP and Otay Ranch GDP. Relevant GP and GDP objectives and policies, as described in

Tables 5.1-1 and 5.1-2, identify the proposed village's visions as high-density, transit-focused, mixed-use areas. The proposed GPA and GDPA would allow the Proposed Project to be consistent with the smart-growth principles that are key to the goals and policies of the GP and the GDP. Approval of the Proposed Project would also require future SPA plan's conformance with the GDP Strategic Framework policies and the inclusion of the mid-arterial pedestrian bridge as envisioned in the GDP. Compliance with these proposed amendments would be self-mitigating, and impacts would be less than significant.

Threshold 3: Habitat Conservation Planning

The Proposed Project does not alter the open space created for the preservation of biological resources as designated in the GP, Otay Ranch GDP and RMP, and MSCP. Therefore, impacts to regional habitat conservation planning would be less than significant.

5.1.5 Mitigation Measures

Threshold 1: Community Character

There is no mitigation contained in the 2005 GPU/GDP EIR or currently available at this level of analysis to address significant impacts associated with community character. Future projects shall be required to include design standards necessary to assure that these community character issues are addressed.

Threshold 2: Regulatory Plans and Policies

Conformance with the proposed policies, including the GDP Framework policies and the mid-arterial pedestrian bridge as a design feature of Village 9, would be considered self-mitigating and no additional mitigation would be required.

Threshold 3: Habitat Conservation Planning

Since impacts associated with habitat conservation would be less than significant through regulatory and GP/GDP compliance, no mitigation measures are required.

5.1.6 Level of Significance After Mitigation

Threshold 1: Community Character

Because no mitigation relating to community character impacts is available until SPA plans are approved and implemented, community character impacts would remain significant and unmitigated.

Threshold 2: Regulatory Plans and Policies

Impacts would be less than significant.

Threshold 3: Habitat Conservation Planning

Impacts would be less than significant.

5.1.7 Change in the Results of the 2005 GPU/GDP EIR Impact Analysis

Implementation of the Proposed Project would not increase the severity of impacts nor change the conclusions reached by the analysis contained in the 2005 GPU/GDP EIR with respect to community character, regulatory plan consistency, or habitat conservation planning. No new impacts are identified and no new mitigation is required.

5.2 Landform Alteration/Visual Quality

This section presents a supplemental update to the 2005 GPU/GDP EIR Preferred Plan with respect to landform and visual quality that could result from implementation of the Proposed Project. The 2005 GPU/GDP EIR, along with the supporting photographic and documentary information prepared for the GPU, is incorporated by reference.

5.2.1 Existing Conditions

5.2.1.1 Regulatory Plans and Policies

The regulation of visual quality is maintained primarily through implementation of local plans including the City's GP and the City's Design Manual.

City of Chula Vista General Plan

The LUT Element of the GP contains objectives and associated policies that address scenic resources.

Objective LUT 8

Strengthen and sustain Chula Vista's image as a unique place by maintaining, enhancing, and creating physical features that distinguish Chula Vista's neighborhoods, communities, and public spaces and enhance its image as a pedestrian-oriented and livable community.

Policies

LUT 8.1: Develop a program to enhance the identity of special districts and neighborhoods to create variety and interest in the built environment, including such items as signage, monuments, landscaping, and street improvements.

LUT 8.4: Encourage and require, where feasible, the incorporation of publicly accessible urban open spaces—including parks, courtyards, water features, gardens, passageways, paseos, and plazas—into public improvements and private projects.

LUT 8.5: Prepare urban design guidelines that help to create pedestrian-oriented development by providing:

- Pedestrian circulation among parcels; uses; transit stops; and public or publicly accessible spaces;
- Human-scale design elements;
- Varied and articulated building facades;
- Visual (first floor clear glass window) and physical access for pedestrians;
- Ground floor residential and commercial entries that face and engage the street; and
- Pedestrian-oriented streetscape amenities.

Objective LUT 9

Create enhanced gateway features for City entry points and important other entries, such as to special districts.

Policies

LUT 9.1: Create consistent entry features for City entryways and gateways so people recognize that they are entering Chula Vista.

LUT 9.2: The City will prepare, or cause to be prepared, entryway/gateway master plans for each of the identified entryways/gateways within the City in order to guide appropriately development within these areas. These master plans will provide design guidelines and standards for public improvements, as well as for private or public development within these designated areas. Examples may include enhanced pavement and/or sidewalk standards, enhanced landscape standards, thematic sign standards, and special architectural standards for buildings or other structures.

The City will prepare a General Plan Implementation Program to assure establishment of these gateway master plans, which Programs will also include interim provisions for the processing of any projects within these areas prior to completion and adoption of the according entryway/gateway master plan.

L**UT 9.3:** As part of the approval process for projects within designated City entryway/gateway areas, the City shall confirm that designs conform to applicable entryway/gateway design guidelines and standards.

Objective LUT 10

Create attractive street environments that complement private and public properties, create attractive public right-of-ways, and provide visual interest for residents and visitors.

Policies

LUT 10.1: The City shall create unique landscape designs and standards for medians for each major thoroughfare to distinguish each from the other and to provide a special identity for districts and neighborhoods.

LUT 10.2: Landscape design and standards shall include coordinated street furniture palette, including waste containers and benches, to be implemented throughout the community at appropriate locations.

LUT 10.3: Provide well-designed, comfortable bus stops throughout the City.

LUT 10.4: Prior to approval of projects that include walls that back onto roadways, the City shall require that the design achieve a uniform appearance from the street. The walls shall be uniform in height, use of materials, and color, but also incorporate elements, such as pilasters, that add visual interest.

LUT 10.5: Require undergrounding of utilities on private property and develop a priority-based program of utility undergrounding along public rights-of-way.

LUT 10.6: Study the locational requirements of utility, traffic control, and other cabinets and hardware located in the public rights-of-way to determine alternative locations for these items in less obtrusive areas of the street environment.

LUT 10.7: Work with utility providers to coordinate the design of utility facilities (e.g. substations, pump stations, switching buildings) to ensure that the facilities fit within the context of their surroundings and do not cause negative visual impacts.

Objective LUT 11

Ensure that buildings and related site improvements for public and private development are well-designed and compatible with surrounding properties and districts.

Policies

LUT 11.1: Promote development that creates and enhances positive spatial attributes of major public streets, open spaces, cityscape, mountain and bay sight lines, and important gateways into the City.

LUT 11.2: Promote and place a high priority on quality architecture, landscape, and site design to enhance the image of Chula Vista, and create a vital and attractive environment for businesses, residents, and visitors.

LUT 11.3: The City shall, through the development of regulations and guidelines, ensure that good project landscape and site design creates places that are well planned; attractive; efficient; safe; and pedestrian-friendly.

LUT 11.4: Actively promote architectural and design excellence in buildings, open space, and urban design.

LUT 11.5: Require a design review process for all public and private discretionary projects (that includes architectural, site plan, landscape, and signage design) to review and evaluate projects prior to issuance of building permits to determine their compliance with the objectives and specific requirements of the City's Design Manual, General Plan, and appropriate zone or area development plans.

Objective LUT 13

Preserve scenic resources in Chula Vista, maintain the City's open space network, and promote beautification of the City.

Policies

LUT 13.1: Identify and protect important public viewpoints and viewsheds throughout the planning area, including features within and outside the planning area, such as mountains, native habitat areas, San Diego Bay, and historic resources.

LUT 13.2: Continue to implement the City's planned open space network.

LUT 13.4: Any discretionary projects proposed adjacent to scenic routes, with the exception of individual single-family dwellings, shall be subject to design review to ensure that the design of the development proposal will enhance the scenic quality of the route. Review should include site design, architectural design, height, landscaping, signage, and utilities. Development adjacent to designated scenic routes should be designed to:

- Create substantial open areas adjacent to scenic routes through clustering development;
- Create a pleasing streetscape through landscaping and varied building setbacks;
- Coordinate signage, graphics and/or signage requirements, and standards.

Objective LUT 75

Preserve and protect Otay Ranch's significant natural resources and open space lands with environmentally sensitive development.

Policies

LUT 75.1: Create and maintain a comprehensive open space system throughout the Otay Ranch villages that, through environmental stewardship, restores and preserves nature's resources for generations to come.

LUT 75.2: Design villages that have well-defined edges such as the Chula Vista Greenbelt, open spaces, or wildlife corridors.

Objective LUT 81

Develop a higher-density, mixed-use, transit-oriented town center centered on the intersection of Rock Mountain Road and La Media Road, surrounded by lower-density residential use and a large community park, preserve Rock Mountain as an important landform and visual resource.

Policies

LUT 81.3: Development near the significant viewsheds and topographic features of Rock Mountain should be done sensitively to preserve these important visual resources of Otay Ranch.

Otay Ranch General Development Plan

Part II, Chapter 10 establishes goals, objectives, and policies to ensure the conservation of significant portions of Otay Ranch's natural environment. Overall, these goals, objectives, and policies prevent the wasteful exploitation, destruction, or neglect of resources and encourage the preservation, enhancement, and management of sensitive resources. Specifically, Section D addresses the overall goal of preventing the degradation of visual resources.

Objective: Blend development harmoniously with significant natural features of the land.

Policies:

- Develop a comprehensive signage program;
- Design development to protect the visual value of scenic highways and open spaces;
- Underground visually disruptive utilities to the extent feasible;
- Conduct additional analysis of conceptual grading plans for all development at the SPA level to protect and preserve significant visual resources; and
- Preserve significant views of major physical features such as Lower Otay Lake and the San Ysidro foothills and mountains, as well as the Jamul Mountains, San Miguel Mountain, and the Otay River Valley and its major canyons.

In addition, Part II, Chapter 1, Section F of the existing Otay Ranch GDP contains individual village descriptions and policies relevant to each of the villages that make up the Otay Ranch. While the application of these policies is more appropriate to a SPA-level analysis, the overall requirement for detailed visual analysis should be noted. The GDP requires that a visual analysis be performed at the SPA level to assess visual impacts of development.

Otay Ranch Village Design Plans

As discussed in the previous chapter and detailed in the GDP policies above, development pursuant to the Otay Ranch GDP is required to provide specific site planning, and architectural and landscaping requirements for individual SPA plans.

5.2.1.2 Existing Visual Conditions

Landforms and Open Space

The visual character of the Project Area is dominated by vacant lands with open rolling hills. The Project Area is primarily flat, which allows visibility through the open areas in all directions. Views from the Project Area include views to Wolf Canyon and Rock Mountain, Otay River Valley, and the San Ysidro Mountains to the east.

Figure 4.3 shows the major landform features in proximity of the Project Area. These include Rock Mountain located to the southwest; Otay River valley, located to the south; San Ysidro Mountains to the southeast; and Lower Otay Reservoir to the east. In addition, the Chula Vista Greenbelt is located directly to the south.

Gateways

Access to the City is provided from six main City gateways. Figure 5.2-1 shows that the southern gateway forming entrances to the EUC corresponds to the northern boundary of the Project Area. Gateways correspond to the locations of regional transit stations and intercity bus routes and a potential future urban core to bayfront shuttle bus route.

5.2.2 Thresholds of Significance

The Proposed Project would result in a significant impact to landform alteration/aesthetics, if it:

1. Had a substantial adverse effect on a scenic vista or substantially damaged scenic resources, including, but not limited to, trees, and rock outcroppings or

2. Substantially degraded the existing visual character or quality of the City.

Map Source: City of Chula Vista

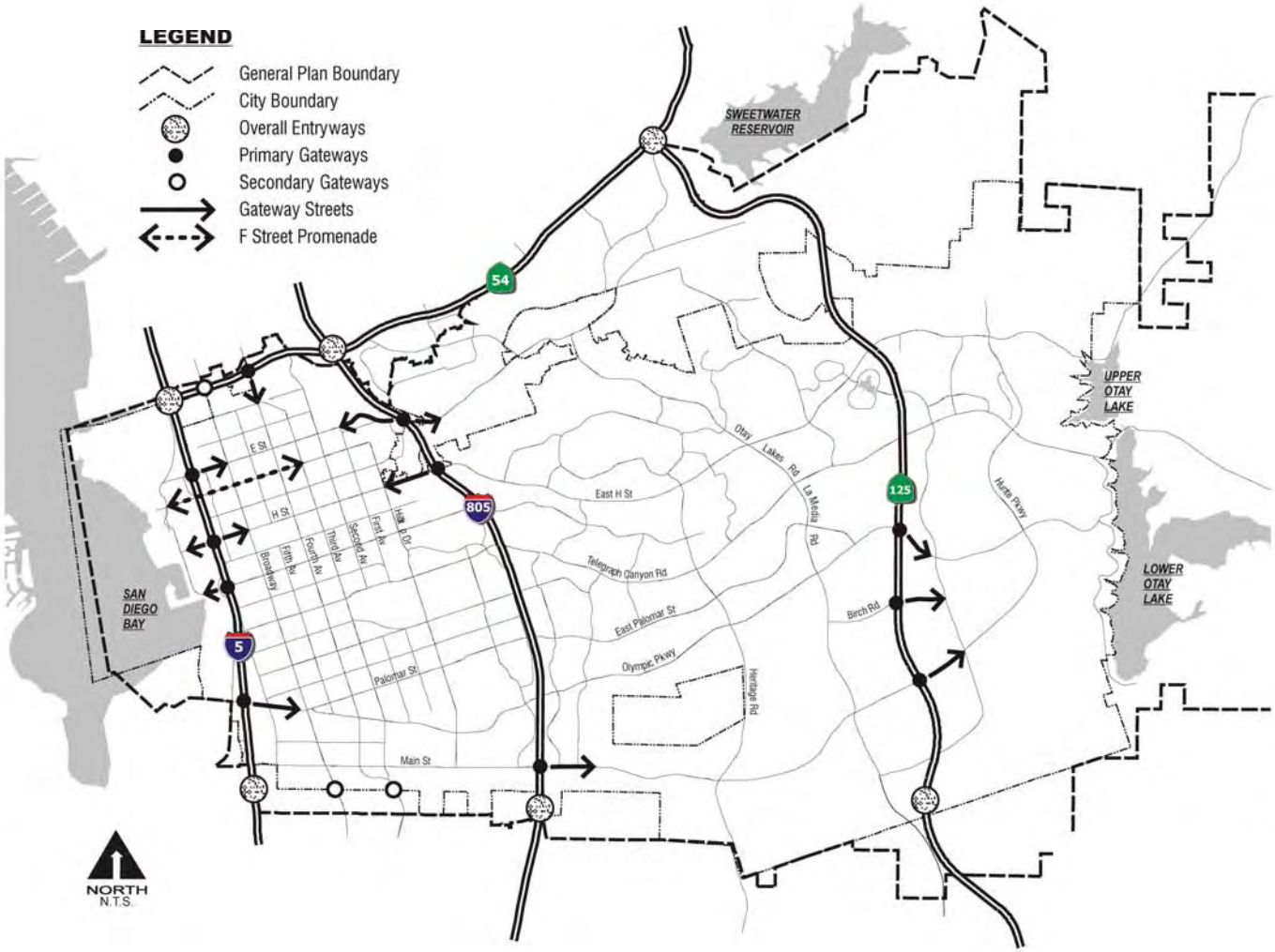

FIGURE 5.2-1
Gateways

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5.2.3 Impacts

5.2.3.1 2005 GPU/GDP EIR Conclusion

As shown in Figures 3-4 and 3-6, the land use plan for the Project Area analyzed in the 2005 GPU/GDP EIR included the development of high-density villages, focused around Town Centers with mixed-use retail and commercial uses, surrounded by pedestrian-friendly transit and a new street system to serve the Town Centers.

Threshold 1: Scenic Resources and Vistas

The 2005 GPU/GDP EIR concluded that impacts to scenic vista/scenic resources associated with the Preferred Plan were less than significant; however, because implementation of the GPU would result in increased intensity of development throughout the plan area, impacts associated with the degradation of visual quality would be significant. Specifically, the 2005 GPU/GDP EIR concluded that the permanent alteration to the open, rolling hills of the East Planning Area due to development of open areas would constitute a significant visual quality impact.

Threshold 2: Visual Character

Mitigation measures were proposed to assure that grading and building plans submitted with future development projects conform to the landform grading guidelines contained in the grading ordinance, Otay Ranch GDP, and the GPU. The 2005 GPU/GDP EIR found that while these measures would reduce visual impacts, it would not be to a less than significant level until design standards and zoning specifications are developed and approved through future SPA plans. Impacts to visual quality would remain significant.

5.2.3.2 Analysis of Proposed Project

Threshold 1: Scenic Resources

Threshold 1 states that impacts to visual resources would be significant, if the Proposed Project resulted in a substantial adverse effect on a scenic vista or substantially damage scenic resources, including, but not limited to, trees, and rock outcroppings.

As shown in Table 3-1 implementation of the Proposed Project would result in development of higher-density and higher-intensity land uses than those analyzed in the 2005 GPU/GDP

EIR. Specifically, the Proposed Project would increase single-family residential development potential by 247 units, and increase multi-family development potential by 633 units, for a total increase of 880 dwelling units throughout the Land Use Change Area. Additionally, the Proposed Project would increase commercial land use areas by 550,000 square feet and add the 85-acre RTP, 2.2 million square feet of industrial uses, compared to the 2005 GPU Preferred Plan. As illustrated in Figures 3-5 and 3-7, the 247 residential units within the RLM designation are located furthest from the Town Center and mixed-use areas. The 633 multi-family units are located within the RM, RMH, MUR, TC, and EUC designations within the central and northern portions of the proposed village sites. This configuration allows the most intense land use areas to be the focal points of the villages, with less intense uses and lower-density residential areas located furthest away.

The Proposed Project's change in the land uses from open undeveloped land to developed land would result in a significant impact on a scenic resource absent compliance with GP objectives and policies.

Conformance to the existing GP assures that implementation of the Proposed Project would not result in significant impacts to scenic resources and vistas, because they would maintain the City's open space network, create enhanced gateway features for city entry points and other important entries, such as special districts, and promote beautification of the City , as follows:

- LUT Objectives 9 and 13 address the enhancement of gateway features and the preservation of scenic resources, respectively;
- LUT Policy 13.4 requires that certain discretionary projects shall be subject to design review to ensure that the design of the development proposal will enhance the scenic quality of the project's location; and
- LUT Policy 81.3 requires the preservation of Rock Mountain as a scenic resource.

These objectives further require that these conditions be met through the design review process for all development adjacent to scenic roadways. Additionally, conformance with the Otay Ranch GDP requires the preservation of significant views of major physical features.

The Proposed Project includes revisions to existing GP policies that would further assure the preservation of scenic resources, including the following:

- Revised Policy LUT 75.2 provides that villages are designed to have well defined edges where they interface with natural or naturalized features, such as the Chula Vista greenbelt, open space, or wildlife corridors; and
- Revised Policy LUT 80.1 assures protection of visual resources associated with Wolf Canyon through the added protection as found in the RMP Phase I and II;
- Revised Policy 80.2 requires development utilizes landform alteration techniques which give the appears of natural, rather than manufactured slopes; and
- Proposed Policy 80.3 requires site and design infrastructure facilities to minimize visual and other impacts to Wolf Canyon.

Through conformance with both existing and proposed policies, impacts to scenic vistas and scenic resources would be less than significant.

Threshold 2: Visual Character

Threshold 2 states that impacts to visual resources would be significant, if the Proposed Project resulted in substantially degrading the existing visual character or quality of the City.

As new land uses are introduced into the landscape, they become part of the visual environment. Like any other physical resource, the visual environment can be subject to fragmentation and integrity loss. Similar to the visual changes identified in the 2005 GPU/GDP EIR, the intensification of uses included in the Proposed Project has the potential to impact the visual character of the Project Area. Implementation of the Proposed Project would allow future construction within currently undeveloped open space resulting in the permanent alteration of the existing rolling hills, thus affecting the landform and visual quality of the Project Area.

The GP contains objectives, the intent of which is to assure that the aesthetic and existing visual quality of the Otay Ranch GDP area is maintained. Specifically, existing policies associated with GP Objectives LUT 75 and 81 address mixed-use areas and urban design considerations such as building heights and massing, public view corridors, circulation linkages, and the appearance of important gateways within the area.

Part II, Chapter 1, Section F of the existing Otay Ranch GDP contains village descriptions and policies identifying specific visual resources and characteristics for each village. Conformance with the Otay Ranch GDP requires future projects to perform visual analysis at the SPA level to assess the visual impacts of development. Additionally, contoured grading is required throughout the Project Area, and landform-grading guidelines are required to be developed as part of the Overall Ranch Design Plan and refined in the Village Design Plan at the SPA level.

Compliance with these policies would reduce visual quality impacts, but not to a level that is less than significant. Impacts would remain significant because of the lack of specific design standards. The Proposed Project is a GPA and GDPA; the development of design standards is a zoning and SPA plan effort, which is a subsequent action. Therefore, as detailed in the GDP policies, until future SPA plans are developed and design specifications implemented, impacts to the visual quality of the Project Area would remain significant.

5.2.4 Level of Significance Prior to Mitigation

Threshold 1: Scenic Resources

Because all future development within the Project Area would be required to conform to relevant GP objectives and policies assuring the protection of all visual resource issues, impacts would be less than significant.

Threshold 2: Visual Character

Development pursuant to the Proposed Project would significantly change the visual character of the Project Area. Specifically, the existing characteristic rolling hills would be permanently altered, as the Project Area is changed from undeveloped land to urban uses. While compliance with GP and GDP policies would reduce visual quality impacts, it would not be to a less than significant level. Impacts would remain significant, because of the lack of design standards. Future development projects would be required to apply design specifications to promote protection of the visual character of the Project Area. However, until these specifications, in the form of SPA plans, are adopted and implemented, impacts would be significant.

5.2.5 Mitigation Measures

Because conformance with GP and GDP policies alone will not reduce impacts to visual character to a less than significant level, implementation of the following mitigation measures as identified in the 2005 GPU/GDP EIR, are required to be incorporated into future SPA plans.

5.2.5-1 Prior to approval of grading plans, the applicant shall prepare grading and building plans that conform to the landform grading guidelines contained in the grading ordinance, Otay Ranch GDP, and General Plan. The plans shall be prepared to the satisfaction of the Director of Development Services and the City Engineer. These plans and guidelines shall provide the following that serve to reduce the aesthetic impacts:

- A landscape design that addresses streetscapes provides landscape intensity zones, greenbelt edge treatments, and slope treatment for erosion control;
- Grading concepts that ensure manufactured slopes that are contoured, blend, and mimic adjacent natural slopes;
- Landscaping concepts that provide for a transition from the manicured appearance of developed areas to the natural landscape in open space areas and
- Landscaping concepts that include plantings selected to frame and maintain views.

5.2.6 Level of Significance after Mitigation

Implementation of Mitigation Measure 5.2.5-1, along with GP conformance, would reduce impacts to visual resources. However, until design standards and zoning specifications are developed and implemented through the approval of subsequent SPA plans, impacts to visual quality would remain significant and unmitigated.

5.2.7 Change in the Results of the 2005 GPU/GDP EIR Impact Analysis

While the Proposed Project does not add additional land to this portion of the Preferred Plan as analyzed in the 2005 GPU/GDP EIR, it does reconfigure village boundaries and

increases intensity of land use by allowing 880 additional residential units, 550,000 square feet of commercial uses, and the 85-acre RTP (2.2 million square feet of industrial uses). Implementation of the Proposed Project would not increase the severity of impacts nor change the conclusions reached by the analysis contained in the 2005 GPU/GDP EIR with respect to visual resources or visual quality. No new impacts are identified as a result of the incremental increase in land use and while the mitigation presented in the 2005 GPU/GDP EIR would be required to be adopted along with the Proposed Project, impacts would remain significant.

5.3 Energy Resources

This section supplements the 2005 GPU/GDP EIR with respect to the potential effects of energy consumption, based primarily on the use of electricity and natural gas, which could result from implementation of the Proposed Project. The 2005 GPU/GDP EIR, along with the supporting data, is incorporated by reference. Relevant information is summarized below.

This section focuses on consumption of energy resources. Potential effects relating to emissions resulting from energy use are discussed in Section 5.5, Air Quality and Section 5.10, Global Climate Change, of this SEIR.

5.3.1 Existing Conditions

5.3.1.1 Regulatory Plans and Policies

Since the certification of the 2005 GPU/GDP EIR, the State of California approved new energy efficiency standards within California Code of Regulations (CCR) Title 20 and Title 24, and the City adopted its Energy Code, Municipal Code sections 15.26, et seq.

Title 24, part 6 - California Energy Code and Title 24, part 11 – California Green Building Standards

Updated Title 20 and Title 24, CCR require new buildings and major renovations constructed in California to comply with the standards contained in Title 20, Energy Building Regulations, and Title 24, Building Energy Efficiency Standards (known as CalGreen). The standards are updated periodically to allow consideration and possible incorporation of new energy-efficiency technologies and methods. The Energy Commission adopted the 2008 changes to the Building Energy Efficiency Standards for a number of compelling reasons (State of California 2008c):

- To provide California with an adequate, reasonably-priced, and environmentally-sound supply of energy.
- To respond to Assembly Bill 32, the Global Warming Solutions Act of 2006, which mandates that California must reduce its GHG emissions to 1990 levels by 2020.
- To pursue California energy policy that energy efficiency is the resource of first choice for meeting California's energy needs.

- To act on the findings of California's Integrated Energy Policy Report that Standards are the most cost effective means to achieve energy efficiency, expects the Building Energy Efficiency Standards to continue to be upgraded over time to reduce electricity and peak demand, and recognizes the role of the Standards in reducing energy related to meeting California's water needs and in reducing greenhouse gas emissions.

- To meet the West Coast Governors' Global Warming Initiative commitment to include aggressive energy efficiency measures into updates of state building codes.

- To meet the Executive Order in the Green Building Initiative to improve the energy efficiency of nonresidential buildings through aggressive standards.

Title 24 contains energy efficiency standards for residential and nonresidential buildings based on a state mandate to reduce California's energy demand. Specifically, Title 24 addresses a number of energy efficiency measures that impact energy used for lighting, water heating, heating, and air conditioning, including the energy impact of the building envelope such as windows, doors, skylights, wall/floor/ceiling assemblies, attics, and roofs. The 2008 version of Title 24 includes standards that achieve a minimum 15-percent improvement in energy efficiency over the previous 2005 Title 24 standards.

Title 20 contains standards ranging from power plant procedures and siting to energy-efficiency standards for appliances to ensure that reliable energy sources are provided and diversified through energy efficiency and renewable-energy resources.

City of Chula Vista Energy Code (Municipal Code sections 15.26, et seq.)

Since the adoption of the 2005 GPU/GDP EIR, the City adopted its Energy Code, Municipal Code sections 15.26, et seq. The City's Energy Code incorporates the requirements of the state's 2008 energy code (i.e., Title 24), discussed above, with an additional requirement for increased energy efficiency standards to be applied to most new development within the City (Section 15.26.030). The City's Energy Code went into effect on February 26, 2010. There are several different volumes of information that make up the Energy Code including:

- Building Energy Efficiency Standards for Residential and Non-residential Buildings. This volume is the actual Energy Code text.

- Residential Compliance Manual. This volume is intended to help owners, designers, builders, inspectors, plans examiners, and energy consultants comply with and enforce the Building Energy Efficiency Standards for low-rise (3 stories or less) residential Buildings.

- Non-residential Compliance Manual. This volume is intended to help owners, designers, builders, inspectors, plans examiners, and energy consultants comply with and enforce the Building Energy Efficiency Standards for Non-residential, High-rise residential and Hotel/Motel buildings.

- Reference Appendices. This volume contains the testing standards and methods as well as the background and support information used throughout the Energy Code package.

- Residential Compliance Forms

- Non-Residential Compliance Forms

Additional detail about each portion of the Energy Code is provided by the City (City of Chula Vista 2009).

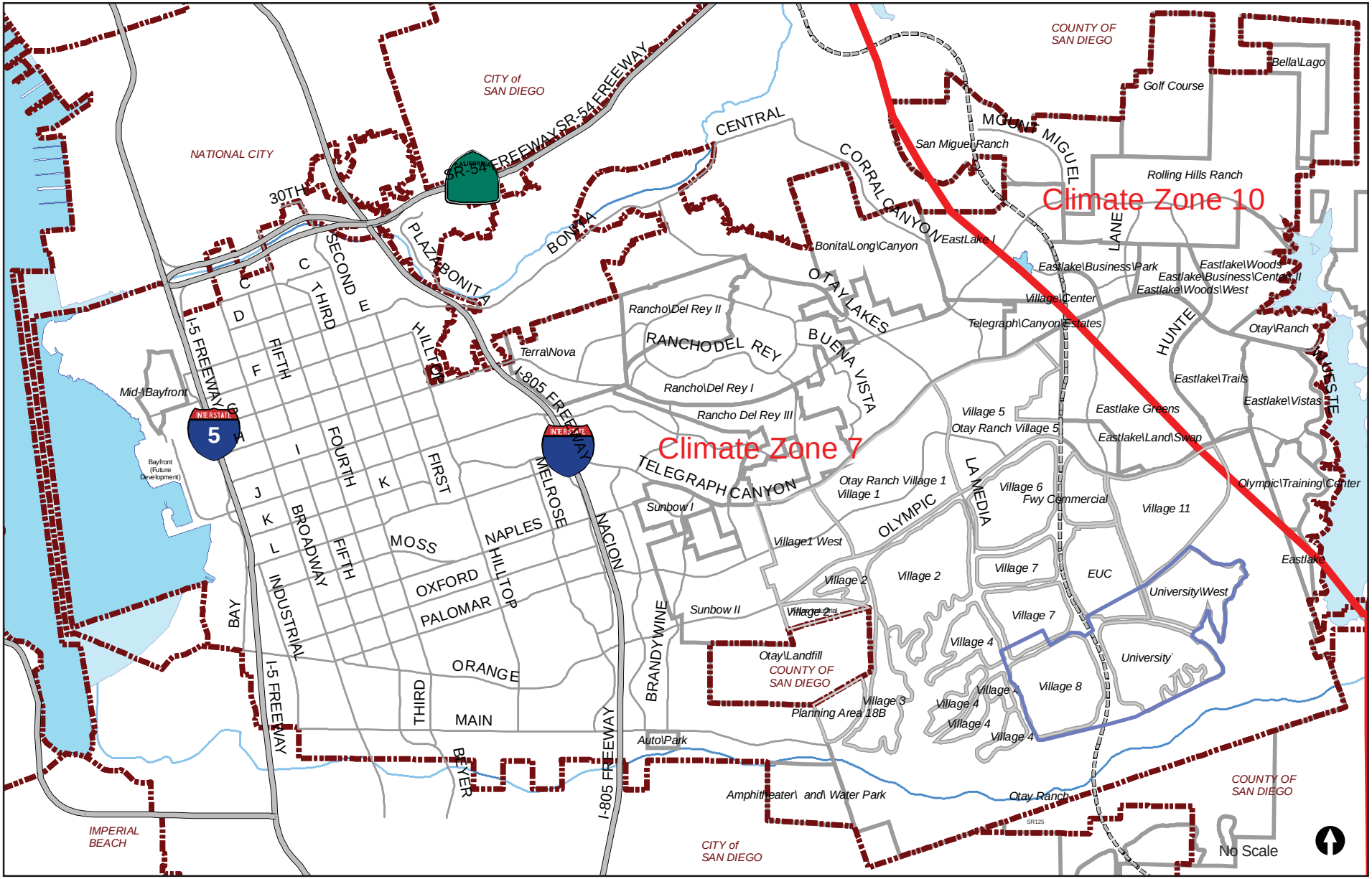
Energy efficiency reduces energy costs, increases reliability and availability of electricity, improves building occupant comfort, and reduces impacts to the environment. All building permits applied for and submitted after February 2010 are subject to these increased energy efficiency standards. The increase in energy efficiency is a percentage above the 2008 Title 24 energy code and is dependent on Climate Zone and type of development proposed. As shown in Figure 5.3-1, the Project Area is located within Climate Zone 7. Therefore, new residential and nonresidential projects within the Project Area are generally required to be at least 15 percent more energy efficient than the 2008 Title 24 energy code.

Additional relevant regulations are discussed below:

CEQA Guidelines, Appendix F

Appendix F of the CEQA Guidelines contains energy conservation measures that promote the efficient use of energy for projects. In order to ensure that energy impacts are considered in project decisions, CEQA requires that EIRs include a discussion of the

Map Source: City of Chula Vista



Approximate Project Area

Land Use Change Area

Climate Zone Boundary

FIGURE 5.3-1
Climate Zone Map

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potential energy impacts of proposed projects, with particular emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy. The analysis in this section considers the expected energy use of a Proposed Project, as well as measures that will help to reduce energy consumption at both a program and project level.

The goal outlined in Appendix F of the CEQA Guidelines is to conserve energy through the wise and efficient use of energy. The means of achieving this goal include decreasing the overall per capita energy consumption, decreasing reliance on natural gas and oil, and increasing reliance on renewable energy sources.

State of California, Flex Your Power Campaign

The State's intent to reduce energy consumption is also reflected in the established Flex Your Power Campaign. Flex Your Power aims to partner Californians across the state to maximize energy conservation and efficiency. The goal is to get local governments and elected officials to implement innovative energy conservation and efficiency measures in facilities throughout communities. Flex Your Power collaborates with local businesses and community groups to get local business leaders and building owners to sign an Energy Conservation Declaration Action, thereby committing to follow measures that will help "achieve collectively an overall 20 percent reduction in energy use as compared to the same period last summer."

Some of the activities outlined in the declaration include setting building temperatures no cooler than 78 degrees during the months of May through October, reducing lighting levels by 25 percent, closing blinds and shades where windows contribute to indoor temperature increases, and turning off and unplugging all appliances in commercial and residential buildings. Businesses can also benchmark buildings using the Energy Star rating system, which calculates energy use in a building or a group of buildings, providing a tool with which to measure the impact of energy efficiency improvements. This can provide a way to compare energy use in buildings of similar size, shape, location, and operating characteristics. The results (a number on a scale of 1 to 100) determine which buildings will benefit most from energy efficiency upgrades. By increasing energy efficiency in buildings, local governments can save energy immediately.

Leadership in Energy and Environmental Design

The Leadership in Energy and Environmental Design (LEED) Green Building Rating System is a certification program and the nationally accepted benchmark for the design, consumption, and operation of high performance green buildings. LEED provides building owners and operators with the tools they need for an immediate and measurable impact on their building's performance. The LEED green building certification program encourages and accelerates global adoption of sustainable green building and development practices through a suite of rating systems that recognize projects that implement strategies for better environmental and health performance.

City of Chula Vista Energy Strategy and Action Plan

The City has adopted an energy plan to address long-term energy issues and to protect its residents from unreliable energy supply and volatile prices. The plan, called the Chula Vista Energy Strategy and Action Plan, addresses demand side management, energy efficient and renewable energy outreach programs for businesses and residents, energy acquisition, power generation, and distributed energy resources and legislative actions (City of Chula Vista 2001a).

There are also a number of other plans, projects, and actions that have been developed by the City to help reduce energy use and costs, including the CO_2 Reduction Plan. The CO_2 Reduction Plan focuses on reducing fossil fuel consumption and decreasing reliance on power generated by fossil fuels.

San Diego Transit First / South Bay Transit First

In October 2000, the Metropolitan Transit Development Board (MTDB) adopted a strategy for improving future transit in the County. The strategy, which is a plan to make transit an attractive first choice for everyday trips, is called Transit First. Transit First includes a network of new services with the purpose of providing transit users with increased convenience, comfort, security, and speed.

The City continues to work cooperatively with MTDB, SANDAG, and surrounding local jurisdictions on the South Bay Transit First Program. The South Bay Transit First Program strives to implement the recently adopted Transit First regional transportation vision in the

south County area. This includes identifying transit routes, stations, and priority measures for transit vehicles and addressing integration with transit supportive land uses.

City of Chula Vista General Plan

The Public Facilities Services (PFS) Element and E Element of the City's GP address energy conservation, demand, supply, and infrastructure. These objectives and associated policies are:

Objective E 7

Promote energy conservation through the efficient use of energy and through the development of local non-fossil fuel-based renewable sources of energy.

Policies

E 7.1 Promote development of regulations and building design standards that maximize energy efficiency through appropriate site and building design and through the use of energy-efficient materials, equipment, and appliances.

E 7.3 Develop and provide pertinent information about the benefits of energy conservation and available energy conservation incentive programs to all segments of the community.

E 7.4 Pursue and encourage the expansion of local energy conservation, energy efficiency, and related incentive programs.

E 7.6 Encourage the construction and operation of green buildings, considering such programs as LEED Green Building Rating System.

E 7.8 Ensure that residential and non-residential construction complies with all applicable City energy efficiency measures that are in effect at the time of discretionary permit review and approval or building permit issuance, whichever is applicable.

Objective PFS 22

Ensure adequate energy supplies throughout Chula Vista.

PFS 22.1 Continue to address energy needs in Chula Vista by periodically reviewing and updating the Chula Vista Energy Strategy and Action Plan, and by implementing and monitoring the recommendations of the Strategy.

PFS 22.2 Coordinate with regional energy planning programs and efforts.

PFS 22.3: Encourage and support the research, development, and use of alternative sources of energy.

PFS 22.4 Review energy facility requests and encourage siting and design techniques that minimize community impacts. Such techniques may include undergrounding facilities where possible, collocating new facilities with existing utility infrastructure, locating facilities in non-residential areas, and implementing architectural details that blend with the surrounding area. The development and operation of natural gas-fired plants within the City shall utilize “best available control technology” to the greatest extent practicable.

PFS 22.5 Maximize future sustainable energy options by pursuing the distributed generation and planning energy transmission and transportation options that complement the development of local renewable energy options contained in Table 9-1 of this Environmental Element.

Otay Ranch General Development Plan

Part II, Chapter 10 establishes goals, objectives, and policies to ensure the conservation of significant portions of Otay Ranch's natural environment. Overall, these goals, objectives and policies prevent the wasteful exploitation, destruction, or neglect of resources and encourage the preservation enhancement and management of sensitive resources. Specifically, Section E addresses the overall goal of establishing Otay Ranch as a “showcase” for the efficient utilization of energy resources and the use of renewable energy resources.

Objective: Reduce the use of non-renewable energy resources within Otay Ranch below per capita non-renewable energy consumption in San Diego County.

Policies:

- Prepare a non-renewable energy-conservation plan for each SPA.

Objective: Provide land use patterns and project features which result in the conservation of non-renewable energy resources.

Policies:

- Reduce the reliance for project residents to utilize the automobile, thereby minimizing automobile trips and miles traveled.
- Policy: Encourage the provision of regional mass transit facilities within the Otay Ranch.

5.3.1.2 Existing Energy Usage

The discussion of existing energy use is presented in two main sections: fixed uses, such as homes and businesses; and mobile uses, primarily cars and trucks.

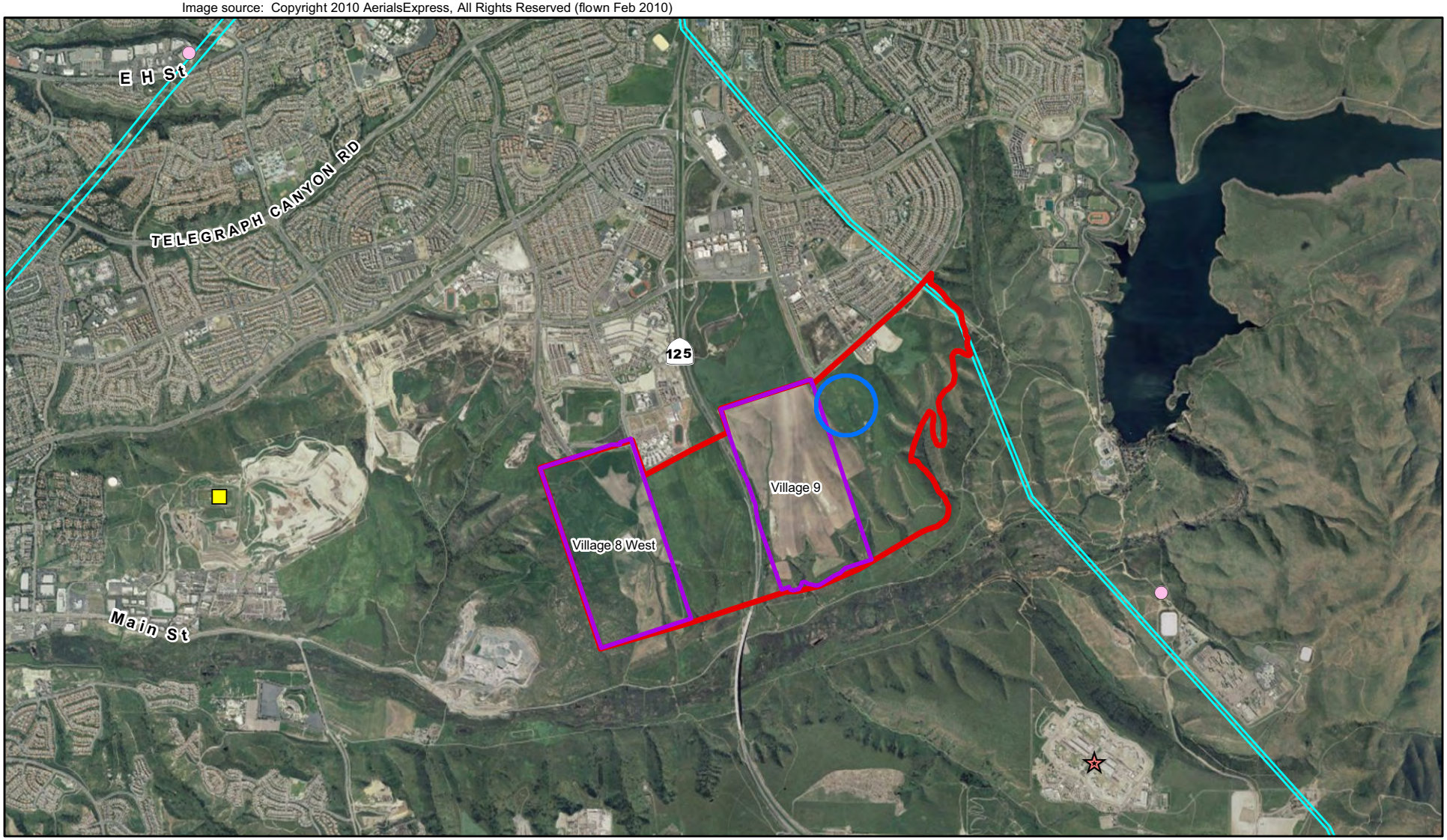
Fixed Uses

ELECTRICITY

Electricity is provided by San Diego Gas & Electric Company (SDG&E), who is the owner and operator of electricity transmission, distribution, and natural gas distribution infrastructure in the County. Power generation and power use are not linked geographically. In other words, power generated within the City is not dedicated to users in the City. Electricity generated is fed into the statewide grid and is generally available to any users statewide.

Since the closure of the South Bay Power Plant in early 2011, there remains a number of electrical and generation facilities in proximity to the Project Area. The Otay Landfill Extension Plant is a 1,700 kWh electrical power plant. The Otay Mesa Energy Center is a 510-megawatt, natural gas-fired combined cycle power plant located approximately 15 miles southeast of San Diego, near the base of the San Ysidro Mountains, and about 1.5 miles north of the United States/Mexico border. Additionally, there are a number of smaller generating plants, and electricity substations in the County that are used as backup during times of peak power demand. Figure 5.3-2 shows the location of electrical generating facilities and substations within the immediate project vicinity.

Image source: Copyright 2010 AerialsExpress, All Rights Reserved (flown Feb 2010)



Project Area
Village 8 West and Village 9
RTP
SDG&E Transmission Corridor 138kV & Above
Otay Landfill Powerplant
Cogeneration Facility
Substation

0 Feet 4,000

FIGURE 5.3-2

Electrical Generation and Transmission

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Electricity consumption in the San Diego region varies greatly by type of use. Generally, the largest electricity consumption comes from commercial uses, followed by residential, industrial, and agriculture (City of Chula Vista 2001b). In order to ensure a smart energy future, SDG&E has filed its 10-year plan for electricity delivery that will "empower customers to have better control over their energy usage, increased renewable generation, integrates plug-in electric vehicles and reduced greenhouse gas emissions while maintaining and improving system reliability, operational efficiency and customer privacy." (www.SDG&E.com/smartgrid/deployment) This plan includes utilizing the Smart Grid, a nationwide power project that will upgrade the current energy grid in order to ensure its reliability, maintain its affordability, incorporate renewable and traditional energy sources, reduce its carbon footprint, and introduce advancements in the technology.

For purposes of this analysis, average energy consumption rates are based on CARB's 2011 California Emissions Estimator Model (CalEEMod) obtained from the California Energy Commission (CEC) end-use surveys for residential and non-residential uses. For ease of comparison, all rates have been calculated into annual rates. Table 5.3-1 provides the annual average existing consumption rates.

As discussed below (Section 5.3.3.2, Table 5.3-2a and b), the ultimate calculation of energy to be consumed by future development in accordance with the Proposed Project is based on adjusted consumption rates that reflect improvements in energy-efficient building design due to the 2008 Title 24 updates (which became effective January 2010) and the new Increased Energy Efficiency Standards of the City's Energy Code (that became effective February 2010).

TABLE 5.3-1
AVERAGE EXISTING (BAU) ENERGY CONSUMPTION RATES

Land Use Type	Existing Electricity Rate (Annual)	Existing Natural Gas Rate (Annual)
Residential	7,090.56.0 kWh/single-family unit 4,324.68 kWh/multi-family unit	62,384.40 cf/single-family unit 37,547.64 cf/multi-family unit
Commercial	14.10 kWh/sf	34.8 cf/sf
Industrial (RTP)[1]	17.6 kWh/sf	2,899,332 cf/consumer/yr
Parks	9.38 kWh/sf	3.0 cf/sf
Schools	6.35 kWh/sf	15.50 cf/sf
Community Purpose Facility	9.38 kWh/sf	33.20 cf/sf

SOURCE: CARB's 2011 CalEEMod 9 (CEC 2004 and 2006)
BAU = business as usual
sf = square feet
cf = cubic feet
[1]Industrial consumer value is obtained by dividing total square footage by minimum lot size.

NATURAL GAS

Natural gas imported into southern California originates from any of a series of major supply basins located from Canada to Texas. Although the San Diego region has access to all of these basins by interstate pipeline, the final delivery into the SDG&E system is dependent on just one Southern California Gas Company (SoCalGas) pipeline. Several Liquefied Natural Gas (LNG) plants are proposed in Mexico, which would provide an additional source of natural gas to southern California.

Natural gas consumption in the City was approximately 150 million therms, or $24 million of natural gas, approximately two-thirds of which was attributable to the South Bay Power Plant (City of Chula Vista 2001). In general, power plants account for the highest percentage of natural gas consumption in the San Diego region. Residential consumption of natural gas is the second highest percentage, followed by co-generation, commercial consumption, industrial consumption, and natural gas vehicles.

Natural gas consumption for this analysis is likewise calculated using rates obtained from CARB's 2011 CalEEMod Table 5.3-1 shows average existing annual consumption rates for natural gas.

Mobile Uses

Roughly half of the energy Californians consume is for transportation. In 2007, Californians consumed an estimated 20 billion gallons of gasoline and diesel fuel on the state's roadways, an increase of nearly 50 percent over the last 20 years. Nearly 26 million registered vehicles operating in California produce about 40 percent of the state's greenhouse gas emissions (California Energy Commission 2010).

5.3.2 Thresholds of Significance

The Proposed Project would result in a significant impact to energy if it would:

1. Reduce the available supply of energy resources below a level considered sufficient to meet the City's needs or cause a need for new and expanded facilities.

5.3.3 Impacts

5.3.3.1 2005 GPU/GDP EIR Conclusion

Threshold 1: Reduce Available Energy Supply

The 2005 GPU/GDP EIR concluded that impacts associated with energy use were significant. While mitigation was presented to lessen the extent of potential impacts, due to the lack of assurance at the time of the GPU that resources would be available to adequately serve the projected increase in population, impacts remained significant and unmitigated.

5.3.3.2 Analysis of Proposed Project

Threshold 1 states that a significant impact to energy resources would occur if the Proposed Project would reduce the available supply of energy resources below a level considered sufficient to meet the City's needs or cause a need for new and expanded facilities.

Increased Energy Demands

As shown in Table 3-1, the Proposed Project would allow an increase in development potential within the Land Use Change Area as compared to the Preferred Plan analyzed in the 2005 GPU/GDP EIR. Under the Preferred Plan, the 2005 GPU/GDP EIR projected annual energy demands for the entirety of the GPU area would total 1,212 million kWh of electricity and 65.5 million therms (6,334 million cubic feet) of natural gas (not including natural gas consumed by the South Bay Power Plant) (City of Chula Vista 2005).

The land use changes included as part of the Proposed Project would accommodate an additional 247 single family and 633 multi-family dwelling units above that contemplated by the 2005 GPU Preferred Plan for Land Use Change Area. Additionally, the Proposed Project would allow 550,000 commercial square feet, 2.2 million industrial square feet, 5.1 acres of park land, 6.4 acres of school use and a decrease of 9.3 acres of community purpose facility compared to the 2005 GPU Preferred Plan. It is noted that the 2005 GPU Preferred Plan did not include any industrial land uses within the Project Area.

Tables 5.3-2a and 5.3-2b provide a breakdown of the additional intensity of uses and calculates the projected increase in energy demands for the Land Use Change Area using reduced rates of energy consumption compared to existing average rates of consumption

shown in Table 5.3-1. As stated above, adjustments to the existing rates of average energy consumption were made in these calculations to reflect improvements in energy-efficient building design due to the 2008 Title 24 updates (which became effective January 2010) and the new Increased Energy Efficiency Standards of the City's Energy Code (which became effective February 2010). Combined, these increased energy-efficiency requirements would achieve 30 percent less energy consumption for the Proposed Project compared to existing average rates of energy consumption. This 30% reduction is based on the 15 percent increase in energy efficiency in building design required in the 2008 Energy Code plus an additional 15 percent energy improvement required by the City's Increased Energy Efficiency ordinance.

TABLE 5.3-2a
PROJECTED ANNUAL INCREASE IN ELECTRICITY DEMANDS WITHIN THE LAND USE CHANGE AREA

Land Use Type	Change in intensity of uses[1]	Adjusted Annual Electricity Consumption Rate	Annual Electricity Demand
Single-family Residential	247 dwelling units	2,127.17 kWh/single-family unit	525,411 kWh
Multi-family Residential	633 dwelling units	1,297.40 kWh/multi-family unit	821,154 kWh
Commercial	550,000 sf	4.23 kWh/ sf	2.3 MWh
Industrial (RTP)	2.2 million sf[2]	5.28 kWh/sf	11.6 MWh
Parks[3]	222,156 sf	2.81 kWh/ sf	624,258 kWh
Schools[3]	278,784 sf	1.91 kWh/ sf	532,477 kWh
Community Purpose Facility[3]	-405,108 sf	2.81 kWh/ sf	-1.1 MKh
Total Increase			**15.3 MKh**

sf = square feet; yr = year
Annual increases are rounded to nearest whole number.
[1]Changed intensity of land uses within Land
Use Change Area (2005 GPU/GDP EIR vs Proposed Project).
SOURCE: CalEEMod electricity and natural gas consumption rates identified in Table 5.3-1, adjusted for 15% increased energy efficiency due to 2008 Title 24 Building Energy Efficiency Standards effective January 2010 and an additional 15% increased energy efficiency due to the Chula Vista Increased Energy Efficiency Standards Ordinance effective February 2010. Totaling a 30% reduction in consumption rates compared to existing (BAU).
[2]2,221,560 total square feet of industrial land divided by minimum lot size of 2 acres = 42.5 industrial consumers.
[3]sf is calculated by multiplying acres by 43,560.

TABLE 5.3-2b
PROJECTED ANNUAL INCREASE IN NATURAL GAS DEMANDS OF WITHIN THE LAND USE CHANGE AREA

Land Use Type	Change in intensity of uses[1]	Adjusted Annual Natural Gas Consumption Rate	Annual Natural Gas Demand
Single-family Residential	247 dwelling units	18,715.32 cf/single-family unit/yr	4.6 million cf
Multi-family Residential	633 dwelling units	11,264.29 cf/multi-family unit/yr	7.1 million cf
Commercial	550,000 sf	10.44 cf/ sf	5.7 million cf
Industrial (RTP)	2.2 million sf	869,799.60cf/consumer[2]/yr	37 million cf
Parks[3]	222,156 sf	.09 cf/ sf/yr	19,994 cf
Schools[3]	278,784 sf	4.65 cf/ sf/yr	1.3 million cf
Community Purpose Facility[3]	-405,108 sf	.09 cf/ sf/yr	-36,460 cf
Total Increase			**55.6 million cf**

cf = cubic feet; sf = square feet
yr = year
Annual increases are rounded to nearest whole number.
[1]Changed intensity of land uses within Land Use Change Area (2005 GPU/GDP EIR vs Proposed Project).
SOURCE: CalEEMod electricity and natural gas consumption rates identified in Table 5.3-1, adjusted for 15% increased energy efficiency due to 2008 Title 24 Building Energy Efficiency Standards effective January 2010 and an additional 15% increased energy efficiency due to the Chula Vista Increased Energy Efficiency Standards Ordinance effective February 2010. Totaling a 30% reduction in consumption rates compared to existing (BAU)..
[2]2,221,560 total square feet of industrial land divided by minimum lot size of 2 acres = 42.5 industrial consumers.
[3]sf is calculated by multiplying acres by 43,560.

As shown in Tables 5.3-2a and 5.3-2b, the increased intensity of land uses allowed by the Proposed Project compared to that analyzed in the 2005 GPU/GDP EIR would increase electricity demand by approximately 15.3 million kWh annually and natural gas demand by approximately 55.6 million cubic feet annually. When this additional increase is added to the demands projected in the 2005 GPU/GDP EIR, the resultant annual energy use throughout the entire GPU area is projected to be approximately 1,227 million kWh of electricity and 6,390 million cubic feet of natural gas.

Because the Proposed Project is a program-level document, it does not specifically address any particular development project; impacts to energy resources can only be addressed based on planned growth. Depending on the specific types of future uses, impacts may need to be addressed in greater detail at the time individual projects are proposed. At a minimum, future projects within the Project Area would be required to meet the mandatory energy standards of the City of Chula Vista Energy Code (Municipal Code sections 15.26, et seq.) and current CCR Title 24 Part 6 California Energy Code and Part 11 California Green Building Standards.

The Chula Vista Energy Code includes Increased Energy Efficiency Standards (Municipal Code section 15.26.030) that became effective for all residential and non-residential development (including industrial uses) in February 2010. These standards require projects to use 15 to 20 percent less energy than the California Energy Code requires, depending on climate zone. Most of the Proposed Project lies within the climate zone that requires 15 percent increased energy efficiency. To further address energy efficiency, the City also participates in the LEED Rating System, and private developments are strongly encouraged to utilize green building practices. The City's adoption of the Green Building Standards ordinance in 2009 represented early adoption of the now-effective (as of January 1, 2011) California Green Building Standards. Respective to energy efficiency, these standards mandate 20 percent less water use than currently required by the state plumbing code. Because energy consumption is embodied in the acquisition, treatment and distribution of water resources, less water consumption yields less energy consumption.

Application of GP/ GDP Policies

The GP policies seek to reduce mobile-source energy consumption by optimizing traffic flow, directing higher density housing within walking distance of transit facilities, promoting use of alternatives to vehicular travel, and generally reducing vehicle trip length through improved community design. GP Objective EE 7 and Objectives PFS 22 and 23 would aid in reducing adverse fixed-source energy impacts by requiring the reduction of wasteful, inefficient, and unnecessary consumption of energy; promoting development of renewable energy sources; and coordinating regional planning with locally efficient energy use.

The Otay Ranch GDP requires future SPA Plans to include a renewable energy conservation plan addressing preservation of energy resources. This includes the development of land use patterns and project features that reduce the reliance for project residents to utilize the automobile, encourage use of regional mass transit facilities, and reduce fossil fuel consumption through better siting and design. Application of the City's Energy Code, requiring 15 percent less energy use than the State's 2008 Energy Code, would add to the overall decrease in energy use throughout the Project Area. Energy consumed by future occupants of the Proposed Project would not be excessive, but would in fact be less than the regional average and less than statewide business-as-usual projections made by the CARB as part of its GHG emissions forecasting.

Although these programs and policies would result in more efficient use of energy, they do not ensure that increased resources will be available when needed. SDG&E has indicated that without an increased import capacity, including a new substation within the Otay Ranch area, future energy needs could not be assured. As stated in the 2005 GPU/GDP EIR "the absence of long-term assurances that energy supplies would be available, regardless of land use designation or population…" would result in a significant impact. Therefore, because there is still no assurance of a long-term supply of energy in the future, the increase in energy consumption associated with the Proposed Project would be significant.

5.3.4 Level of Significance prior to Mitigation

While anticipated energy to be consumed by future occupants of the Proposed Project would be substantially less than regional and state energy consumption averages, implementation of the Proposed Project has the potential to result in impacts due to increased consumption of electricity and natural gas above that analyzed in the 2005 GPU/GDP EIR. Although development pursuant to the Proposed Project would be required to implement the City's Energy Strategy and Action Plan, Transit First Plan, new Increased Energy Efficiency Standards of the City's Energy Code, and conform to objectives contained in the GP and GDP, there is no long-term assurance that energy supplies will be available as needed to support subsequent development projects. Therefore, impacts associated with energy consumption would be significant.

5.3.5 Mitigation Measures

Because compatibility with policies alone will not reduce impacts to a less than significant level, implementation of the following mitigation measure, as identified in the 2005 GPU/GDP EIR, is required to be incorporated into future SPA plans.

5.3.5-1 Continued focus on the Energy Strategy and Action Plan, which addresses demand side management, energy efficient and renewable energy outreach programs for businesses and residents, energy acquisition, power generation, and distributed energy resources and legislative actions, and continuing implementation of the CO_2 Reduction Plan will lessen the impacts from energy.

5.3.6 Level of Significance after Mitigation

Implementation of Mitigation Measure 5.3.5-1 along with the programs and policies identified above would reduce impacts to energy resources; however, because there is no assurance that energy resources will be available to adequately serve the projected increase in population resulting from the Proposed Project, impacts would remain significant and unmitigated at this level of review.

5.3.7 Change in the Results of the 2005 GPU/GDP EIR Impact Analysis

Implementation of the Proposed Project would increase energy consumption, but would not change the conclusions reached by the analysis contained in the 2005 GPU/GDP EIR with respect to energy resources. The mitigation presented in the 2005 GPU/GDP EIR would be required to be adopted along with the Proposed Project. No new impacts are identified and no new mitigation is required.

5.4 Transportation

This section presents a supplemental update to the adopted 2005 GPU/GDP EIR with respect to the potential transportation and circulation effects that could result from implementation of the Proposed Project. A Traffic Impact Analysis (TIA) was prepared for the Proposed Project by Linscott Law & Greenspan (LLG) (December 2011) and is included in Appendix C. The 2005 GPU/GDP EIR, along with the supporting traffic studies are incorporated by reference.

This section includes the Proposed Project's buildout traffic volumes added to the existing traffic volumes and existing roadway configurations. This scenario, identified as "Existing + Project" represents a "snap-shot" in time and does not account for changes in traffic volumes and roadway infrastructure unrelated to the Proposed Project, which occur over the long term buildout of the Project Area.

In addition, this section analyzes a variety of scenarios that assume the implementation of local and regional roadway improvements and land uses over the long term.

5.4.1 Existing Conditions

5.4.1.1 Regulatory Plans and Policies

SANDAG Regional Transportation Plan

As detailed in Section 5.1, on October 28, 2011, SANDAG adopted the 2050 Regional Transportation Plan and SCS, a balanced vision for the evolution of the San Diego region's transportation system. The SCS seek to guide the San Diego region toward a more sustainable future by integrating land use, housing, and transportation planning to create communities that are more sustainable, walkable, transit-oriented, and compact. Additional discussion of the SCS is located in Section 5.10.

SANDAG RCP

One of the key principles of the RCP is the concept of smart-growth. From a transportation planning perspective, smart-growth involves identifying appropriate land patterns and a complementary multi-modal transportation system so as to improve the viability of public transit and other alternative travel modes (such as walking or bicycling)

for the whole range of trip types, including commuting, shopping, school, etc. Smart-growth has many advantages, including improved accessibility within a community; encouraging investment in already developed areas; and limiting expansion into outlying undeveloped areas, along with associated traffic and air quality benefits.

City of Chula Vista General Plan

One of the overall goals of the LUT Element of the GP is the development of "a sustainable circulation/mobility system that provides transportation choices and is well-integrated with the City's land uses" (City of Chula Vista 2005, page LUT-85). Objectives and associated policies specifically address opportunities to support transit-oriented development in transit corridors and town centers, as well as the improvement of pedestrian and bicycle environments. Specific objectives and policies addressing this goal, relevant to the Proposed Project include the following.

Objective LUT 16

Integrate land use and transportation planning and related facilities.

Policies

LUT 16.1

Promote the development of well-planned communities that will tend to be self-supportive and, thus, reduce the length of vehicular trips, reduce dependency on the automobile, and encourage the use of other modes of travel.

LUT 16.2

Ensure that new development and community activity centers have adequate transportation and pedestrian facilities.

LUT 16.3

Provide direct and convenient access to public transit stops within residential, commercial, and industrial areas.

LUT 16.4

Develop plans, policies, and standards for enhancing interchanges and bridge crossings along (or over/under) the Interstate 5, Interstate 805 , State Route 54, and State Route 125 corridors to support transit, vehicular, non-motorized, and pedestrian connections.

Objective LUT 17

Plan and coordinate development to be compatible and supportive of planned transit.

Policies

LUT 17.3

Establish new Town Centers in the East Planning Area to be transit-oriented and include a transit station.

Objective LUT 18

Reduce traffic demand through Transportation Demand Management (TDM) strategies, increased use of transit, bicycles, walking, and other trip reduction measures.

Policies

LUT 18.1

Support and encourage the use of public transit.

LUT 18.3

Provide and enhance all feasible alternatives to the automobile, such as bicycling and walking, and encourage public transit ridership on existing and future transit routes.

Objective LUT 23

Promote the use of non-polluting and renewable alternatives for mobility through a system of bicycle and pedestrian paths and trails that are safe, attractive, and convenient forms of transportation.

Policies

LUT 23.1

Encourage the use of bicycles and walking as alternatives to driving.

LUT 23.2

Foster the development of a system of inter-connecting bicycle routes throughout the City and region.

LUT 23.8

Provide and maintain a safe and efficient system of sidewalks, trails, and pedestrian crossings.

LUT 23.9

Promote walking by providing short, direct, safe, and pleasant routes between residential areas and transit stations and/or activity centers.

Chapter 10 of the LUT Element of the GP focuses on the East Planning area, providing a vision specific to this unique part of the City. The transportation related visions for the planning area is to create more integrated communities including implementation of an integrated transportation network, establishing pedestrian-friendly development standards, and creating incentive to reduce driving (2005, page LUT-226). Relevant objectives and policies necessary to meet these goals within the Otay Ranch Subarea are listed below:

Objective LUT 63

Provide efficient multi-modal access and connections to and between activity centers.

Policy

LUT 63.1

Provide roads, transit service, bike routes, and pedestrian pathways that connect activity centers to their surrounding neighborhoods, adjacent villages, and each other, such that access is safe and convenient for residents and visitors.

Otay Ranch General Development Plan

Part II, Chapter 2 establishes objectives and policies to support the overall goal of providing a comprehensive, efficient, and safe system for a variety of transportation modes throughout the GDP with linkages to regional roadways. Relevant objectives include:

Objective: Ensure timely provision of adequate local circulation system capacity in response to planned growth, maintaining acceptable levels of service (LOS).

Objective: Plan and implement a circulation system such that the operational goal of Level of Service "C" for circulation element arterial, and major roads, and intersections can be achieved and maintained. Internal village streets/roads are not expected to meet this standard.

Additional goals, objectives, and policies relevant to the Proposed Project are as follows:

Goal: Achieve a balanced transportation system which emphasizes alternatives to automobile use and is responsive to the needs of residents.

Objective: Promote alternative forms of transportation, such as bicycle and low-speed electric vehicle paths, riding and hiking trails, and pedestrian walkways as an integral part of the circulation system.

Policies:

- Provide a thorough and comprehensive bicycle circulation system, emphasizing bicycle paths segregated from vehicular traffic between major destinations within and adjacent to the Otay Ranch Project Area.

- Develop patterns of land use which will allow the elimination of automobile trips and encourage pedestrian movement through pedestrian-friendly environments and proper land use mix.

City of Chula Vista Growth Management Program

The Growth Management Oversight Commission (GMOC) was created to provide independent annual review of City compliance with the 1991 Growth Management Ordinance (GMO), which sets forth threshold standards related to 11 public facilities and services, including: air quality, drainage, fire and emergency services, fiscal, libraries, parks and recreation, police, schools, sewer, traffic, and water. The GMO specifies that the purpose of the Growth Management Program (GMP) is to implement the GP while assuring that development does not occur unless facilities and improvements are available to support that development. The program requires identification of all facilities and improvements necessary to accommodate land uses specified in the GP; specify size, capacity, service level, and threshold standards for each identified facility; project total buildout development levels and identify projected facility and improvement needs; provide a policy for timing the construction of each facility and improvement; and identify the financing method or methods for each facility and improvement.

The traffic section of the GMO sets the requirements used to assess short-term traffic impacts for projects implemented in conformance to the GP. Specifically, this section states that Citywide traffic is expected to maintain LOS C or better as measured by observed average travel speed on all signalized arterial segments; except, that during peak hours a LOS D can occur for no more than two hours of the day (City of Chula Vista 2006).

The Chula Vista Traffic Monitoring Program (TMP) is used to assess the operating performance of the City's arterial street system in order to determine compliance with the Threshold Standards of the GMP. Recent GMOC traffic studies have indicated that the segment of westbound Olympic Parkway between Heritage Road and Oleander Avenue during the AM peak hour period would be the first to fall below City Growth Management Traffic Threshold Standards as traffic volumes increase over time with the inclusion of the Proposed Project and other projects east of I-805. Specifically, the traffic analysis titled, *Olympic Parkway Capacity Enhancement Analysis* (LLG 2011), concluded that this

segment would fall below the standard under near-term conditions. The significance of this is discussed in Section 5.4.5.3, below.

5.4.1.2 Study Area

The County CMP guidelines require that a project study area be established as follows:

- All Regional Significant Arterial system street segments and intersections where the project will add 50 or more peak hour trips in either direction.
- Mainline freeway locations where the project will add 150 or more peak hour trips in either direction.

In addition, locations within the City and County of San Diego, where the Proposed Project would add 500 or more average daily traffic (ADT), are included in the analysis. The following is a list of the study area street and freeway segments:

Street Segments

CITY OF CHULA VISTA ROADWAYS

Telegraph Canyon Road

1. I-805 to Oleander Avenue
2. Heritage Road to La Media Road

Olympic Parkway

3. I-805 to Brandywine Avenue
4. Brandywine Avenue to Heritage Road/Paseo Ranchero
5. Heritage Road/Paseo Ranchero to La Media Road
6. La Media Road to SR-125
7. SR-125 to Eastlake Parkway
8. Eastlake Parkway to Hunte Parkway
9. Hunte Parkway to Wueste Road

Birch Road

10. La Media Road to SR-125
11. SR-125 to Eastlake Parkway

Main Street

12. I-805 to Brandywine Avenue
13. Brandywine Avenue to Maxwell Road
14. Maxwell Road to Heritage Road

Main Street (Rock Mountain Road)

15. Heritage Road to Main Street/La Media Road Couplet
16. Main Street/La Media Road Couplet

17. Main Street/La Media Road Couplet to SR-125
18. SR-125 to Eastlake Parkway

Hunte Parkway

19. Eastlake Parkway to Exploration Falls Drive
20. Exploration Falls Drive to Olympic Parkway

Otay Valley Road

21. La Media Road to SR-125
22. SR-125 to Street “A”
23. Street “A” to Eastlake Parkway

Heritage Road

24. Olympic Parkway to Main Street
25. Main Street to City Boundary

La Media Road

26. Olympic Parkway to Birch Road
27. Birch Road to Main Street/La Media Road Couplet
28. Main Street/La Media Road Couplet
29. Main Street/La Media Road Couplet to Otay Valley Road
30. Otay Valley Road to Lonestar Road

Eastlake Parkway

31. Olympic Parkway to Birch Road
32. Birch Road to Hunte Parkway
33. Hunte Parkway to Otay Valley Road

CITY OF SAN DIEGO ROADWAYS

Heritage Road

34. City Boundary to Avenida de las Vistas
35. Avenida de las Vistas to Datsun Street/Otay Valley Road
36. Datsun Street/Otay Valley Road to Otay Mesa Road
37. Otay Mesa Road to future SR-905

La Media Road

38. Lonestar Road to Otay Mesa Road
39. Otay Mesa Road to SR-905

Otay Mesa Road

40. Otay Mesa Road to Corporate Center Drive
41. Corporate Center Drive to Heritage Road
42. Heritage Road to Britannia Boulevard
43. Britannia Boulevard to La Media Road
44. La Media Road to Piper Ranch Road
45. Piper Ranch Road to SR-125
46. SR-125 to Harvest Road

Airway Road

47. Cactus Road to Britannia Boulevard
48. Britannia Boulevard to La Media Road

Siempre Viva Road

49. Cactus Road to Britannia Boulevard
50. Britannia Boulevard to La Media Road
51. La Media Road to Avenida de la Fuente
52. Avenida de la Fuente to SR-905

Piper Ranch Road

53. Lonestar Road to Otay Mesa Road

COUNTY OF SAN DIEGO ROADWAYS

Bonita Road

54. Central Avenue to San Miguel Road

Sweetwater Road

55. Bonita Road to Park Drive

Freeway Segments

Interstate 805

1. Olympic Parkway/Orange Avenue to Main Street/Auto Park Drive
2. Main Street/Auto Park Drive to Palm Avenue
3. Palm Avenue to SR-905

State Route 125

4. Olympic Parkway to Birch Road
5. Birch Road to Main Street
6. Main Street to Otay Valley Road
7. Otay Valley Road to Lonestar Road
8. Lonestar Road to Otay Mesa Road
9. Otay Mesa Road to SR-905

State Route 905

10. I-805 to Ocean View Hills
11. Ocean View Hills to Heritage Road
12. Heritage Road to Britannia Road
13. Britannia Road to La Media Road
14. La Media Road to SR-125

It should be noted that based on the SR-11 and the Otay Mesa East Port of Entry EIR, dated November 2010, LOS C or better operations are forecasted on the future SR-11. Since the addition of project-related ADT to this facility would not result in a change in the forecasted acceptable LOS C operations, a freeway mainline analysis of SR-11 was not addressed.

5.4.1.3 Existing Street Network

Figure 5.4–1 depicts the existing conditions for the study area street segments and freeway segments within the City, City of San Diego, and County. The streets within the study area are described below.

City of Chula Vista Roadways

Telegraph Canyon Road is classified in the adopted City of Chula Vista Circulation Plan and functions as a 7-Lane Expressway from I-805 to Oleander Avenue and a 6-Lane Prime Arterial continuing east. Bike lanes exist on both sides of the road and bus stops are located intermittently along the roadway. On-street parking is prohibited. The posted speed limit is 40 miles per hour (mph) from I-805 to Oleander Avenue, 45 mph from Oleander Avenue to Old Telegraph Canyon Road, and 50 mph from Old Telegraph Canyon Road to Hunte Parkway.

Olympic Parkway is classified in the adopted City of Chula Vista Circulation Plan and functions as a 6-Lane Prime Arterial in the study area from I-805 to Hunte Parkway, except for the segment between SR-125 and Eastlake Parkway, which functions as an 8-Lane Expressway. Between Hunte Parkway and Wueste Road, Olympic Parkway transitions to a 4-Lane Major Arterial. Bike lanes and sidewalks are present on both sides of the roadway. Parking is not provided on either side of the roadway. The posted speed limit is 35 mph between I-805 and Brandywine Avenue and 50 mph between Brandywine Avenue and Hunte Parkway. Continuing east of Hunte Parkway it slows to 45 mph.

Birch Road is classified in the adopted City of Chula Vista Circulation Plan and functions as a 6-Lane Major Arterial between La Media Road and SR-125 and as a 6-Lane Prime Arterial between SR-125 and Eastlake Parkway. Bike lanes and sidewalks are present on both sides of the roadway. There is currently no posted speed limit.

Main Street is classified in the adopted City of Chula Vista Circulation Plan and functions as a 6-Lane Prime Arterial between I-805 and Heritage Road. Main Street currently terminates at Heritage Road. In the future, Main Street would be extended to Hunte Parkway by connecting to Rock Mountain Road. The posted speed limit is 50 mph.

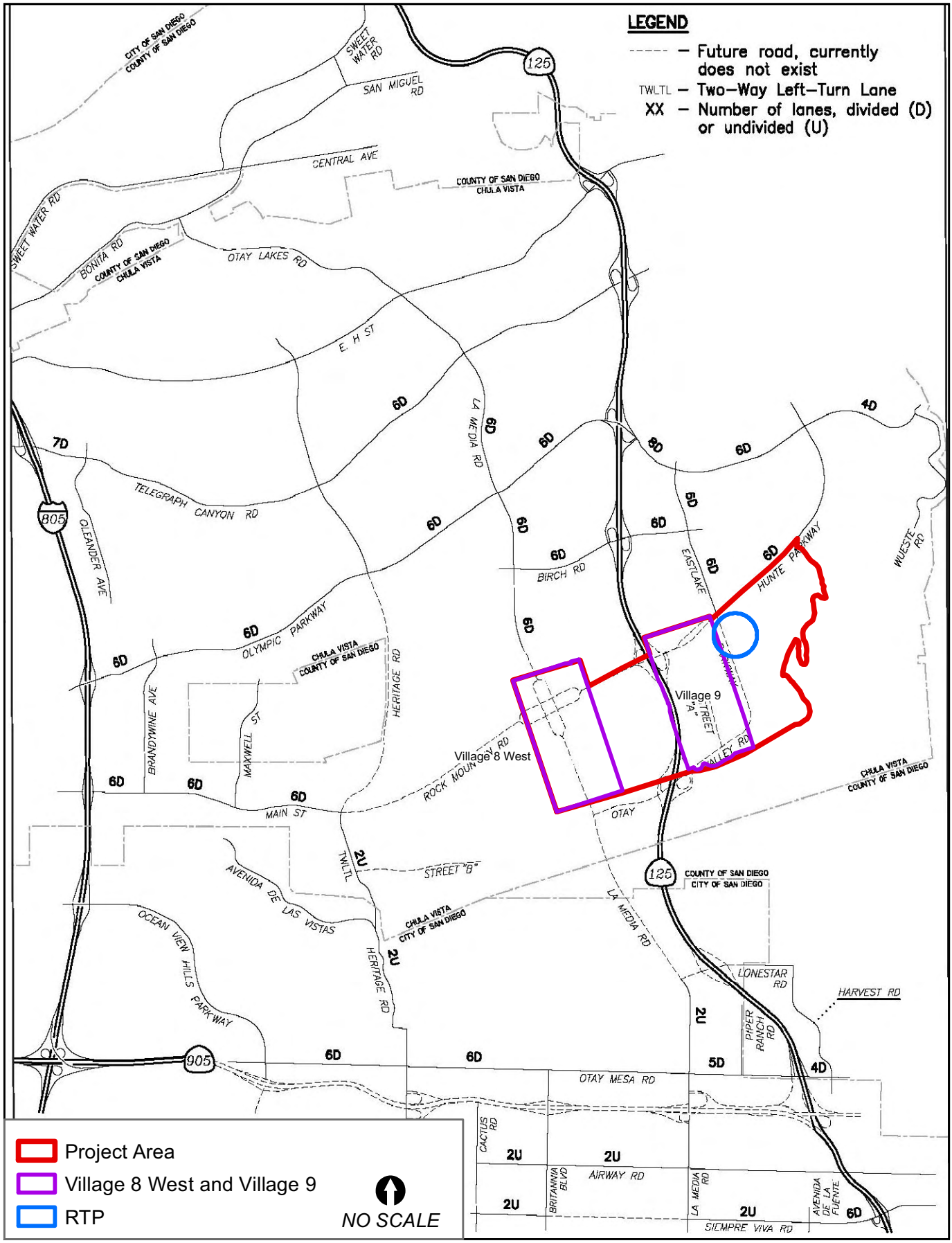

FIGURE 5.4-1

Existing Roadway Conditions

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Rock Mountain Road (Main Street) is a planned future roadway connecting from Main Street in the west to Hunte Parkway in the east. It is currently classified as a 6-Lane Prime Arterial from Heritage Road to the Main Street/La Media Road Couplet where it transitions to a Town Center Arterial with three lanes of travel in each direction through the length of the Couplet. Continuing past the Couplet's terminus, it is classified as a 6-Lane Prime Arterial to SR-125 and again as a Town Center Arterial from SR-125 to Eastlake Parkway in the adopted City of Chula Vista Circulation Plan.

Hunte Parkway is classified in the adopted City of Chula Vista Circulation Plan and functions as a 6-Lane Prime Arterial between Eastlake Parkway and Olympic Parkway with a proposed future interchange with SR-125. Bike lanes and sidewalks are present on both sides of the roadway. In the future, Hunte Parkway would be extended to Main Street by connecting to Rock Mountain Road at SR-125. The planned speed limit is 45 mph.

Otay Valley Road is a planned future roadway connecting from La Media Road to Eastlake Parkway, with a proposed future interchange with SR-125. It is currently classified as a 4-Lane Major Arterial in the adopted City of Chula Vista Circulation Plan.

Eastlake Parkway is classified in the adopted City of Chula Vista Circulation Plan and functions as a 6-lane Major Arterial between Olympic Parkway and Hunte Parkway. It is classified as a 4-Lane Major Arterial from Hunte Parkway to the future crossing with Otay Valley Road. Bike lanes and sidewalks are present on both sides of the roadway. The posted speed limit is 40 mph.

Heritage Road is currently not constructed to the south of Olympic Parkway. It is classified as a 6-Lane Prime Arterial from Olympic Parkway to the future connection with the Rock Mountain Road (Main Street) in the adopted City of Chula Vista Circulation Plan. South of Rock Mountain Road (Main Street) to just north of Avenida de las Vistas, Heritage Road is currently built as a 2-Lane Collector roadway with a two-way left-turn lane. Continuing south into the City of San Diego jurisdiction, it is classified as a 6-Lane Prime Arterial just north of Avenida de las Vistas to Otay Mesa Road in the City of San Diego Otay Mesa Community Plan and is currently built as a 2-Lane Collector.

La Media Road is classified in the adopted City of Chula Vista Circulation Plan and functions as a 6-Lane Prime Arterial from Olympic Parkway to Birch Road. Just south of

Birch Road it is currently built as a 6-Lane Prime Arterial. Bike lanes and sidewalks are present on both sides of the roadway. The posted speed limit is 45 mph. It is classified as a Town Center Arterial at the commencement of the Main Street/La Media Road Couplet where it continues as a six-lane divided roadway with three lanes of travel in each direction through the length of the Couplet in the adopted City of Chula Vista Circulation Plan. Continuing south from Main Street (Rock Mountain Road) to Lonestar Road, La Media Road is within both the City of Chula Vista and City of San Diego jurisdiction and is planned to be a 6-Lane Prime Arterial functioning as a bridge crossing the Otay River Valley in the City of San Diego Otay Mesa Community Plan. From Lonestar Road to Otay Mesa Road it is an existing roadway currently built as a 2-Lane Collector and south of Otay Mesa Road to SR-905 it is built as a 4-Lane Collector.

City of San Diego Roadways

Heritage Road is classified as a 6-Lane Prime Arterial just north of Avenida de las Vistas to Otay Mesa Road in the City of San Diego Otay Mesa Community Plan and is currently built as a 2-Lane Collector.

La Media Road is planned to be a 6-Lane Prime Arterial from Lonestar Road to Otay Mesa Road and is currently built as a 2-Lane Collector and south of Otay Mesa Road to SR-905 it is built as a 4-Lane Collector.

State Route 905 (SR-905)/Otay Mesa Road (SC-1120) is classified in the City of San Diego Otay Mesa Community Plan as a 6-Lane Expressway which extends from Interstate 5 to the east of SR-125. Approximately one mile east of I-805, there is a break in the route and SR-905 becomes Otay Mesa Road. The posted speed limit on Otay Mesa Road is 55 mph.

Otay Mesa Road is improved to 6-Lane Prime Arterial standards from west of Caliente Avenue to approximately 1,000 feet east of La Media Road. From just east of La Media Road to just east of SR-125, Otay Mesa Road is a 5-Lane Major Arterial within the study area.

Airway Road is classified on the City of San Diego Otay Mesa Community Plan as a 4-Lane Major Arterial from Cactus Road to La Media Road. It is currently built as a two-

lane roadway along this portion. Bike lanes are not provided, parking is prohibited, and there is no posted speed limit.

Siempre Viva Road is classified on the City of San Diego Otay Mesa Community Plan as a 6-Lane Primary Arterial from Cactus Road to SR-905. Currently, the portion of the roadway from Cactus Road to its current terminus just east of Britannia Boulevard is a two to three-lane undivided roadway with construction underway to expand to a six-lane divided roadway. From La Media Road to Melksee Street, Siempre Viva Road is built with three lanes in the eastbound direction and one lane in the westbound direction. Continuing from Melksee Street, it is built as a six-lane divided roadway to SR-905. Bike lanes are provided and the posted speed limit is 35 mph.

Piper Ranch Road is classified in the City of San Diego Otay Mesa Community Plan as 4-Lane Collector Road north of Otay Mesa Road within the East Otay Mesa Specific Plan Sub Area 1. It is currently built as a two-lane undivided roadway and under construction to widen it to its ultimate classification. There is no posted speed limit.

County of San Diego Roadways

Bonita Road is classified as a Major Roadway in the County of San Diego Circulation Element within the study area. The portion of the roadway from Central Avenue to Frisbie Street is currently built as three-lane roadway (consisting of two travel lanes in the northbound direction and one travel lane in the southbound direction) with a two-way left-turn lane. From Frisbie Street to San Miguel Road it transitions to a two-lane roadway with a two-way left-turn lane. Bike lanes are provided and curbside parking is not permitted. The posted speed limit is 45 mph.

Sweetwater Road is classified as a Major Roadway in the County of San Diego Circulation Element within the study area. The portion of the roadway from Bonita Road to Pray Street is currently built as a two-lane roadway with a two-way left-turn lane. From Pray Street, it transitions into a two-lane undivided roadway up to its commencement at Worthington Street. Bike lanes are provided and curbside parking is not permitted. There is currently no posted speed limit.

Caltrans Facilities

Interstate 805 is a north-south freeway, which originates in South County and terminates at its connection with the I-5 freeway near Del Mar, California. I-805 is generally an 8-Lane Freeway between I-805 and SR-54 with auxiliary lanes present between some interchanges located within the study area.

State Route 125 is a north-south tollway between SR-54 and SR-905. SR-125 is generally a 4-Lane Tollway with several interchanges located within the study area.

Future State Route 905 is an east-west freeway, which originates in South County at I-805 and is proposed to be built as an 8-Lane Freeway with auxiliary lanes present between some interchanges up to its terminus at the international border.

5.4.1.4 Existing Traffic Volumes

Traffic volumes were obtained from the City of Chula Vista Volume Book dated June 16, 2009. For data not included in that document, the TIA commissioned 24-hour ADT counts. Table 5.4-1 is a summary of existing traffic volumes for study area segments within the City of Chula Vista, County of San Diego, and City of San Diego.

5.4.1.5 Existing Levels of Service

A roadway's capacity is primarily a function of the number of lanes and whether or not the roadway is divided with a median or center turn lane. Typically, the more lanes a roadway has, the greater the road's capacity.

Traffic LOS is a measure of the relative ease or difficulty of traffic movement along segments of roadways and at intersections. It relates to delay in traffic flow, which is a measure of driver discomfort, frustration, fuel consumption, and loss of travel time. LOS is used to describe a roadway's ability to handle the volume of traffic that it carries. There are six defined LOS, A through F, which describes conditions ranging from "ideal" to "worst" as summarized in Table 5.4-2.

TABLE 5.4–1
EXISTING TRAFFIC VOLUMES

City of Chula Vista Street Segments	Existing ADT
Telegraph Canyon Road	
I-805 to Oleander Ave	61,900
Heritage Road to La Media	40,300
Olympic Parkway	
I-805 to Brandywine Ave	47,000
Brandywine Ave to Heritage Rd/Paseo Ranchero	48,700
Heritage Rd/Paseo Ranchero to La Media	50,500
La Media Rd to SR-125	43,600
SR 125 to Eastlake Pkwy	40,500
Eastlake Pkwy to Hunte Pkwy	13,900
Birch Road	
La Media Rd to SR-125	10,200
Main Street	
I-805 to Brandywine Ave	26,400
Brandywine Ave to Maxwell St	18,700
Hunte Parkway	
Eastlake Parkway to Exploration Falls Dr	700
Exploration Falls Dr to Olympic Pkwy	800
Heritage Road	
Main St to City Boundary	10,000
La Media Road	
Olympic Pkwy to Birch Rd	11,000
Birch Rd to future Main St (Rock Mountain Rd)	1,000
Eastlake Parkway	
Olympic Pkwy to Birch Rd	9,200
Birch Rd to Hunte Pkwy	1,300
Hunte Pkwy to Otay Valley Rd	DNE
City of San Diego Street Segments	**Existing ADT**
Heritage Road	
City Boundary to Avenida de las Vistas	9,800
Avenida de las Vistas to Datsun St/Otay Valley Rd	4,800
Datsun St/Otay Valley Rd to Otay Mesa Rd	10,000
La Media Road	
Lonestar Rd to Otay Mesa Rd	4,400
Otay Mesa Rd to Future SR-905	16,500
Otay Mesa Road	
Otay Mesa Rd to Corporate Center Dr	67,000
Corporate Center Dr to Heritage Rd	67,500
Heritage Rd to Britannia Blvd	70,900
Britannia Blvd to La Media Rd	71,100
La Media Rd to Piper Ranch Rd	59,000
Piper Ranch Rd to SR-125	44,500
SR-125 to Harvest Rd	9,700

DNE=Does not exist

TABLE 5.4-2
LEVEL OF SERVICE DESCIRPTIONS

Level of Service (LOS)	Description of Operation
A	Traffic is typically free-flowing at average travel speeds, with very little delay. Vehicles are seldom impeded in their ability to maneuver in the traffic stream. Delays at intersections are minimal.
B	Represents reasonably unimpeded operations at average travel speeds. The ability to maneuver in the traffic stream is slightly restricted but the majority of vehicles do not stop and it is not bothersome.
C	Represents stable operations with acceptable delays; if an intersection is signalized, a few drivers may have to wait through one signal cycle. The ability to change lanes and maneuver may be more restricted than LOS B.
D	Congestion occurs and a small change in volume increases delays substantially during short periods, but excessive backups do not occur.
E	Congestion occurs with extensive delays or one or more signal cycles and low travel speeds occur.
F	Arterial traffic flows at extremely low speeds, intersection congestion occurs with excessive delays; and backups from other locations restrict or prevent movement.

Street Segments

The majority of the study area roadways are currently operating at LOS C or better (LLG 2011). As shown in Table 5.4-3 below, there are nine roadway segments that presently operate at LOS D, E, or F based upon the daily volume-to-capacity. These include the following:

- Olympic Parkway from Heritage Road/Paseo Ranchero to La Media - LOS D
- Heritage Road from Datsun Street/Otay Valley Road to Otay Mesa Road - LOS E
- La Media Road from Otay Mesa Road to Future SR-905 - LOS F
- Otay Mesa Road from Otay Mesa Road to Corporate Center Drive - LOS F
- Otay Mesa Road from Corporate Center Drive to Heritage Road - LOS F
- Otay Mesa Road from Heritage Road to Brittania Blvd. - LOS F
- Otay Mesa Road from Brittania Blvd. to La Media Road - LOS F
- Otay Mesa Road from La Media Road to Piper Ranch Road - LOS F
- Otay Mesa Road from Piper Ranch Road to SR-125 - LOS E

TABLE 5.4-3
EXISTING STREET SEGMENT OPERATIONS

Street Segment	Existing Capacity (LOS C/E) [a]	Existing ADT [b]	Existing LOS [c]
City of Chula Vista Roadways			
Telegraph Canyon Road			
I-805 to Oleander Ave	70,000	61,900	C
Heritage Road to La Media	50,000	40,300	B
Olympic Parkway			
I-805 to Brandywine Ave	50,000	47,000	C
Brandywine Ave to Heritage Rd/Paseo Ranchero	50,000	48,700	C
Heritage Rd/Paseo Ranchero to La Media	50,000	**50,500**	**D**
La Media Rd to SR-125	50,000	43,600	B
SR 125 to Eastlake Pkwy	70,000	40,500	A
Eastlake Pkwy to Hunte Pkwy	50,000	13,900	A
Birch Road			
La Media Rd to SR-125	40,000	10,200	A
Main Street			
I-805 to Brandywine Ave	50,000	26,400	A
Brandywine Ave to Maxwell St	50,000	18,700	A
Hunte Parkway			
Eastlake Parkway to Exploration Falls Dr	50,000	700	A
Exploration Falls Dr to Olympic Pkwy	50,000	800	A
Heritage Road			
Main St to City Boundary	12,000	10,000	B
La Media Road			
Olympic Pkwy to Birch Rd	50,000	11,000	A
Birch Rd to Rock Mountain Rd (Main St)	50,000	1,000	A
Eastlake Parkway			
Olympic Pkwy to Birch Rd	40,000	9,200	A
Birch Rd to Hunte Pkwy	40,000	1,300	A
City of San Diego Roadways			
Heritage Road			
City Boundary to Avenida de las Vistas	15,000	9,800	C
Avenida de las Vistas to Datsun St/Otay Valley Rd	10,000	4,800	B
Datsun St/Otay Valley Rd to Otay Mesa Rd	10,000	**10,000**	**E**
La Media Road			
Lonestar Rd to Otay Mesa Rd	10,000	4,400	B
Otay Mesa Rd to Future SR-905	15,000	**16,500**	**F**
Otay Mesa Road			
Otay Mesa Rd to Corporate Center Dr	60,000	**67,000**	**F**
Corporate Center Dr to Heritage Rd	60,000	**67,500**	**F**
Heritage Rd to Britannia Blvd	60,000	**70,900**	**F**
Britannia Blvd to La Media Rd	60,000	**71,100**	**F**
La Media Rd to Piper Ranch Rd	45,000	**59,000**	**F**
Piper Ranch Rd to SR-125	45,000	**44,500**	**E**
SR-125 to Harvest Rd	40,000	9,700	A

Footnotes:

a. LOS "C" Capacity based on City of Chula Vista Roadway Classification Table. City and County of San Diego utilizes LOS "E" capacity thresholds. Chula Vista and San Diego Roadway Classification Tables are shown in *Appendix C*.
b. Average Daily Traffic.
c. Level of Service.
d. Source: Traffic Impact Analysis Chula Vista F=general Plan & General Development Plan Amendment, February 2011

General Notes:

Bold typeface represents poor level of service.

Freeways

Table 5.4-4 summarizes the freeway mainline operations on I-805 and SR-905. As seen in this table, all segments are calculated to currently operate at acceptable levels of service.

TABLE 5.4-4
FREEWAY MAINLINE ADT COUNTS

Freeway Segment	Volume
Interstate 805	
Olympic Pkwy/Orange Ave to Main St/Auto Park Dr	151,000
Main St/Auto Park Dr to Palm Ave	149,000
Palm Ave to SR-905	113,000
State Route 905	
I-805 to Otay Mesa Road	60,000

SOURCE: Caltrans 2008.

5.4.2 Thresholds of Significance

The Proposed Project would result in a significant traffic impact if it would:

1. Result in traffic which exceeds the significance criteria of the respective jurisdiction.

The TIA analyzed each study area location utilizing the appropriate jurisdictions' significance criteria. Therefore, City, City of San Diego, and County roadways were analyzed using each jurisdiction's own significance criteria.

Traffic impacts are defined as either "direct" impacts or "cumulative" impacts. Direct project impacts are those impacts for which the addition of project trips results in an identifiable degradation in LOS on freeway segments or roadway segments triggering the need for specific project-related improvement strategies. Cumulative impacts are those in which the project trips contribute to a poor LOS, at a nominal level. The following is a description of the various jurisdictions' significance criteria.

5.4.2.1 City of Chula Vista

Street Links/Segments

a. Project-specific (direct) impact if all the following criteria are met:

   i. Level of service is LOS D, LOS E, or LOS F.

   ii. Project trips comprise 5 percent or more of total segment volume.

   iii. Project adds greater than 800 ADT to the segment.

b. Cumulative impact, if only (i) is met.

However, if the intersections along a LOS D or LOS E segment all operate at LOS D or better, the segment impact is considered not significant, since intersection analysis is more indicative of actual roadway system operations than street segment analysis. If the segment Level of Service is LOS F, the impact is significant regardless of intersection LOS.

Intersections

a. Project-specific (direct) impact, if all the following criteria are met:

   i. Level of service is LOS E or LOS F.

   ii. Project trips comprise 5 percent or more of entering volume.

b. Cumulative impact if only (i) is met.

5.4.2.2 City of San Diego

According to the City of San Diego's *Significance Determination Thresholds* (2007), a project is considered to have a significant impact if the project traffic has decreased the operations of surrounding roadways by a City defined threshold. For projects deemed complete on or after January 1, 2007, the City defined threshold by roadway type or intersection is shown in Table 5.4-5.

TABLE 5.4-5
CITY OF SAN DIEGO TRAFFIC IMPACT SIGNIFICANCE THRESHOLDS

Level of Service with Project [b]	Allowable Increase Due to Project Impacts[a]			
	Freeways		Roadway Segments	
	V/C	Speed (mph)	V/C	Speed (mph)
E	0.010	1.0	0.02	1.0
F	0.005	0.5	0.01	0.5

Footnotes:

a. If a proposed project's traffic causes the values shown in the table to be exceeded, the impacts are determined to be significant. The project applicant shall then identify feasible improvements (within the Traffic Impact Study) that will restore/and maintain the traffic facility at an acceptable LOS. If the LOS with the proposed project becomes unacceptable (see note b), the project applicant shall be responsible for mitigating the project's direct significant and/or cumulatively considerable traffic impacts.

b. All LOS measurements are based upon Highway Capacity Manual procedures for peak-hour conditions. However, V/C ratios for roadway segments are estimated on an ADT/24-hour traffic volume basis (using Table 2 of the City's Traffic Impact Study Manual). The acceptable LOS for freeways and roadways is generally "D" ("C" for undeveloped locations).

General Notes:

V/C = Volume to Capacity Ratio (capacity at LOS E should be used)

Speed = Arterial speed measured in miles per hour for Congestion Management Program (CMP) analyses

The impact is designated either a "direct" or "cumulative" impact. According to the City's *Significance Determination Thresholds* report:

> *Direct* traffic impacts are those projected to occur at the time a proposed development becomes operational, including other developments not presently operational but which are anticipated to be operational at that time (near term).
>
> *Cumulative* traffic impacts are those projected to occur at some point after a proposed development becomes operational, such as during subsequent phases of a project and when additional proposed developments in the area become operational (short-term cumulative) or when affected community plan area reaches full planned buildout (long-term cumulative).

If a project exceeds the thresholds in Table 5.4-5, then the City of San Diego may consider a project to have a significant "direct" or "cumulative" project impact. A significant impact can also occur if a project causes the LOS to degrade from D to E,

even if the allowable increases in Table 5.4-5 are not exceeded. A feasible mitigation measure is identified to return the impact within the City of San Diego thresholds, or the impact is considered significant and unmitigated by the City of San Diego.

5.4.2.3 County of San Diego

The following criteria was utilized to evaluate potential significant impacts, based on the *County of San Diego Guidelines for Determining Significance—Transportation and Traffic* (2009).

Road Segments

Pursuant to the County's General Plan Public Facilities Element (PFE), new development must provide improvements or other measures to mitigate traffic impacts to avoid:

- Reduction in LOS below C for on-site Circulation Element roads;
- Reduction in LOS below D for off-site and on-site abutting Circulation Element roads; and
- "Significantly impacting congestion" on roads that operate at LOS E or F. If impacts cannot be mitigated, the project cannot be approved unless a statement of overriding findings is made pursuant to the State CEQA Guidelines. The PFE, however, does not include specific guidelines for determining the amount of additional traffic that would "significantly impact congestion" on such roads.

The County has created the following guidelines to evaluate likely traffic impacts of a proposed project for road segments and intersections serving that project site, for purposes of determining whether the development would "significantly impact congestion" on the referenced LOS E and F roads. The guidelines are summarized in Table 5.4-6. The thresholds in Table 5.4-6 are based on average operating conditions on County roadways. It should be noted that these thresholds only establish general guidelines, and that the County takes into account the specific project location in conducting an analysis of traffic impact from new development.

TABLE 5.4-6
MEASURES OF SIGNIFICANT PROJECT IMPACTS TO CONGESTION ON COUNTY CIRCULATION ELEMENT ROAD SEGMENTS
ALLOWABLE INCREASES ON CONGESTED ROAD SEGMENTS

Level of Service	Two-Lane Road	Four-Lane Road	Six-Lane Road
LOS E	200 ADT	400 ADT	600 ADT
LOS F	100 ADT	200 ADT	300 ADT

General Notes:

1. By adding proposed project trips to all other trips from a list of projects, this same table must be used to determine if total cumulative impacts are significant. If cumulative impacts are found to be significant, each project that contributes additional trips must mitigate a share of the cumulative impacts.
2. The County may also determine impacts have occurred on roads even when a project's traffic or cumulative impacts do not trigger an unacceptable level of service, when such traffic uses a significant amount of remaining road capacity.

The County considers traffic volume increases from public or private projects that result in one or more of the following criteria to have a significant traffic volume or level of service impact on a road segment:

- The additional or redistributed ADT generated by the proposed project will significantly increase congestion on a Circulation Element Road or State Highway currently operating at LOS E or LOS F, or will cause a Circulation Element Road or State Highway to operate at a LOS E or LOS F as a result of the proposed project as identified in Table 5.4-6, or

- The additional or redistributed ADT generated by the proposed project will cause a residential street to exceed its design capacity.

5.4.3 Impacts

5.4.3.1 2005 GPU/GDP EIR Conclusion

The 2005 GPU/GPD EIR analyzed the impacts of the General Plan Preferred Alternative that included the land uses, densities, trip generation and circulation plan that were proposed for the Deferral Area along with the GP's circulation roadway network. The City deferred taking action on the adoption of the land uses in the Deferral Area, but the circulation roadway network plan and associated GP policies (outside the Deferral Area) were adopted as part of the 2005 GPU.

Threshold 1: Urban Core Roadways

The 2005 GPU/GDP EIR concluded that the adoption of the proposed Urban Core Roadway Classifications included as part of the GPU would result in significant impacts, if adoption of an urban roadway system did not include adequate amenities necessary to facilitate multimodal transportation systems sufficient to serve the proposed land use densities within the Urban Core areas. Adoption of the urban roadway system is considered self mitigating, because the GPU includes policies providing for those amenities. Therefore, the level of impacts associated with urban core roadways as a result of the GPU would be less than significant.

Threshold 2: Circulation Impacts

The 2005 GPU/GDP EIR concluded that there would be significant direct and cumulative impacts to non-urban Circulation Element roadways as a result of the GPU Preferred Plan. Table 5.10-6 of the 2005 GPU/GDP EIR provides a list of operational improvements aimed at the reduction of identified significant impacts. Operational improvements are those measures that improve movement, or progression, along a segment (i.e., traffic signal coordination). These improvements do not increase roadway capacity. The GPU EIR concluded that while operational improvements would reduce impacts, it would not be to a less than significant level and those roadway segments identified as having a significant impact before mitigation would continue to have significant impacts after mitigation, although the intensity of the impact will be reduced. Therefore, the 2005 GPU/GDP EIR identified that additional mitigation measures, such as payment into the Traffic Signal Fee Program and the Transportation Development Impact Fee (TDIF), are needed to ensure that roadway improvements are provided in accordance with need.

An additional mitigation measure is provided for projects located in throughout the City. Specifically, the TDIF program and the Traffic Signal Fee Program collect fees from proposed developments and allocate the funds to construct needed transportation infrastructure. In addition, the GMP monitors traffic flow on key arterial streets and provides a means to “meter” the rate of development in order to limit traffic congestion. While these programs would assist in the timing of new roadways improvements, the existing operational impacts would remain significant. The 2005 GPU/GDP EIR states

that these three programs together ensure that direct and cumulative impacts associated with planned growth pursuant to the GPU would be mitigated or avoided in accordance with CEQA.

Implementation of the GPU would also significantly impact several freeway segments. To mitigate these impacts, the freeways will need to be widened to provide between one and three additional general purpose lanes, depending on the segment. The 2005 GPU/GDP EIR states that since the freeway system is developed and managed by Caltrans, mitigation is not within the authority of the City of Chula Vista and cumulative impacts to freeway segments remains significant.

5.4.3.2 Proposed Project Analysis Methodologies

Traffic Models

Since the Proposed Project is a GPA and GDPA, no project-specific development was analyzed in the traffic study. Rather, the standard of practice in transportation planning is to analyze such a project in the 20-year horizon time frame (i.e., Year 2030), since development will occur over a long period. The source for Year 2030 volumes in the South Bay region is the SANDAG traffic model. Furthermore, the standard of practice to analyze potential impacts in Year 2030 is to focus the analysis on street segments and conduct the analysis on an ADT basis. For the purpose of this study, a limited peak hour intersection analysis was also conducted in order to provide a more specific analysis of the traffic.

There are several different land use and network options that could potentially be implemented in the future and, therefore, several different traffic models were run with different assumptions. A total of nine models were run with different assumptions for the Proposed Project land uses, City/County of San Diego land uses, whether La Media Road would be extended to cross the Otay River Valley, and whether SR-125 would be a free or toll road. These models are summarized in Table 5.4-7. A focused analysis was conducted for the following scenarios: Adopted General Plan Update (Traffic Model 1), Direct Impact (Traffic Model 3), and Cumulative Impact (Traffic Model 7). In addition, an Existing + Project analysis in included in this section.

TABLE 5.4-7
CITY OF CHULA VISTA LAND USE AND NETWORK ASSUMPTIONS

EIR	Traffic Model	Study Year Horizon	Transit Assumptions[6]	Project Land Uses	University & RTP Land Uses	Circulation Element	La Media Rd Xing	City of San Diego (Alt 3B)+County Land Uses [4]	SR-125 Tollway or Freeway	Select Zone Analysis by TAZ	Note/Filename
The Plan	1	2030	Reasonably Expected RTP	Adopted[1]	2001 Adopted	Adopted	Bridge is IN	Adopted	Toll	4391 & 4614 & 4373 (optional)	Adopted Plans (SANDAG Modeling)
CEQA Review Analyze the Proposed Project's Land Uses for Direct and Cumulative Impacts with Various Permutations of Circulation Element and Land Use Proposals											
Direct Impacts[2]	2	2030	Reasonably Expected RTP	Proposed OLC V.8W & 9 Only Blended Remainder	Proposed [5]	Proposed	Bridge is IN	Adopted	Toll	4391 & 4614 & 4373 (optional)	Alt 1 vs. 2 Analyzes the Impacts of OLC Proposed Project Changes for Direct Impacts – La Media Rd Bridge IN
Direct Impacts[2]	3	2030	Reasonably Expected RTP	Proposed OLC V.8W & 9 Only Blended Remainder	Proposed [5]	Proposed	Bridge is OUT	Adopted	Toll	4391 & 4614 & 4373 (optional)	Alt 1 vs. 3 Analyzes the Impacts of OLC Proposed Project Changes for Direct Impacts – La Media Rd Bridge OUT
Direct Impacts[2]	4	2030	Reasonably Expected RTP	Proposed OLC V.8W & 9 Only Blended Remainder	Proposed [5]	Proposed	Bridge is IN	City Alt 3B/County Referral Proposed	Toll	4391 & 4614 & 4373 (optional)	Alt 2 vs. 4 Analyzes the Impacts of Proposed City/County – La Media Rd Bridge IN
Direct Impacts[2]	5	2030	Reasonably Expected RTP	Proposed OLC V.8W & 9 Only Blended Remainder	Proposed [5]	Proposed	Bridge is OUT	City Alt 3B/County Referral Proposed	Toll	4391 & 4614 & 4373 (optional)	Alt 3 vs. 5 Analyzes the Impacts of Proposed City/County – La Media Rd Bridge OUT
Cumulative Impacts[3]	6	2030	Reasonably Expected RTP	Proposed JPB + OLC V.8W & 9 Only Blended Remainder	Proposed [5]	Proposed	Bridge is IN	City Alt 3B/County Referral Proposed	Toll	4391 & 4614 & 4373 (optional)	[Cumulatively] Alt 4 vs. 6 Analyzes the Impacts of Proposed Project – La Media Rd Bridge IN
Cumulative Impacts[3]	7	2030	Reasonably Expected RTP	Proposed JPB + OLC V.8W & 9 Only Blended Remainder	Proposed [5]	Proposed	Bridge is OUT	City Alt 3B/County Referral Proposed	Toll	4391 & 4614 & 4373 (optional)	[Cumulatively] Alt 5 vs. 7 Analyzes the Impacts of Proposed Project – La Media Rd Bridge OUT
Cumulative Impacts[3]	8	2030	Reasonably Expected RTP	Proposed JPB + OLC V.8W & 9 Only Blended Remainder	Proposed [5]	Proposed	Bridge is OUT	City Alt 3B/County Referral Proposed	Free	4391 & 4614 & 4373 (optional)	[Cumulatively] Analyzes the Impacts of Toll Removal Against All Previous Proposals – La Media Rd Bridge OUT
Cumulative Impacts[3]	9	2030	Reasonably Expected RTP	Proposed JPB + OLC V.8W & 9 Only Blended Remainder	Proposed [5]	Proposed	Bridge is IN	City Alt 3B/County Referral Proposed	Free	4391 & 4614 & 4373 (optional)	[Cumulatively] Analyzes the Impacts of Toll Removal Against All Previous Proposals – La Media Rd Bridge IN

Source: Agreement for Services Between the SANDAG Service Bureau and City of Chula Vista November 30, 2009

Footnotes:

1. Adopted here is defined as the 2005 GPU citywide land uses with an overlay of the 2005 hash marked area that includes land uses as determined by the 2001 City Council Adoption.
2. Direct Impacts are defined as Proposed OLC V. 8W & 9 land uses and impacts ONLY. Blended remainder. The analysis will follow and determine exclusive impacts of OLC V.8 W & 9 traffic.
3. Cumulative is defined as Proposed JPB (remaining LOA land uses) plus proposed OLC V. 8W & 9 traffic analysis plus blended remainder. These models will follow and determine traffic impacts of JPB & OLC V.8W & 9 traffic.
4. County land uses are at 100% buildout for all analyses
5. Proposed University and RTP land uses are defined as part of the proposed project
6. Transit assumptions are the Reasonably Expected RTP which includes only SBBRT as funded route.

Adopted General Plan Update (Traffic Model 1)

Traffic Model 1 refers to the conditions and traffic volumes that will be implemented under Year 2030 buildout of the existing condition. This translates to the buildout of land uses and road network as adopted as part of the 2005 GPU with the exception of the Deferral Area (including proposed Villages 8 West and 9, Village 8 East, Planning Area 10/University and the RTP), which continues to use 2001 adopted General Plan land uses. The future land uses and roadway network were assumed to include the adopted City of San Diego and County of San Diego land uses, the construction of the La Media Road extension south of Otay Valley Road and the SR-125 remaining as a tollway.

Direct Impact (Traffic Model 3)

Traffic Model 3 measures the impacts resulting from implementation of the Proposed Project compared to buildout under the Traffic Model 1. The Proposed Project itself consists of the proposed network changes throughout the Project Area and the revised land uses within the Land Use Change Area. Pursuant to CEQA, the analysis of Traffic Model 3 relates to potentially significant direct impacts of project.

Cumulative Impact (Traffic Model 7)

Traffic Model 7 measures the impacts associated with buildout of the Proposed Project, remaining land uses within the Project Area (including the proposed JPB LOA land uses), City of San Diego-proposed Otay Mesa Community Plan Update, and County General Plan Update land uses. The analysis of Traffic Model 7 represents a cumulative impact analysis.

Existing + Project

As previously mentioned, an Existing + Project analysis measures the Proposed Project's buildout traffic volumes added to the existing traffic volumes and roadway configuration. While the Proposed Project is not anticipated to reach full buildout until after the Year 2030, this analysis presumes the existing environment as the baseline condition to which full buildout of the Proposed Project is added.

Level of Service Analysis

As described above, LOS is the term used to denote the different operating conditions that occur on a given roadway segment under various traffic volume loads. It is a qualitative measure used to describe a quantitative analysis taking into account factors such as roadway geometries, signal phasing, speed, travel delay, freedom to maneuver, and safety. LOS provides an index to the operational qualities of a roadway segment or an intersection. LOS designations range from A to F, with LOS A representing the best operating conditions and LOS F representing the worst operating conditions. LOS designation is reported differently for signalized and unsignalized intersections, as well as for roadway segments.

Street segment analysis is based upon the comparison of daily traffic volumes (ADTs) to the City, City of San Diego, and County roadway classification and capacity tables. Freeway segments were analyzed during the AM and PM peak hours based on the methodologies developed by Caltrans District 11. The assessment of key freeway segments is necessary to satisfy the requirement of the CMP. Freeway segment LOS is based on the volume to capacity procedure developed by Caltrans District 11 (Caltrans 2000). Signalized Intersections were analyzed under AM and PM peak hour conditions. Average vehicle delay was determined utilizing the methodology found in Chapter 16 of the *2000 Highway Capacity Manual (HCM),* with the assistance of the *Synchro* (version 7) computer software. The delay values (represented in seconds) were qualified with a corresponding intersection LOS.

Trip Capture

The SANDAG model accounts for multi-modal means of transport, public transit, and mixed-use reductions when calculating traffic volumes. For instance, the model accounts for the synergy between the various uses and will match trips between nearby uses (such as residential and retail). This results in many trips remaining internal, and therefore, limits trips to the regional network. The SANDAG model results accounting for trip generation and trip capture calculated the Proposed Project to generate 113,073 total trips as shown in Table 5.4-8.

TABLE 5.4-8
PROPOSED PROJECT TRIP GENERATION

Project Area	Proposed Project Volume (ADT)
Village 8 West	43,564
Village 9	56,123
Regional Technology Park	13,386
Total Trips	113,073

SOURCE:
City of Chula Vista SANDAG Model, Nov. 30, 2009

It should be noted that there is a BRT route planned through proposed Village 9, which is included in the traffic model, and proposed Village 8 West is transit ready, as required by the GP.

Year 2030 Roadway Network

For the purpose of the Traffic Model 1 Year 2030 analysis, all roadway segments were assumed to be built out to their classifications as identified in the City's GP, County's GP, and City of San Diego's GP. Direct and cumulative impacts (Traffic Models 3 and 7) assume the following proposed circulation element changes:

1. Eliminate southerly extension of La Media Road crossing the Otay River Valley. The La Media Road bridge is within both the City of Chula Vista and City of San Diego jurisdiction and is planned to be a 6-Lane Prime Arterial crossing the Otay river valley in the City of San Diego Otay Mesa Community Plan. With the deletion of this bridge from the circulation network, the 65,000 trips expected in the cumulative condition (Traffic Model 7) to utilize this roadway would be rerouted elsewhere, likely Heritage Road. Notwithstanding this change, as discussed below, Heritage Road is calculated to operate efficiently within the City;

2. Reclassify a portion of La Media Road from the southern portion of Village 8 extending south to the Active Recreation area from a six-lane arterial to "Other Roads."

3. Change name of Rock Mountain Road to Main Street from the point of existing Heritage Road easterly to Eastlake Parkway.

4. Reclassify Main Street from a Town Center Arterial (Couplet) easterly of SR-125 to a Six-Lane Gateway. With the proposed reclassification, the significance threshold is increased from an LOS C capacity of 50,000 to an Urban Core Street. This roadway classification has a different acceptable LOS standard than the City's other roadway classifications. Specifically, a Gateway has an acceptable LOS D capacity of 61,200. As discussed below, this segment along Main Street east of SR-125 is calculated to operate efficiently with the project;

5. Reclassify the Main Street/La Media Road Town Center Arterial (Couplet) within Village 8 West from a Six-Lane Town Center Arterial (Couplet) to a Four-Lane Town Center Arterial (Couplet). With the proposed reclassification, the significance threshold is decreased from an LOS C capacity of 50,000 to and LOS capacity of 30,000. This reduction in capacity is due to the decreased numbers of lanes along this roadway. Due to the unique roadway design associated with Town Center Arterials, there is no established method by which to analyze the future operation of this type of roadway. A traditional segment analyses would be inaccurate because the signalized intersections within the couplet are connected by 200- to 500-foot-long roadway segments. Therefore, the individual intersections within the couplet were analyzed and included in the traffic study to determine the levels of service at each location. The analysis methodology and operating calculations for the couplet is detailed in Chapter 10 of the TIA;

6. Reclassify and realign the segment of La Media Road from the Town Center Arterials at the Main Street/La Media Road Couplet south easterly to SR-125 from a Six-Lane Prime to a Four-Lane Major. As a Four-Lane Major Street, this roadway will better serve to distribute traffic locally. With the proposed reclassification, the significance threshold is decreased from an LOS C capacity of 50,000 to an LOS C capacity of 30,000 due to the decreased number of lanes. As discussed below, even with the reduction in lanes along this roadway, the segment along La Media Road south of the Town Center Arterials to Otay Valley Road is calculated to continue to operate efficiently with the project.

7. Provide that Urban LOS D is acceptable for Town Center Arterials.
8. Eliminate requirement for park-and-ride facilities at the Village 9/University BRT stop.
9. Clarify that the mid-arterial SR-125 crossing between Villages 8 East and 9 is pedestrian only.

Table 5.4-9 summarizes the network assumptions for each of the analyzed scenarios.

TABLE 5.4-9
YEAR 2030 ROADWAY NETWORK

Scenario	Circulation Element	La Media Road Bridge	SR-125
Adopted General Plan Update (Traffic Model 1)	Adopted	In	Tollway
Direct Impacts (Traffic Model 3)	Proposed	Out	Tollway
Cumulative Impacts (Traffic Model 7)	Proposed	Out	Tollway
Existing + Project	Adopted	In	Tollway

SOURCE: City of Chula Vista SANDAG Modeling List, Nov. 30, 2009

In addition, the number of freeway mainline lanes, auxiliary lanes, and managed lanes included in the Adopted General Plan Update Year 2030 analysis were taken from the network assumptions used in the SANDAG South Bay model. Year 2030 freeway network conditions are shown below in Table 5.4-10.

TABLE 5.4-10
YEAR 2030 FREEWAY CONDITIONS

Freeway Segment	Dir.	# of Lanes	
		Existing	Year 2030
Interstate 805			
Olympic Pkwy/Orange Ave to Main St/Auto Park Dr	NB	4M+1A	4M+1A+2ML
	SB	4M+1A	4M+1A+2ML
Main St/Auto Park Dr to Palm Ave	NB	4M+1A	4M+1A+2ML
	SB	4M+1A	4M+12ML
Palm Ave to SR-905	NB	4M	4M+1A+2ML
	SB	4M+1A	4M+1A+2ML
State Route 125			
Olympic Pkwy to SR-905	NB	2M	2M
	SB	2M	2M
State Route 905			
I-805 to Ocean View Hills Pkwy	EB	3M	4M+1A
	WB	3M	4M+1A
Ocean View Hills Pkwy to Heritage Rd	EB	3M	4M
	WB	3M	4M+1A
Heritage Rd to Britannia Blvd	EB	3M	4M+1A
	WB	3M	4M+1A
Britannia Blvd to La Media Rd	EB	3M	4M+1A
	WB	3M	4M
La Media Rd to SR-125	EB	3M	4M
	WB	2M	4M

General Notes:
M = Mainline
A = Auxiliary Lane
ML = Managed Lanes

Year 2030 Forecast Volumes

As previously stated, all of the traffic volumes were obtained from the SANDAG South Bay model. Figures 5.4-2, 5.4-3, and 5.4-4 depict the Year 2030 average daily traffic volumes for the Adopted General Plan Update Year 2030 (Traffic Model 1), Proposed Project (Traffic Model 3), and cumulative conditions (Traffic Model 7) scenarios, respectively.

Appendix E of the TIA prepared for the Proposed Project (attached to the SEIR as Appendix C) contains the SANDAG model traffic volumes plots and the post-modeling reports for the three scenarios analyzed.

Map Source: City of Chula Vista

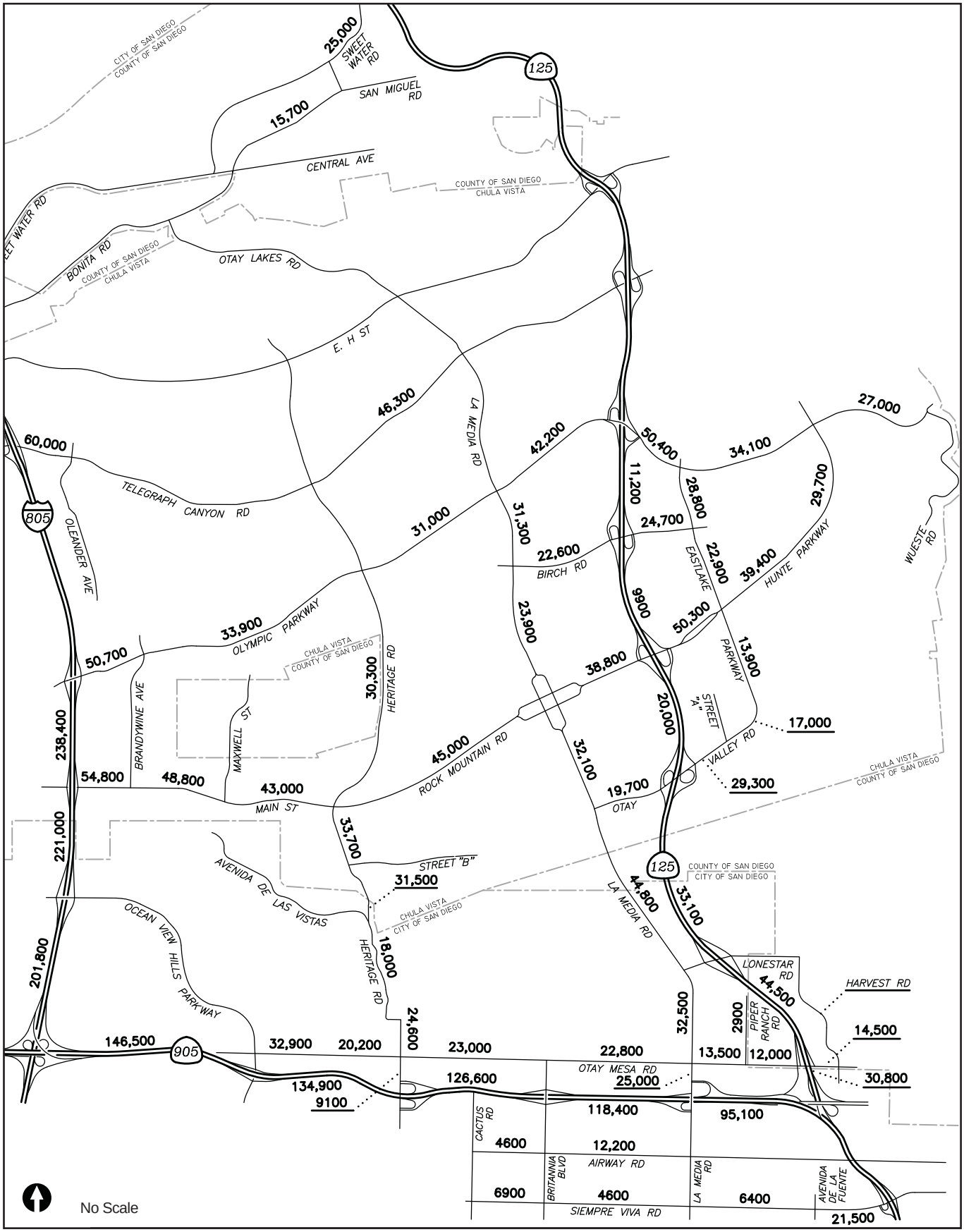

FIGURE 5.4-2

Year 2030 Traffic Volumes: Buildout under Adopted General Plan Update (Traffic Model 1)

Map Source: City of Chula Vista

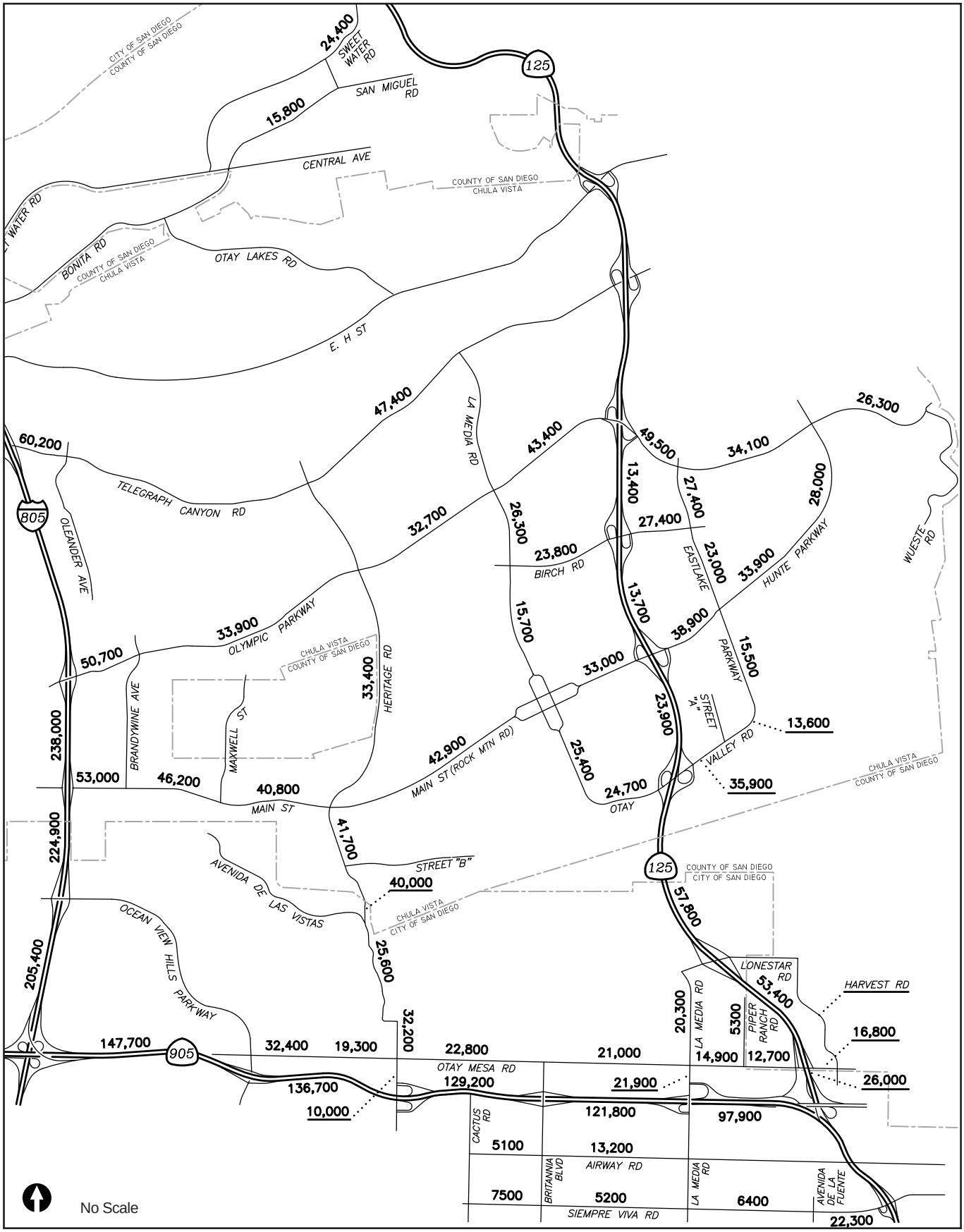

FIGURE 5.4-3

Year 2030 Traffic Volumes: Buildout under Proposed Project (Traffic Model 3)

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Map Source: City of Chula Vista

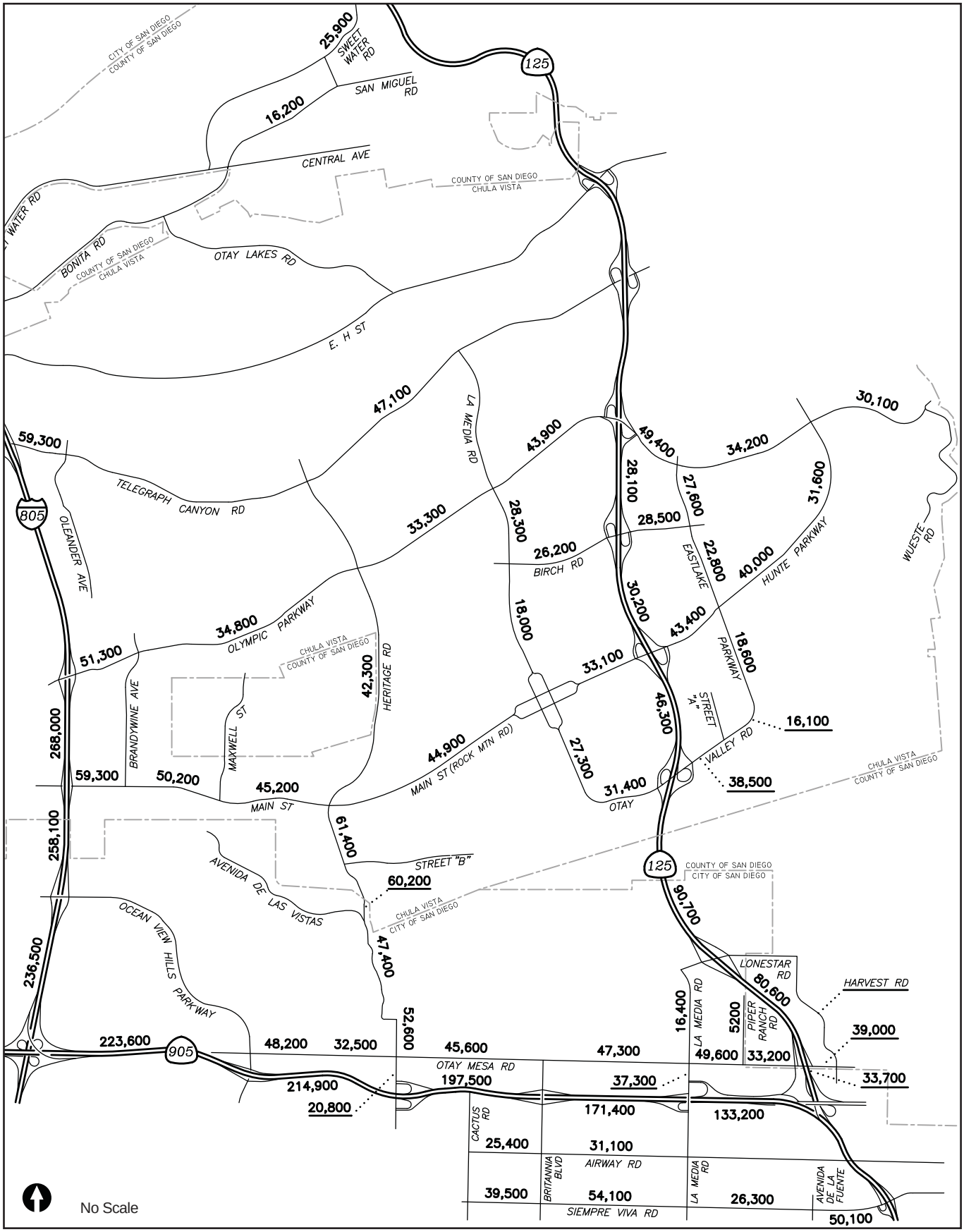

FIGURE 5.4-4

Year 2030 Traffic Volumes: Buildout under Cumulative Condition (Traffic Model 7)

5.4.3.3 Adopted General Plan Update *(Traffic Model 1)*

Year 2030 Buildout Segment Operations- City of Chula Vista

In addition to the Existing + Project scenario, Traffic Models 3 and 7 were analyzed against the Traffic Model 1, which consists of the adopted GP land uses and network assumptions. This means that Year 2030 Adopted buildout uses the 2005 GPU adopted land uses and road networks throughout the Project Area for Traffic Model 1 (2030), with the exception of the Deferral Area that continues to use 2001 adopted GP land uses. Table 5.4-11 and Figure 5.4-5 shows that under these conditions, the following street segments are calculated to operate at a LOS D or worse condition in the City:

- Olympic Parkway between I-805 to Brandywine Avenue – LOS D
- Main Street between I-805 to Brandywine Avenue – LOS D
- Main Street (Rock Mtn Road) between SR-125 and Eastlake Parkway – LOS D

Year 2030 Buildout Segment Operations—City and County of San Diego

As illustrated in Figure 5.4-5, all street segments in the City and County of San Diego are calculated to operate at acceptable LOS D or better under Adopted General Plan Update (Traffic Model 1).

Year 2030 Buildout Freeway Mainline Operations

As shown in Table 5.4-12, under the Adopted General Plan Update land uses and network assumptions, the following locations would operate at LOS E or worse conditions:

Interstate 805

- PM Southbound: Olympic Parkway/Orange Avenue to Main Street/Auto Park Dr.
- PM Southbound: Main Street/Auto Park Dr. to Palm Avenue

TABLE 5.4-11
YEAR 2030 STREET SEGMENT OPERATIONS:
ADOPTED GENERAL PLAN UPDATE (TRAFFIC MODEL #1) VERSUS DIRECT IMPACTS (TRAFFIC MODEL #3)
(continued)

City of Chula Vista Roadways	Adopted LOS "C" Capacity [a]	Traffic Model 1		Proposed LOS "C" Capacity [a]	Traffic Model 3		Measure of Significance	
		ADT [b]	LOS [c]		ADT	LOS	Direct Project Contributes "x" Amount Toward Traffic Volume	Direct Project Contributes "x" % Toward Traffic Volume
Telegraph Canyon Road								
I-805 to Oleander Ave	70,000	60,000	B	NC	60,200	B	200	0.3%
Heritage Road to La Media	50,000	46,300	C	NC	47,400	C	1,100	2.3%
Olympic Parkway								
I-805 to Brandywine Ave	50,000	**50,700**	**D**	NC	**50,700**	**D**	0	0.0%
Brandywine Ave to Heritage Rd/Paseo Ranchero	50,000	33,900	A	NC	33,900	A	0	0.0%
Heritage Rd/Paseo Ranchero to La Media	50,000	31,000	A	NC	32,700	A	1,700	5.2%
La Media Rd to SR-125	50,000	42,200	B	NC	43,400	B	1,200	2.8%
SR 125 to Eastlake Pkwy	70,000	50,400	A	NC	49,500	A	-900	-1.8%
Eastlake Pkwy to Hunte Pkwy	50,000	34,100	A	NC	34,100	A	0	0.0%
Hunte Pkwy to Wueste Rd	30,000	27,000	C	NC	26,300	B	-700	-2.7%
Birch Road								
La Media Rd to SR-125	40,000	22,600	A	NC	23,800	A	1,200	5.0%
SR-125 to Eastlake Pkwy	50,000	24,700	A	NC	27,400	A	2,700	9.9%
Main Street								
I-805 to Brandywine Ave	50,000	**54,800**	**D**	NC	**53,000**	**D**	-1,800	-3.4%
Brandywine Ave to Maxwell St	50,000	48,800	C	NC	46,200	C	-2,600	-5.6%
Maxwell S to Heritage Rd	50,000	43,000	B	NC	40,800	B	-2,200	-5.4%
Main Street (Rock Mountain Road)								
Heritage Rd to Main St/La Media Rd Couplet	50,000	45,000	C	NC	42,900	B	-2,100	-4.9%
Main St/La Media Rd Couplet to SR-125	50,000	38,800	B	NC	33,000	A	-5,800	-17.6%
SR-125 to Eastlake Pkwy	50,000	**50,300**	**D**	61,200 [d]	38,900	A	-11,400	-29.3%
Hunte Parkway								
Eastlake Pkwy to Exploration Falls Dr	50,000	39,400	B	NC	33,900	A	-5,500	-16.2%
Exploration Falls Dr to Olympic Pkwy	50,000	29,700	A	NC	28,000	A	-1,700	-6.1%

TABLE 5.4-11
YEAR 2030 STREET SEGMENT OPERATIONS:
ADOPTED GENERAL PLAN UPDATE (TRAFFIC MODEL #1) VERSUS DIRECT IMPACTS (TRAFFIC MODEL #3)
(continued)

City of Chula Vista Roadways	Adopted LOS "C" Capacity [a]	Traffic Model 1		Proposed LOS "C" Capacity [a]	Traffic Model 3		Measure of Significance	
		ADT [b]	LOS [c]		ADT	LOS	Direct Project Contributes "x" Amount Toward Traffic Volume	Direct Project Contributes "x" % Toward Traffic Volume
Otay Valley Road								
La Media Rd to SR-125	30,000	19,700	A	NC	24,700	B	5,000	20.2%
SR-125 to Street "A"	30,000	29,300	C	NC	**35,900**	**E**	**6,600**	**18.4%**
Street "A" to Eastlake Pkwy	30,000	17,000	A	NC	13,600	A	1,600	8.6%
Heritage Road								
Olympic Pkwy to Main St (Rock Mountain Rd)	50,000	30,300	A	NC	33,400	A	3,100	9.3%
Main St (Rock Moutain Rd) to City Boundary	50,000	33,700	A	NC	41,700	B	8,000	19.2%
La Media Road								
Olympic Pkwy to Birch Rd	50,000	31,300	A	NC	26,300	A	-5,000	-19.0%
Birch Rd to Main St/La Media Rd Couplet	50,000	23,900	A	NC	15,700	A	-8,200	-52.2%
Main Street/La Media Couplet	50,000	32,100	A	30,000	25,400	B	-6,700	-26.4%
Main St/La Media Rd Couplet to Otay Valley Rd	50,000	32,100	A	30,000	25,400	B	-6,700	-26.4%
Otay Valley Rd to Lonestar Rd	50,000	44,800	C	NC	DNE	DNE	—	—
Eastlake Parkway								
Olympic Pkwy to Birch Rd	40,000	28,800	A	NC	27,400	A	-1,400	-5.1%
Birch Rd to Hunte Pkwy	40,000	22,900	A	NC	23,000	A	100	0.4%
Hunte Pkwy to Otay Valley Rd	30,000	13,900	A	NC	15,500	A	1,600	10.3%

TABLE 5.4-11
YEAR 2030 STREET SEGMENT OPERATIONS:
ADOPTED GENERAL PLAN UPDATE (TRAFFIC MODEL #1) VERSUS DIRECT IMPACTS (TRAFFIC MODEL #3)
(continued)

City of San Diego Roadways	Adopted LOS "E" Capacity [a]	Traffic Model 1			Proposed LOS "E" Capacity [a]	Traffic Model 3			Measure of Significance
		ADT [b]	LOS [c]	V/C [e]		ADT	LOS	V/C	Δ V/C [f]
Heritage Road									
City Boundary to Avenida de las Vistas	50,000	31,500	B	0.53	NC	40,000	C	0.67	0.14
Avenida de las Vistas to Datsun St/Otay Valley Rd	50,000	18,000	A	0.36	NC	25,600	B	0.51	0.15
Datsun St/Otay Valley Rd to Otay Mesa Rd	50,000	24,600	B	0.49	NC	32,200	C	0.64	0.15
Otay Mesa Rd to SR-905	50,000	9,100	A	0.18	NC	10,000	A	0.20	0.02
La Media Road									
Lonestar Rd to Otay Mesa Rd	60,000	32,500	B	0.54	NC	20,300	A	0.34	(0.20)
Otay Mesa Rd to SR-905	60,000	25,000	A	0.42	NC	21,900	A	0.37	(0.05)
Otay Mesa Road									
Otay Mesa Rd to Corporate Center Dr	60,000	32,900	B	0.55	NC	32,400	B	0.65	0.10
Corporate Center Dr to Heritage Rd	60,000	20,200	A	0.34	NC	19,300	A	0.39	0.05
Heritage Rd to Britannia Blvd	60,000	23,000	A	0.38	NC	22,800	A	0.46	0.07
Britannia Blvd to La Media Rd	60,000	22,800	A	0.38	NC	21,000	A	0.42	0.04
La Media Rd to Piper Ranch Rd	80,000	13,500	A	0.17	NC	14,900	A	0.25	0.08
Piper Ranch Rd to SR-125	50,000	12,000	A	0.24	NC	12,700	A	0.32	0.08
SR-125 to Harvest Rd	50,000	14,500	A	0.29	NC	16,800	A	0.42	0.13
Airway Road									
Cactus Rd to Britannia Blvd	40,000	4,600	A	0.12	NC	5,100	A	0.13	0.01
Britannia Blvd to La Media Rd	40,000	12,200	A	0.31	NC	13,200	A	0.33	0.03
Siempre Viva Road									
Cactus Rd to Britannia Blvd	60,000	6,900	A	0.12	NC	7,500	A	0.13	0.01
Britannia Blvd to La Media Rd	60,000	4,600	A	0.08	NC	5,200	A	0.09	0.01
La Media Rd to Avenida de la Fuente	60,000	6,400	A	0.11	NC	6,400	A	0.11	0.00
Avenida de la Fuente to SR-905	60,000	21,500	A	0.36	NC	22,300	A	0.37	0.01
Piper Ranch Road									
Lonestar Rd to Otay Mesa Rd	30,000	2,900	A	0.10	NC	5,300	A	0.18	0.08

TABLE 5.4-11
YEAR 2030 STREET SEGMENT OPERATIONS:
ADOPTED GENERAL PLAN UPDATE (TRAFFIC MODEL #1) VERSUS DIRECT IMPACTS (TRAFFIC MODEL #3)
(continued)

County of San Diego Roadways	Adopted LOS "E" Capacity [a]	Traffic Model 1		Proposed LOS "E" Capacity [a]	Traffic Model 3		Measure of Significance
		ADT [b]	LOS [c]		ADT	LOS	Direct Project Δ in Volume
Bonita Road							
Central Ave to San Miguel Rd	37,000	15,700	B	NC	15,800	B	100
Sweetwater Road							
Bonita Rd to Park Dr	37,000	25,000	C	NC	24,400	B	(600)

Footnotes:

a. LOS "C" Capacity based on City of Chula Vista Roadway Classification Table. City and County of San Diego utilizes LOS "E" capacity thresholds. Chula Vista and San Diego Roadway Classification Tables are shown in *Appendix B.*

b. Average Daily Traffic.

c. Level of Service.

d. Under Adopted General Plan, 6-Lane Gateway allows for LOS D operations.

e. V/C = Volume to Capacity Ratio.

f. Δ V/C = Increase in V/C due to project.

g. A significant direct impact is calculated at this location due to the downsize of the Main Street/La Media Road couplet from 6 lanes to 4 lanes.

General Notes:

Bold typeface represents unacceptable level of service based on appropriate jurisdiction's significance criteria.

Shading represents potential significant impact.

DNE = Does not exist

NC = No Change in roadway capacity.

Map Source: City of Chula Vista

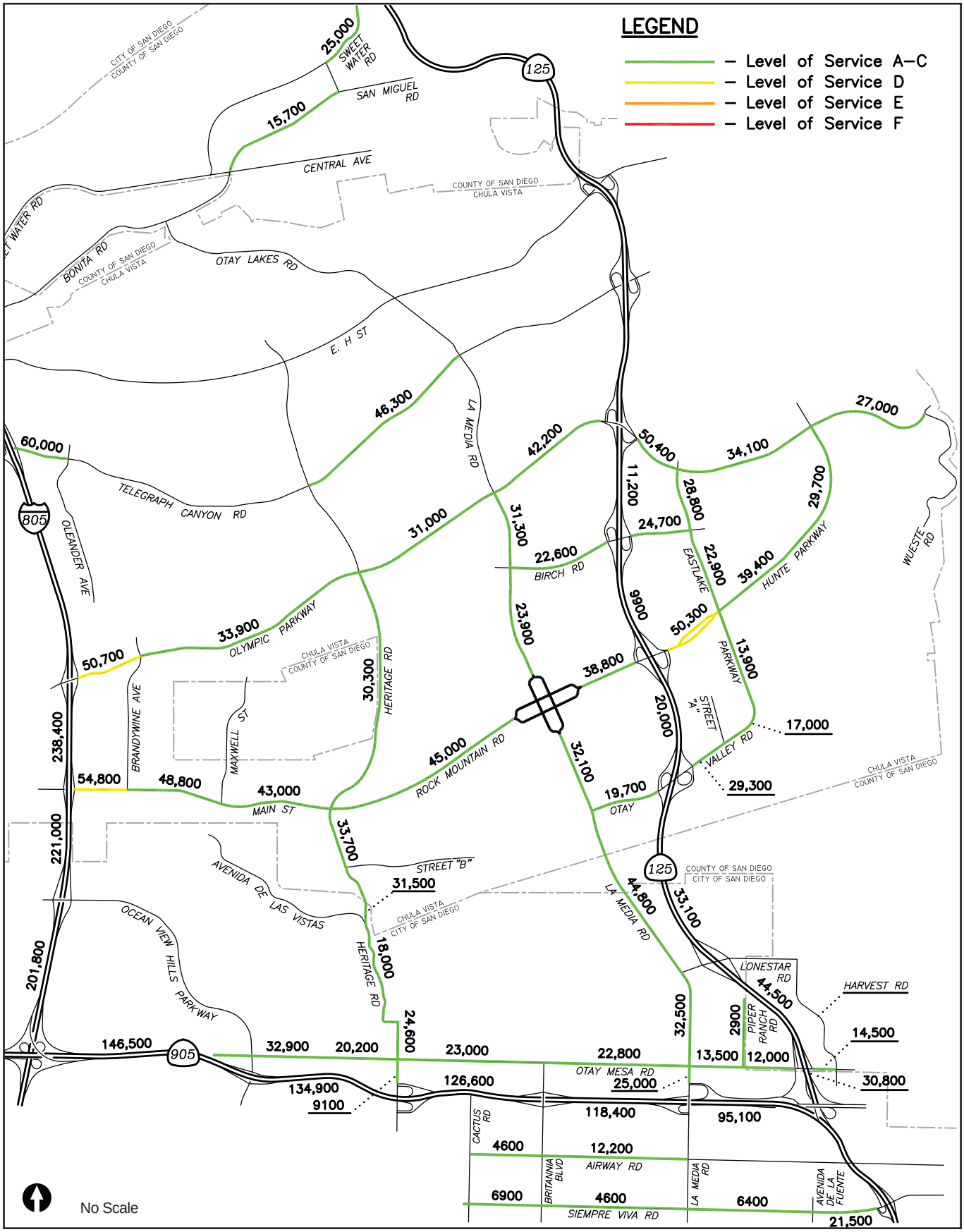

FIGURE 5.4-5

Year 2030 Road Segments LOS: Impacts - Adopted General Plan Update (Traffic Model 1)

TABLE 5.4-12
YEAR 2030 FREEWAY MAINLINE OPERATIONS:
ADOPTED GENERAL PLAN UPDATE (TRAFFIC MODEL 1) VERSUS DIRECT IMPACTS (TRAFFIC MODEL3)

Freeway Segment	Dir.	Alternative 1			V/C [c]		LOS		Alternative 3			V/C		LOS		D V/C [d]	
		ADT [a]	AM [b]	PM [b]	AM	PM	AM	PM	ADT	AM	PM	AM	PM	AM	PM	AM	PM
Interstate 805																	
Olympic Pkwy/ Orange Ave to Main St/Auto Park Dr	NB	238,400	9,777	9,300	0.843	0.802	D	D	238,000	9,771	9,294	0.842	0.801	D	D	-0.001	0.000
	SB		8,660	11,211	0.747	0.966	C	**E**		8,655	11,205	0.746	0.966	C	**E**	0.000	-0.001
Main St/Auto Park Dr to Palm Ave	NB	221,000	9,064	8,621	0.781	0.743	C	C	224,900	9,233	8,783	0.796	0.757	C	C	0.015	0.014
	SB		8,028	10,393	0.772	0.999	C	**E**		8,178	10,588	0.786	1.018	C	**F(0)**	0.014	**0.019**
Palm Ave to SR-905	NB	201,800	8,276	7,872	0.713	0.679	C	C	205,400	8,424	8,012	0.726	0.691	C	C	0.013	0.012
	SB		7,330	9,490	0.632	0.818	C	D		7,461	9,659	0.643	0.833	C	D	0.011	0.015
State Route 125																	
Olympic Pkwy to Birch Rd	NB	11,200	459	437	0.115	0.109	B	B	13,400	550	523	0.137	0.131	B	B	0.023	0.021
	SB		407	527	0.102	0.132	B	B		487	630	0.122	0.158	B	B	0.020	0.026
Birch Rd to Main St/Rock Mountain Rd	NB	9,900	406	386	0.102	0.097	B	B	13,700	562	534	0.140	0.134	B	B	0.039	0.037
	SB		360	466	0.090	0.116	B	B		498	644	0.124	0.161	B	B	0.035	0.045
Main St/Rock Mountain Rd to Otay Valley Rd	NB	20,000	820	780	0.205	0.195	B	B	23,900	980	932	0.245	0.233	B	B	0.040	0.038
	SB		726	941	0.182	0.235	B	B		868	1,124	0.217	0.281	B	B	0.035	0.046
Otay Valley Rd to Lonestar Rd	NB	33,100	1,357	1,291	0.339	0.323	B	B	57,800	2,370	2,255	0.593	0.564	B	B	0.253	0.241
	SB		1,202	1,557	0.301	0.389	B	B		2,100	2,718	0.525	0.680	B	C	0.224	0.290
Lonestar Rd to Otay Mesa Rd	NB	44,500	1,825	1,736	0.456	0.434	B	B	53,400	2,190	2,083	0.548	0.521	B	B	0.091	0.087
	SB		1,616	2,093	0.404	0.523	B	B		1,940	2,511	0.485	0.628	B	C	0.081	0.105
Otay Mesa Rd to SR-905	NB	30,800	1,263	1,201	0.316	0.300	B	B	26,000	1,066	1,014	0.267	0.254	B	B	-0.049	-0.047
	SB		1,119	1,448	0.280	0.362	B	B		944	1,223	0.236	0.306	B	B	-0.044	-0.056

TABLE 5.4-12
YEAR 2030 FREEWAY MAINLINE OPERATIONS:
ADOPTED GENERAL PLAN UPDATE (TRAFFIC MODEL 1) VERSUS DIRECT IMPACTS (TRAFFIC MODEL3)

Freeway Segment	Dir.	Alternative 1			V/C [c]		LOS		Alternative 3			V/C		LOS		D V/C [d]	
		ADT [a]	AM [b]	PM [b]	AM	PM	AM	PM	ADT	AM	PM	AM	PM	AM	PM	AM	PM
State Route 905																	
I-805 to Ocean View Hills Pkwy	EB	146,500	7,994	4,539	0.869	0.493	D	B	147,700	8,059	4,576	0.876	0.497	D	B	0.007	0.004
	WB		4,259	8,998	0.463	0.978	B	**E**		4,294	9,072	0.467	0.986	B	**E**	0.004	0.008
Ocean View Hills Pkwy to Heritage Rd	EB	134,900	7,361	4,180	0.920	0.522	**E**	B	136,700	7,459	4,235	0.932	0.529	**E**	B	**0.012**	0.007
	WB		3,922	8,286	0.426	0.901	B	D		3,974	8,396	0.432	0.913	B	D	0.006	0.012
Heritage Rd to Britannia Blvd	EB	126,600	6,908	3,923	0.751	0.426	C	B	129,200	7,050	4,003	0.766	0.435	C	B	0.015	0.009
	WB		3,681	7,776	0.400	0.845	B	D		3,756	7,936	0.408	0.863	B	D	0.008	0.017
Britannia Blvd to La Media Rd	EB	118,400	6,460	3,668	0.702	0.399	C	B	121,800	6,646	3,774	0.722	0.410	C	B	0.020	0.011
	WB		3,442	7,272	0.430	0.909	B	D		3,541	7,481	0.443	0.935	B	**E**	0.012	**0.026**
La Media Rd to SR-125	EB	95,100	5,189	2,947	0.649	0.368	C	B	97,900	5,342	3,033	0.668	0.379	C	B	0.019	0.011
	WB		2,765	5,841	0.346	0.730	B	C		2,846	6,013	0.356	0.752	B	C	0.010	0.021

Footnotes:
a. ADT Volumes from SANDAG South Bay Models
b. Peak Hour Volume = ((ADT)(K)(D)/Truck Factor)
c. V/C = ((ADT)(K)(D)/Truck Factor/Capacity)
d. Δ V/C = Increase in V/C due to the project

General Notes:
See TIA *Table 8–3* for freeway analysis factors.
Bold typeface represents poor level of service.
Shading represents potential significant impact.

LOS	V/C
A	<0.41
B	0.62
C	0.8
D	0.92
E	1
F(0)	1.25
F(1)	1.35
F(2)	1.45

- State Route 905
- PM Westbound: I-805 to Ocean View Hills Parkway
- AM Eastbound: Ocean View Hills Parkway to Heritage Road

5.4.3.4 Analysis of Direct Project Impacts (Traffic Model 3)

As previously discussed, this scenario represents Year 2030 buildout of the Proposed Project. The analysis compares the Adopted General Plan Update (Traffic Model 1) to the potential traffic increases resulting from implementation of the proposed circulation element changes, policies, and land use designation changes associated with the Proposed Project. In order to provide an accurate analysis of direct traffic impacts, the information provided by the 2005 GPU/GDP EIR was updated with new traffic counts as a means to identify the current (on the ground) road conditions. The following analysis focuses on the potential increase in traffic resulting from the Proposed Project as compared to the current adopted conditions.

Table 5.4-11 shows the Proposed Project's roadway segment operations in the direct condition.

City of Chula Vista

As shown in Table 5.4-11, the following City street segments are calculated to operate at a LOS D or worse conditions using land uses and network assumptions for the Proposed Project.

- Olympic Parkway between I-805 to Brandywine Avenue – LOS D
- Main Street between I-805 to Brandywine Avenue – LOS D
- Otay Valley Road between SR-125 and Street "A" – LOS E

The City's significance criteria indicate that a peak hour analysis should be conducted at signalized intersections along a segment operating at LOS D or worse. The impact is considered significant only if at least one of the intersections does not meet the City peak hour standard of LOS D. This methodology supports the notion that acceptable levels of service at intersections during peak hours along a segment are a valid indicator

of adequate operations. If the intersections along a LOS D or LOS E operating segment all operate at LOS D or better during peak periods, the segment impact is considered not significant since intersection analysis is more indicative of actual roadway system operations than street segment analysis. If a segment Level of Service is LOS F, the impact is significant regardless of intersection LOS.

As shown in Table 5.4-11, the LOS D segments Olympic Parkway between I-805 to Brandywine and Main Street between I-805 to Brandywine Avenue are expected to operate at LOS D under both the existing condition and after buildout of the Proposed Project. Therefore, it is surmised that the Proposed Project is not anticipated to contribute to traffic on these segments and no additional analysis is required.

Otay Valley Road between SR-125 and Street “A” requires an intersectional analysis because it is forecasted to operate at LOS E after the addition of Proposed Project traffic. Table 5.4-13 shows that corresponding intersections along this segment are expected to operate at LOS D or better. Therefore, as illustrated in Figure 5.4-6, the Proposed Project would not result in any significant direct impacts to road segments within the City.

City and County of San Diego

All street segments in the City of San Diego and County of San Diego are calculated to operate at acceptable LOS D or better conditions.

Freeway Mainline Operations

As shown in Table 5.4-12, implementation of the Proposed Project land uses and network assumptions would result in the following freeway locations operating at LOS E or worse conditions:

Interstate 805

- PM Southbound: Olympic Parkway/Orange Avenue to Main Street/Auto Park Dr
- PM Southbound: Main Street/Auto Park Drive to Palm Avenue

TABLE 5.4-13
CITY OF CHULA VISTA SEGMENT IMPACTS AND INTERSECTION ANALYSIS
SIGNIFICANT IMPACT DETERMINATION

Impacted Segment	Deficient LOS [b]	Corresponding Signalized Intersection(s)	AM		PM	
			Delay [a]	LOS	Delay	LOS
Potential Direct Impacts						
1. Otay Valley Road between SR-125 and Street "A"	E	Otay Valley Rd/SR-125 NB Ramps	14.2	B	14.1	B
		Otay Valley Rd/Street "A"	25.3	C	25.4	C
Potential Cumulative Impacts						
2. Olympic Parkway between I-805 NB Ramps and Brandywine Avenue	D	Olympic Pkwy/I-805 NB Ramps	46.0	D	37.5	D
		Olympic Pkwy/Oleander Ave	19.5	B	20.4	C
		Olympic Pkwy/Brandywine Ave	54.4	D	37.1	D
3. Olympic Parkway between Hunte Parkway and Wueste Road	D	Olympic Pkwy/Hunte Pkwy	25.9	C	29.0	C
		Olympic Pkwy/Olympic Vista Rd	23.1	C	13.3	B
		Olympic Pkwy/Wueste Rd	7.9	A	5.4	A
4. Main Street between I-805 NB Ramps and Brandywine Avenue	E	Main St/I-805 NB Ramps	31.2	C	32.1	C
		Main St/Oleander Ave	7.6	A	6.0	A
		Main St/Brandywine Ave	52.9	D	36.4	D
5. Main Street between Brandywine Avenue and Maxwell Avenue	D	Main St/Brandywine Ave	52.9	D	36.4	D
		Main St/Auto Park Pl	10.2	B	9.8	A
		Main St/Maxwell Ave	9.2	B	8.9	A
6. Otay Valley Road between La Media Road and SR-125	D	Otay Valley Rd/SR-125 SB Ramps	9.3	A	12.6	B
		Otay Valley Road/Street "C"	18.5	B	20.9	C
7. Heritage Road between Main Street and the City Boundary	E	Main St/Heritage Rd	38.2	D	41.8	D
		Heritage Rd/Street "B"	15.7	B	18.8	B

Footnotes:
a. Average delay expressed in seconds per vehicle.
b. Level of Service.

General Notes:
Future intersection geometries along Olympic Parkway and Heritage Road based on Chula Vista Eastern Urban Center Traffic Impact Analysis, March 2009 prepared by Kimley-Horn and Associates, Inc. and Otay Ranch Villages 2, 3, & PA 18 B Traffic Impact Analysis conducted by LLG, October 2005. See *Figure 8–4*.

Map Source: City of Chula Vista

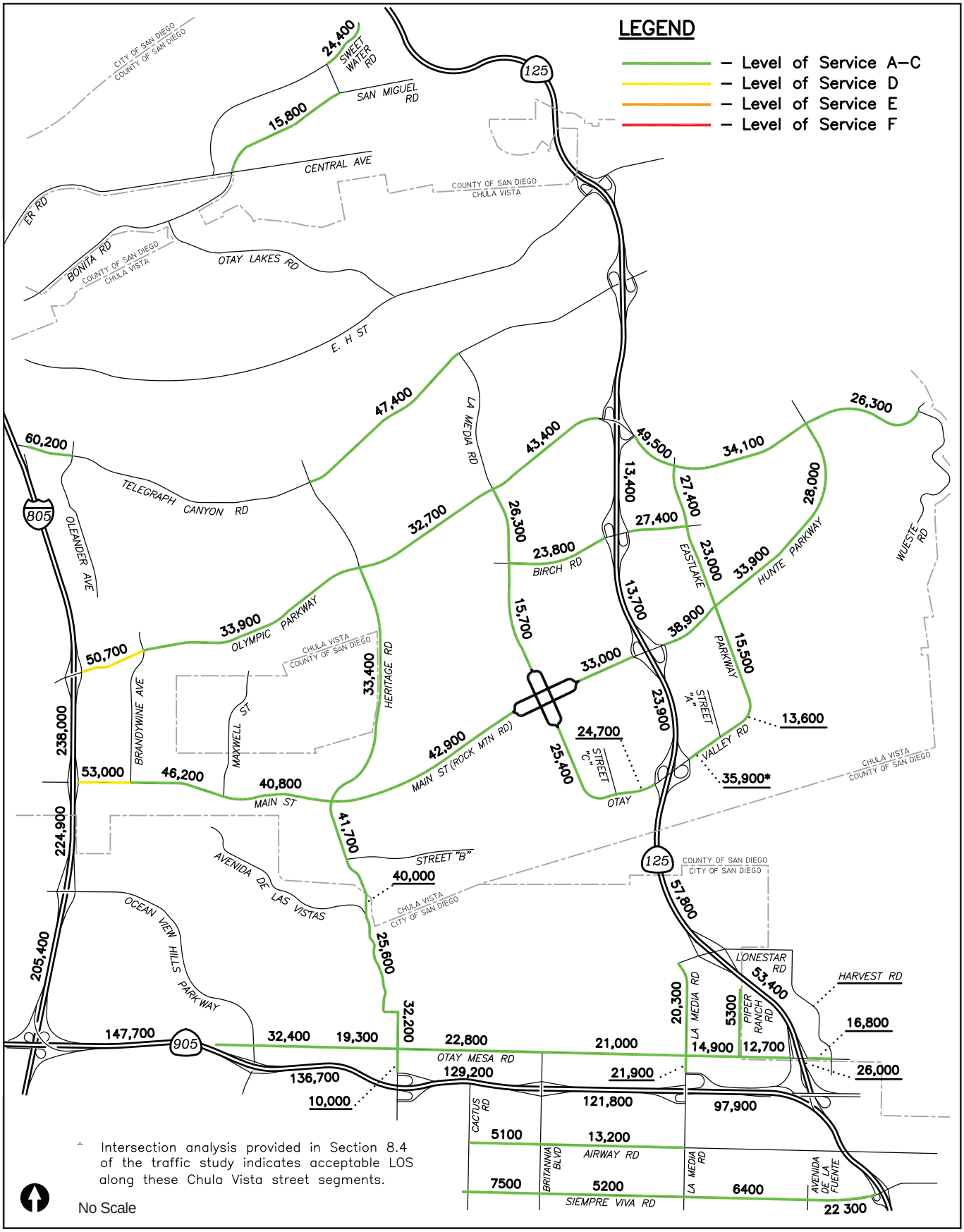

FIGURE 5.4-6

Year 2030 Road Segments LOS: Direct Impacts - Post Intersection Analysis (Traffic Model 3)

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State Route 905

- PM Westbound: I-805 to Ocean View Hills Parkway
- AM Eastbound: Ocean View Hills Parkway to Heritage Road
- PM Westbound: Britannia Boulevard to La Media Road

5.4.3.5 Analysis of Cumulative Project Impacts (Traffic Model 7)

As previously discussed, this scenario represents cumulative impacts associated with Year 2030 buildout of the Proposed Project, along with buildout of the remainder of the Project Area (including the proposed JPB LOA land uses) within Village 8 East, Village 10 and the University site and proposed updates to the City of San Diego Otay Mesa Community Plan and County General Plan. Table 5.4-14 and Figure 5.4-7 depicts roadway segment operations in the cumulative condition.

City of Chula Vista

Table 5.4-14 shows that Year 2030 buildout of the remaining Project Area land uses and City and County of San Diego proposed land uses in addition to the Proposed Project would result in the following street segments to operate at LOS D or worse conditions in the City, representing potentially significant cumulative impacts.

- Olympic Parkway between I-805 NB Ramps to Brandywine Avenue – LOS D
- Olympic Parkway between Hunte Parkway and Wueste Road – LOS D
- Main Street between I-805 to Brandywine Avenue – LOS E
- Main Street between Brandywine Avenue and Maxwell Street – LOS D
- Otay Valley Road between La Media Road and SR-125 – LOS D
- Otay Valley Road between SR-125 and Street “A” – LOS F
- Heritage Road between Main Street and the City Boundary – LOS E

As discussed above, pursuant to City traffic thresholds, a signalized intersection analysis is required to determine whether segments operating at LOS D or worse are considered deficient in their operation. Otay Valley Road between SR-125 and Street “A” is forecasted to operate at LOS F conditions. An intersectional analysis was not completed

TABLE 5.4-14
YEAR 2030 STREET SEGMENT OPERATIONS:
ADOPTED GENERAL PLAN UPDATE (TRAFFIC MODEL 1) VERSUS CUMULATIVE IMPACTS (TRAFFIC MODEL 7)

City of Chula Vista Roadways	Adopted LOS "C" Capacity [a]	Traffic Model 1		Proposed LOS "C" Capacity [a]	Traffic Model 7		Measure of Significance	
		ADT [b]	LOS [c]		ADT	LOS	Cumulative Project Contributes "x" Amount Toward Traffic Volume	Cumulative Project Contributes "x" % Toward Traffic Volume
Telegraph Canyon Road								
I-805 to Oleander Ave	70,000	60,000	B	NC	59,300	B	-700	-1.2%
Heritage Road to La Media	50,000	46,300	C	NC	47,100	C	800	1.7%
Olympic Parkway								
I-805 to Brandywine Ave	50,000	**50,700**	**D**	NC	**51,300**	**D**	**600**	**1.2%**
Brandywine Ave to Heritage Rd/Paseo Ranchero	50,000	33,900	A	NC	34,800	A	900	2.6%
Heritage Rd/Paseo Ranchero to La Media	50,000	31,000	A	NC	33,300	A	2,300	6.9%
La Media Rd to SR-125	50,000	42,200	B	NC	43,900	C	1,700	3.9%
SR 125 to Eastlake Pkwy	70,000	50,400	A	NC	49,400	A	-1,000	-2.0%
Eastlake Pkwy to Hunte Pkwy	50,000	34,100	A	NC	34,200	A	100	0.3%
Hunte Pkwy to Wueste Rd	30,000	27,000	C	NC	**30,100**	**D**	**3,100**	**10.3%**
Birch Road								
La Media Rd to SR-125	40,000	22,600	A	NC	26,200	A	3,600	13.7%
SR-125 to Eastlake Pkwy	50,000	24,700	A	NC	28,500	A	3,800	13.3%
Main Street								
I-805 to Brandywine Ave	50,000	**54,800**	**D**	NC	**59,300**	**E**	**4,500**	**7.6%**
Brandywine Ave to Maxwell St	50,000	48,800	C	NC	**50,200**	**D**	**1,400**	**2.8%**
Maxwell S to Heritage Rd	50,000	43,000	B	NC	45,200	C	2,200	4.9%
Main Street (Rock Mountain Road)								
Heritage Rd to Main St/La Media Rd Couplet	50,000	45,000	C	NC	44,900	C	-100	-0.2%
Main St/La Media Rd Couplet to SR-125	50,000	38,800	B	NC	33,100	A	-5,700	-17.2%
SR-125 to Eastlake Pkwy	50,000	**50,300**	**D**	61,200 [d]	43,400	B	-6,900	-15.9%
Hunte Parkway								
Eastlake Pkwy to Exploration Falls Dr	50,000	39,400	B	NC	40,000	B	600	1.5%
Exploration Falls Dr to Olympic Pkwy	50,000	29,700	A	NC	31,600	A	1,900	6.0%

TABLE 5.4-14
YEAR 2030 STREET SEGMENT OPERATIONS:
ADOPTED GENERAL PLAN UPDATE (TRAFFIC MODEL 1) VERSUS CUMULATIVE IMPACTS (TRAFFIC MODEL 7)

City of Chula Vista Roadways (cont.)	Adopted LOS "C" Capacity [a]	Traffic Model 1		Proposed LOS "C" Capacity [a]	Traffic Model 7		Measure of Significance	
		ADT [b]	LOS [c]		ADT	LOS	Cumulative Project Contributes "x" Amount Toward Traffic Volume	Cumulative Project Contributes "x" % Toward Traffic Volume
Otay Valley Road								
La Media Rd to SR-125	30,000	19,700	A	NC	**31,400**	**D**	**11,700**	**37.3%**
SR-125 to Street "A"	30,000	29,300	C	NC	**38,500**	**F**	**9,200**	**23.9%**
Street "A" to Eastlake Pkwy	30,000	17,000	A	NC	16,100	A	4,100	19.4%
Heritage Road								
Olympic Pkwy to Main St (Rock Mountain Rd)	50,000	30,300	A	NC	42,300	B	12,000	28.4%
Main St (Rock Mountain Rd) to City Boundary	50,000	33,700	A	NC	**61,400**	**E**	**27,700**	**45.1%**
La Media Road								
Olympic Pkwy to Birch Rd	50,000	31,300	A	NC	28,300	A	-3,000	-10.6%
Birch Rd to Main St/La Media Rd Couplet	50,000	23,900	A	NC	18,000	A	-5,900	-32.8%
Main Street/La Media Road Couplet	50,000	32,100	A	30,000	27,200	C	-4,900	-18.0%
Main St/La Media Rd Couplet to Otay Valley Rd	50,000	32,100	A	30,000	27,300	C	-4,800	-17.6%
Otay Valley Rd to Lonestar Rd	50,000	44,800	C	NC	DNE	DNE	—	—
Eastlake Parkway								
Olympic Pkwy to Birch Rd	40,000	28,800	A	NC	27,600	A	-1,200	-4.3%
Birch Rd to Hunte Pkwy	40,000	22,900	A	NC	22,800	A	-100	-0.4%
Hunte Pkwy to Otay Valley Rd	30,000	13,900	A	NC	18,600	A	4,700	25.3%

TABLE 5.4-14
YEAR 2030 STREET SEGMENT OPERATIONS:
ADOPTED GENERAL PLAN UPDATE (TRAFFIC MODEL 1) VERSUS CUMULATIVE IMPACTS (TRAFFIC MODEL 7)

City of San Diego Roadways	Adopted LOS "E" Capacity [a]	Traffic Model 1			Proposed LOS "E" Capacity [a]	Traffic Model 7			Measure of Significance
		ADT [b]	LOS [c]	V/C [e]		ADT	LOS	V/C	Δ V/C [f]
Heritage Road									
City Boundary to Avenida de las Vistas	50,000	31,500	B	0.53	NC	**60,200**	**F**	**1.00**	**0.48**
Avenida de las Vistas to Datsun St/Otay Valley Rd	50,000	18,000	A	0.36	NC	**47,400**	**E**	**0.95**	**0.59**
Datsun St/Otay Valley Rd to Otay Mesa Rd	50,000	24,600	B	0.49	NC	**52,600**	**F**	**1.05**	**0.56**
Otay Mesa Rd to SR-905	50,000	9,100	A	0.18	NC	20,800	B	0.42	0.23
La Media Road									
Lonestar Rd to Otay Mesa Rd	60,000	32,500	B	0.54	NC	16,400	A	0.27	(0.27)
Otay Mesa Rd to SR-905	60,000	25,000	A	0.42	NC	37,300	C	0.62	0.21
Otay Mesa Road									
Otay Mesa Rd to Corporate Center Dr	60,000	32,900	B	0.55	NC	48,200	C	0.96	0.42
Corporate Center Dr to Heritage Rd	60,000	20,200	A	0.34	NC	32,500	B	0.65	0.31
Heritage Rd to Britannia Blvd	60,000	23,000	A	0.38	NC	45,600	C	0.91	0.53
Britannia Blvd to La Media Rd	60,000	22,800	A	0.38	NC	47,300	C	0.95	0.57
La Media Rd to Piper Ranch Rd	80,000	13,500	A	0.17	NC	49,600	C	0.83	0.66
Piper Ranch Rd to SR-125	50,000	12,000	A	0.24	NC	33,200	C	0.83	0.59
SR-125 to Harvest Rd	50,000	14,500	A	0.29	NC	39,000	C	0.98	0.69
Airway Road									
Cactus Rd to Britannia Blvd	40,000	4,600	A	0.12	NC	25,400	C	0.64	0.52
Britannia Blvd to La Media Rd	40,000	12,200	A	0.31	NC	31,100	D	0.78	0.47
Siempre Viva Road									
Cactus Rd to Britannia Blvd	60,000	6,900	A	0.12	NC	39,500	C	0.66	0.54
Britannia Blvd to La Media Rd	60,000	4,600	A	0.08	NC	54,100	D	0.90	0.83
La Media Rd to Avenida de la Fuente	60,000	6,400	A	0.11	NC	26,300	B	0.44	0.33
Avenida de la Fuente to SR-905	60,000	21,500	A	0.36	NC	50,100	D	0.84	0.48
Piper Ranch Road									
Lonestar Rd to Otay Mesa Rd	30,000	2,900	A	0.10	NC	5,200	A	0.17	0.08

TABLE 5.4-14
YEAR 2030 STREET SEGMENT OPERATIONS:
ADOPTED GENERAL PLAN UPDATE (TRAFFIC MODEL 1) VERSUS CUMULATIVE IMPACTS (TRAFFIC MODEL 7)

County of San Diego Roadways (cont.)	Adopted LOS "E" Capacity [a]	Traffic Model 1		Proposed LOS "E" Capacity [a]	Traffic Model 7		Measure of Significance
		ADT [b]	LOS [c]		ADT	LOS	Cumulative Project Δ in Volume
Bonita Road							
Central Ave to San Miguel Rd	37,000	15,700	B	NC	16,200	B	500
Sweetwater Road							
Bonita Rd to Park Dr	37,000	25,000	C	NC	25,900	C	900

Footnotes:

a. LOS "C" Capacity based on City of Chula Vista Roadway Classification Table. City and County of San Diego utilizes LOS "E" capacity thresholds. Chula Vista and San Diego Roadway
b. Classification Tables are shown in *Appendix B*.
c. Average Daily Traffic.
d. Level of Service.
e. Under Adopted General Plan, 6-Lane Gateway allows for LOS D operations.
f. V/C = Volume to Capacity Ratio.
g. Δ V/C = Increase in V/C due to project.
h. h. A significant cumulative impact is calculated at this location due to downsize of the Main Street/La Media Road Couplet from 6 lanes to four.

General Notes:

Bold typeface represents unacceptable level of service based on appropriate jurisdiction's significance criteria.
Shading represents deficient roadway (operating at LOS D or worse).
DNE = Does not exist
NC = No Change in roadway capacity.

Map Source: City of Chula Vista

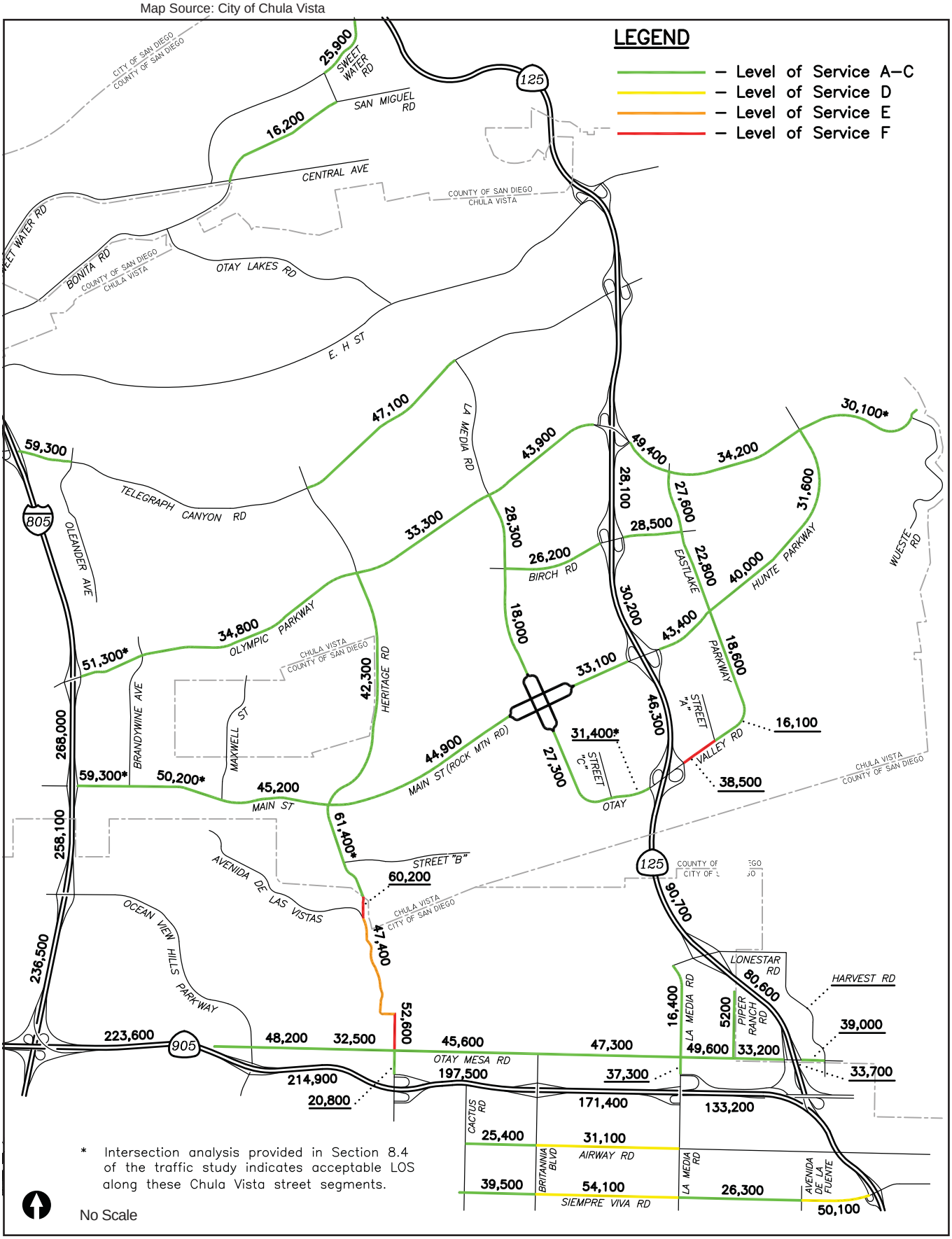

FIGURE 5.4-7

Year 2030 Road Segments LOS: Cumulative Impacts - Post Intersection Analysis (Traffic Model 7)

for this segment because the thresholds indicate that a segment operating at LOS F is considered deficient regardless of the intersection movements. An intersectional analysis was completed for the remaining intersections operating at LOS D or worse. Table 5.4-13 shows that corresponding intersections along these segments are expected to operate at LOS D or better. Therefore, as shown in Figure 5.4-7, a significant cumulative impact would occur only on Otay Valley Road between SR-125 and Street A.

City and County of San Diego

In the City of San Diego, the following street segments are calculated to operate at a LOS E or F conditions, representing a significant cumulative impact:

- Heritage Road between the City Boundary and Avenida de las Vistas – LOS F
- Heritage Road between Avenida de las Vistas and Datsun Street/Otay Valley Road – LOS E
- Heritage Road between Datsun Street/Otay Valley Road and Otay Mesa Road – LOS F

All street segments in the County are calculated to operate at acceptable LOS D or better conditions.

Freeway Mainline Operations

As shown in Table 5.4-15, the following freeway locations operate at LOS E or worse conditions, representing a significant cumulative impact:

Interstate 805

- AM Northbound: Olympic Parkway/Orange Avenue to Main Street/Auto Park Dr
- PM Southbound: Olympic Parkway/Orange Avenue to Main Street/Auto Park Dr
- PM Southbound: Main Street/Auto Park Drive to Palm Avenue
- PM Southbound: Palm Avenue to SR-905

TABLE 5.4-15
YEAR 2030 FREEWAY MAINLINE OPERATIONS:
ADOPTED GENERAL PLAN UPDATE (TRAFFIC MODEL 1) VERSUS CUMULATIVE IMPACT (TRAFFIC MODEL 7)

Freeway Segment	Dir.	Traffic Model 1			V/C [c]		LOS		Traffic Model 7			V/C		LOS		D V/C [d]	
		ADT [a]	AM [b]	PM [b]	AM	PM	AM	PM	ADT	AM	PM	AM	PM	AM	PM	AM	PM
Interstate 805																	
Olympic Pkwy/ Orange Ave to Main St/Auto Park Dr	NB	238,400	9,777	9,300	0.843	0.802	D	D	268,000	11,003	10,466	0.949	0.902	**E**	D	**0.106**	0.101
	SB		8,660	11,211	0.747	0.966	C	**E**		9,746	12,617	0.840	1.088	D	**F(0)**	0.094	**0.121**
Main St/Auto Park Dr to Palm Ave	NB	221,000	9,064	8,621	0.781	0.743	C	C	258,100	10,596	10,079	0.913	0.869	D	D	0.132	0.126
	SB		8,028	10,393	0.772	0.999	C	**E**		9,386	12,151	0.902	1.168	D	**F(0)**	0.131	**0.169**
Palm Ave to SR-905	NB	201,800	8,276	7,872	0.713	0.679	C	C	236,500	9,699	9,226	0.836	0.795	D	C	0.123	0.117
	SB		7,330	9,490	0.632	0.818	C	D		8,591	11,122	0.741	0.959	C	**E**	0.109	**0.141**
State Route 125																	
Olympic Pkwy to Birch Rd	NB	11,200	459	437	0.115	0.109	B	B	28,100	1,152	1,096	0.288	0.274	B	B	0.173	0.165
	SB		407	527	0.102	0.132	B	B		1,021	1,321	0.255	0.330	B	B	0.153	0.199
Birch Rd to Main St/Rock Mountain Rd	NB	9,900	406	386	0.102	0.097	B	B	30,200	1,239	1,178	0.310	0.295	B	B	0.208	0.198
	SB		360	466	0.090	0.116	B	B		1,097	1,420	0.274	0.355	B	B	0.184	0.239
Main St/Rock Mountain Rd to Otay Valley Rd	NB	20,000	820	780	0.205	0.195	B	B	46,300	1,899	1,806	0.475	0.452	B	B	0.270	0.256
	SB		726	941	0.182	0.235	B	B		1,682	2,177	0.420	0.544	B	B	0.239	0.309
Otay Valley Rd to Lonestar Rd	NB	33,100	1,357	1,291	0.339	0.323	B	B	90,700	3,720	3,538	0.930	0.885	**E**	D	**0.591**	0.562
	SB		1,202	1,557	0.301	0.389	B	B		3,295	4,265	0.824	1.066	D	**F(0)**	0.523	**0.677**
Lonestar Rd to Otay Mesa Rd	NB	44,500	1,825	1,736	0.456	0.434	B	B	80,600	3,306	3,144	0.826	0.786	D	C	0.370	0.352
	SB		1,616	2,093	0.404	0.523	B	B		2,928	3,790	0.732	0.948	C	**E**	0.328	**0.424**
Otay Mesa Rd to SR-905	NB	30,800	1,263	1,201	0.316	0.300	B	B	33,700	1,382	1,315	0.346	0.329	B	B	0.030	0.028
	SB		1,119	1,448	0.280	0.362	B	B		1,224	1,585	0.306	0.396	B	B	0.026	0.034

TABLE 5.4-15
YEAR 2030 FREEWAY MAINLINE OPERATIONS:
ADOPTED GENERAL PLAN UPDATE (TRAFFIC MODEL 1) VERSUS CUMULATIVE IMPACT (TRAFFIC MODEL 7)

Freeway Segment	Dir.	Traffic Model 1			V/C [c]		LOS		Traffic Model 7			V/C		LOS		D V/C [d]	
		ADT [a]	AM [b]	PM [b]	AM	PM	AM	PM	ADT	AM	PM	AM	PM	AM	PM	AM	PM
State Route 905																	
I-805 to Ocean View Hills Pkwy	EB	146,500	7,994	4,539	0.869	0.493	D	B	223,600	12,201	6,928	1.326	0.753	**F(1)**	C	**0.457**	0.260
	WB		4,259	8,998	0.463	0.978	B	**E**		6,500	13,734	0.707	1.493	C	**F(3)**	0.244	**0.515**
Ocean View Hills Pkwy to Heritage Rd	EB	134,900	7,361	4,180	0.920	0.522	**E**	B	214,900	11,726	6,658	1.466	0.832	**F(3)**	D	**0.546**	0.310
	WB		3,922	8,286	0.426	0.901	B	D		6,248	13,200	0.679	1.435	C	**F(2)**	0.253	**0.534**
Heritage Rd to Britannia Blvd	EB	126,600	6,908	3,923	0.751	0.426	C	B	197,500	10,776	6,119	1.171	0.665	**F(0)**	C	**0.421**	0.239
	WB		3,681	7,776	0.400	0.845	B	D		5,742	12,131	0.624	1.319	C	**F(1)**	0.224	**0.473**
Britannia Blvd to La Media Rd	EB	118,400	6,460	3,668	0.702	0.399	C	B	171,400	9,352	5,311	1.017	0.577	**F(0)**	B	**0.314**	0.178
	WB		3,442	7,272	0.430	0.909	B	D		4,983	10,528	0.623	1.316	C	**F(1)**	0.193	**0.407**
La Media Rd to SR-125	EB	95,100	5,189	2,947	0.649	0.368	C	B	133,200	7,268	4,127	0.908	0.516	D	B	0.260	0.148
	WB		2,765	5,841	0.346	0.730	B	C		3,872	8,181	0.484	1.023	B	**F(0)**	0.138	**0.293**

Footnotes:

a. ADT Volumes from SANDAG Southbay Models
b. Peak Hour Volume = ((ADT)(K)(D)/Truck Factor)
c. V/C = ((ADT)(K)(D)/Truck Factor/Capacity)
d. ∆ V/C = Increase in V/C due to the project

General Notes:

See *Table 8–4* for freeway analysis factors.
Bold typeface represents poor level of service.
Shading represents potential significant impact.

LOS	V/C
A	<0.41
B	0.62
C	0.8
D	0.92
E	1
F(0)	1.25
F(1)	1.35
F(2)	1.45

State Route 125

- AM Northbound: Otay Valley Road to Lonestar Road
- PM Southbound: Otay Valley Road to Lonestar Road
- PM Southbound: Lonestar Road to Otay Mesa Road

State Route 905

- AM Eastbound: I-805 to Ocean View Hills Parkway
- PM Westbound: I-805 to Ocean View Hills Parkway
- AM Eastbound: Ocean View Hills Parkway to Heritage Road
- PM Westbound: Ocean View Hills Parkway to Heritage Road
- AM Eastbound: Heritage Road to Britannia Boulevard
- PM Westbound: Heritage Road to Britannia Boulevard
- AM Eastbound: Britannia Boulevard to La Media Road
- PM Westbound: Britannia Boulevard to La Media Road
- PM Westbound: La Media Road to SR-125

5.4.3.6 Analysis of Existing + Project Impacts

This scenario represents Proposed Project impacts in relation to existing conditions. For the purpose of the analysis, the street network within the Project Area was assumed to be the same as existing on-the-ground conditions. As required for this analysis, the project-only volumes were distributed onto the existing street network and added to the existing traffic volumes to establish the Existing + Project condition.

City of Chula Vista

Table 5.4-16 shows that under the Existing + Project condition, the following street segments are calculated to operate at a LOS D or worse conditions in the City:

- Olympic Parkway between I-805 and Brandywine Avenue – LOS F
- Olympic Parkway between Brandywine Avenue and Heritage Road/Paseo Ranchero – LOS F
- Olympic Parkway between Heritage Road/Paseo Ranchero and La Media Road – LOS F

TABLE 5.4-16
EXISTING + PROJECT
STREET SEGMENT OPERATIONS

City of Chula Vista Roadways	Existing Capacity (LOS C/E) [a]	Existing		Existing + Project	
		ADT [b]	LOS [c]	ADT	LOS
Telegraph Canyon Road					
I-805 to Oleander Ave	70,000	61,900	C	61,900	C
Heritage Road to La Media	50,000	40,300	B	42,236	B
Olympic Parkway					
I-805 to Brandywine Ave	50,000	47,000	C	**63,463**	**F**
Brandywine Ave to Heritage Rd/Paseo Ranchero	50,000	48,700	C	**69,785**	**F**
Heritage Rd/Paseo Ranchero to La Media Rd	50,000	**50,500**	**D**	**84,383**	**F**
La Media Rd to SR-125	50,000	43,600	B	**53,712**	**D**
SR 125 to Eastlake Pkwy	70,000	40,500	A	50,181	A
Eastlake Pkwy to Hunte Pkwy	50,000	13,900	A	20,895	A
Hunte Pkwy to Wueste Rd				5,915	A
Birch Road					
La Media Rd to SR-125	40,000	10,200	A	**46,546**	**E**
Main Street					
I-805 to Brandywine Ave	50,000	26,400	A	26,831	A
Brandywine Ave to Maxwell St	50,000	18,700	A	18,700	A
Main Street (Rock Mountain Road)					
Heritage Rd to Main St/La Media Rd Couplet	DNE	DNE	DNE	DNE	DNE
Main St/La Media Rd Couplet to SR-125	DNE	DNE	DNE	DNE	DNE
SR-125 to Eastlake Pkwy	DNE	DNE	DNE	DNE	DNE
Hunte Parkway					
Eastlake Pkwy to Exploration Falls Dr	50,000	700	A	12,737	A
Exploration Falls Dr to Olympic Pkwy	50,000	800	A	11,013	A
Otay Valley Road					
La Media Rd to SR-125	DNE	DNE	DNE	DNE	DNE
SR-125 to Street “A”	DNE	DNE	DNE	DNE	DNE
Street “A” to Eastlake Pkwy	DNE	DNE	DNE	DNE	DNE
Heritage Road					
Olympic Pkwy to Main St (Rock Mountain Rd)	DNE	DNE	DNE	DNE	DNE
Main St (Rock Mountain Rd) to City Boundary	12,000	10,000	B	10,000	B
La Media Road					
Olympic Pkwy to Birch Rd	50,000	11,000	A	**56,946**	**E**
Birch Rd to Main St/La Media Rd Couplet	50,000	1,000	A	3,585	A
Main St/La Media Rd Couplet					
Main St/La Media Rd Couplet to Otay Valley Rd	DNE	DNE	DNE	DNE	DNE
Otay Valley Rd to Lonestar Rd	DNE	DNE	DNE	DNE	DNE

TABLE 5.4-16
EXISTING + PROJECT
STREET SEGMENT OPERATIONS
(continued)

City of Chula Vista Roadways	Existing Capacity (LOS C/E) [a]	Existing		Existing + Project	
		ADT [b]	LOS [c]	ADT	LOS
Eastlake Parkway					
Olympic Pkwy to Birch Rd	40,000	9,200	A	25,115	A
Birch Rd to Hunte Pkwy	40,000	1,300	A	**46,864**	**E**
Hunte Pkwy to Otay Valley Rd	DNE	DNE	DNE	DNE	DNE

Footnotes:

a. LOS "C" Capacity based on City of Chula Vista Roadway Classification Table. The Chula Vista Roadway Classification Table is shown in *Appendix B.*

b. Average Daily Traffic.

c. Level of Service.

General Notes:

Bold typeface represents unacceptable level of service based on the City's significance criteria.

Shading represents potential significant impact.

DNE = Does not exist

- Olympic Parkway between La Media Road and SR-125 – LOS D
- Birch Road between La Media Road and SR-125 – LOS E
- La Media Road between Olympic Parkway and Birch Road – LOS E
- Eastlake Parkway between Birch Road and Hunte Parkway – LOS E

City and County of San Diego

For this analysis, project traffic volumes were not distributed to City and County of San Diego roadways.

Freeway Mainline Operations

Table 5.4-17 shows the freeway mainline operations on I-805 and SR-905 for the Existing + Project condition. As shown in Table 5.4-17, all freeway segment locations operate at LOS D or better conditions.

5.4.3.7 Analysis of SR-125 Mid-arterial Crossing Between Main Street and Otay Valley Road

According to the adopted Otay Ranch GDP, a road crossing designated as a Regional Riding and/or Hiking Trail is planned over the SR-125, between Villages 8 East and 9- just north of Otay Valley Road and south of Main Street. Appendix K of the TIA contains an illustration showing the location of the mid-arterial crossing. This crossing is proposed to provide for a localized connection between the villages, with its primary purpose to accommodate patrons of the future commercial and office uses in Village 9 as well as the future university. The GDPA portion of the Proposed Project proposes the mid-arterial crossing as a pedestrian bridge, rather than the existing designation.

As a pedestrian bridge, the mid-arterial crossing is intended to accommodate pedestrians and bicycles. The proposed pedestrian bridge will allow for better integration of pedestrian traffic, minimize street crossing, and relieve traffic at intersections and on roadways.

TABLE 5.4-17
EXISTING + PROJECT
FREEWAY MAINLINE OPERATIONS

Freeway Segment	Dir.	# of Lanes	Hourly Capacity [a]	Existing			V/C [d]		LOS		Existing + Project			V/C		LOS	
				ADT [b]	AM [c]	PM [c]	AM	PM	AM	PM	ADT	AM	PM	AM	PM	AM	PM
Interstate 805																	
Olympic Pkwy/ Orange Ave to Main St/Auto Park Dr	NB	4M+1A	9,200	151,00	6,193	5,890	0.673	0.640	C	C	156,756	6,429	6,115	0.699	0.665	C	C
	SB	4M+1A	9,200		5,485	7,101	0.596	0.772	B	C		5,694	7,372	0.619	0.801	B	D
Main St/Auto Park Dr to Palm Ave	NB	4M+1A	9,200	149,000	6,111	5,812	0.664	0.632	C	C	154,756	6,347	6,037	0.690	0.656	C	C
	SB	4M+1A	9,200		5,412	7,007	0.588	0.762	B	C		5,621	7,278	0.611	0.791	B	C
Palm Ave to SR-905	NB	4M	8,000	113,000	4,634	4,408	0.579	0.551	B	B	115,301	4,729	4,498	0.591	0.562	B	B
	SB	4M+1A	9,200		4,105	5,314	0.446	0.578	B	B		4,188	5,422	0.455	0.589	B	B
State Route 905																	
I-805 to Otay Mesa Rd	EB	3M	6,000	60,000	3,274	1,859	0.546	0.310	B	B	60,000	3,274	1,859	0.546	0.310	B	B
	WB	3M	6,000		1,744	3,685	0.291	0.614	B	B		1,744	3,685	0.291	0.614	B	B

Footnotes:

a. Capacity calculated at 2000 vph per lane and 1200 vph per auxiliary lane
b. Existing ADT Volumes from CALTRANS 2008
c. Peak Hour Volume = ((ADT)(K)(D)/Truck Factor)
d. V/C = ((ADT)(K)(D)/Truck Factor/Capacity)

General Notes:

Truck Factor data contained in *Table 6–2* and *Appendix C*.
K and D percentages are contained in *Table 6–2* and *Appendix C.*
M = Mainline
A = Auxiliary Lane

LOS	V/C
A	<0.41
B	0.62
C	0.8
D	0.92
E	1
F(0)	1.25
F(1)	1.35
F(2)	1.45

As discussed in Chapter 5.1 of this SEIR, the inclusion of the mid-arterial crossing as a project design feature allows the Proposed Project to conform to the visions of Village integration as discussed in the GDP.

5.4.4 Level of Significance Prior to Mitigation

Based on the analysis of the roadway and freeway segments, and the established significance criteria for the City, City of San Diego and County, significant impacts were calculated as summarized below.

5.4.4.1 Direct Impacts

Roadway Segments

No significant direct impacts to roadway segments are calculated to occur in the City. Likewise, no significant direct impacts to roadway segments are calculated to occur in the City or County of San Diego assuming future roadway classifications.

Freeway Segments

Significant direct impacts are calculated on the following freeway segments:

- I-805 between
  - Olympic Parkway/Orange Avenue to Main Street/Auto Park Drive
  - Main Street/Auto Park Drive to Palm Avenue
- SR-905 between
  - I-805 to Ocean View Hills Parkway
  - Britannia Boulevard to La Media Road

5.4.4.2 Cumulative Impacts

Roadway Segments

One significant cumulative impact was calculated in the City, as follows:

- Otay Valley Road between SR-125 and Street “A”

The remaining segments within the City, which degrade to LOS D or worse in the cumulative condition (see Table 5.4-13), are not considered to have significant cumulative impacts because an intersection analysis is more indicative of actual roadway system operations than street segment analysis. The intersections along these segments would continue to operate at LOS D or better even though the segments operate at LOS D or E. Therefore, no additional segments would be considered cumulatively significant.

Significant cumulative impacts were calculated in the City of San Diego, on the following roadway segments:

- Heritage Road between the City Boundary and Avenida de las Vistas
- Heritage Road between Avenida de las Vistas and Datsun Street/Otay Valley Road
- Heritage Road between Datsun Street/Otay Valley Road and Otay Mesa Road

No significant cumulative impacts were calculated on roadway segments in the County.

Freeway Segments

Significant cumulative impacts are calculated on the following freeway segments:

- I-805 between
  - Olympic Parkway/Orange Avenue to Main Street/Auto Park Drive
  - Olympic Parkway/Orange Avenue to Main Street/Auto Park Drive
  - Main Street/Auto Park Drive to Palm Avenue
  - Palm Avenue to SR-905
- SR-125 between
  - Otay Valley Road to Lonestar Road
  - Otay Valley Road to Lonestar Road
  - Lonestar Road to Otay Mesa Road

- SR-905 between
  - I-805 to Ocean View Hills Parkway
  - Ocean View Hills Parkway
  - Ocean View Hills Parkway to Heritage Road
  - Ocean View Hills Parkway to Heritage Road
  - Heritage Road to Britannia Boulevard
  - Heritage Road to Britannia Boulevard
  - Britannia Boulevard to La Media Road
  - Britannia Boulevard to La Media Road
  - La Media Road to SR-125

5.4.4.3 Existing + Project Impacts

Roadway Segments

Seven significant roadway segment impacts were calculated in the City, as follows:

- Olympic Parkway between I-805 and Brandywine Avenue
- Olympic Parkway between Brandywine Avenue and Heritage Road/Paseo Ranchero
- Olympic Parkway between Heritage Road/Paseo Ranchero and La Media Road
- Olympic Parkway between La Media Road and SR-125
- Birch Road between La Media Road and SR-125
- La Media Road between Olympic Parkway and Birch Road
- Eastlake Parkway between Birch Road and Hunte Parkway

Freeway Segments

No freeway segment impacts are calculated under the Existing + Project condition.

5.4.5 Mitigation Measures

5.4.5.1 Direct Impacts

Roadway Segments

Since there are no direct impacts to roadway segments, no mitigation measures are required.

Freeway Segments

The TransNet Extension and Ordinance document, developed by SANDAG, provides for the implementation of the San Diego Transportation Improvement Program. This will result in countywide transportation facility and service improvements for highways, which includes freeway interchanges in addition to other modes of transit, to support smart-growth development and related environmental mitigation and enhancement projects. As a part of this document, the Regional Transportation Congestion Improvement Program (RTCIP) has been established to require local agencies to collect a specified exaction from the private sector for each newly constructed residential housing unit in that jurisdiction to put toward the RTCIP. These exactions shall ensure future development contributes its proportional share of the funding needed to pay for the Regional Arterial System and related regional transportation facility improvements, as defined by the SANDAG Regional Transportation Plan. The RTCIP revenue will be used to construct improvements on the Regional Arterial System such as new or widened arterials, traffic signal coordination and other traffic improvements, freeway interchange and related freeway improvements, railroad grade separations, and improvements required for regional express and rail transit

The funding of the RTCIP is implemented through the City's Capital Improvement Program. The City Capital Improvement Program designates the payment of TDIF of which portions are contributed to the SANDAG RTCIP fund for regional roadway facilities. The Eastern TDIF was established by Council in January 1998 and covers the eastern territories of the City. This $230 million program consisting of approximately 70

transportation related improvement projects has helped finance improvements to the I-805 interchanges, major arterial roadways and needed traffic signals. The fiscal year (FY) 2010-11 update will incorporate any land use changes adopted since Year 2005, provide project costs for recently completed TDIF projects and provide updated estimates for several arterial roadways and bridge projects.

The following is required to mitigate the potentially significant impacts to freeway segments:

5.4.5.1-1 The City of Chula Vista shall collect the appropriate RTCIP funds from the Proposed Project.

5.4.5.2 Cumulative Impacts

Roadway Segments

City of Chula Vista:

5.4.5.2-1 To mitigate for the significant cumulative impact along Otay Valley Road between SR-125 and Street "A," the applicant shall increase the capacity of this segment to a 5-Lane Major with three lanes traveling in the westbound direction with the number three lane serving as an auxiliary lane onto the SR-125 NB Ramp on-ramp and two lanes traveling in the eastbound direction, resulting in LOS D operations.

City of San Diego

5.4.5.2-2 To mitigate for the significant cumulative impact along Heritage Road between the City Boundary and Otay Mesa Road, the applicant shall increase the capacity of this segment located in the City of San Diego to 6-Lane Expressway standards. This would result in acceptable LOS D or better operations.

The improvements required to mitigate the impacts along Heritage Road fall within the jurisdiction of the City of San Diego and are not within the authority of the City. Therefore, such mitigation measures are considered infeasible.

Freeway Segments

Implementation of Mitigation Measure 5.4.5.1-1, above, would apply to cumulative freeway impacts, as well as direct impacts.

5.4.5.3 Existing + Project Impacts

Roadway Segments

Seven roadway segment impacts were calculated in the Existing + Project condition. Under this scenario, application of the City's GMP would apply. Specifically, if the planning analysis indicates an impact of LOS D, E or F, the GMO method shall be utilized. Under the City's GMO, the threshold for a cumulative impact is considered LOS D for more than two hours. The GMO states that if the LOS D threshold is exceeded for more than two hours, then all development may be suspended until acceptable operating conditions can be achieved.

As a part of the City's GMP, the City monitors the operating conditions along Olympic Parkway on an annual basis. In order to mitigate the potential roadway segment impacts along Olympic Parkway, Birch Road, La Media Road, and Eastlake Parkway, these roadways shall be included in the annual traffic monitoring report prepared by the GMOC. As discussed above, the *Olympic Parkway Capacity Enhancement Analysis* analyzed if GMO thresholds are projected to be reached or exceeded, and whether mitigation measures are necessary to remain compliant with the requirements of the GMP. The study concluded that the segment of westbound Olympic Parkway between Heritage Road and Oleander Avenue during peak hours would be the first to fall below GMO traffic threshold standards as traffic volumes increase over time with the Proposed Project and other projects east of 1-805. The analysis demonstrated that GMO thresholds would not be reached along Olympic Parkway until building permits for 2,463 dwelling units have been issued for projects east of 1-805.

The projected 2,463 dwelling unit threshold is used by the City to determine when cumulative impacts may occur along the corridor. The following mitigation measure has been identified in the event the GMO threshold is reached:

1. At any time prior to the issuance of the building permit for the 2,463rd dwelling unit for development east of 1-805 commencing from April 4, 2011 the applicant may;

a. Prepare a traffic study that demonstrates, to the satisfaction of the City Engineer, that the circulation system has additional capacity without exceeding the GMO traffic threshold standards, or

b. Demonstrate that other improvements are constructed which provide the additional necessary capacity to comply with the GMO traffic threshold to the satisfaction of the City Engineer, or

c. Agree to the City Engineer's selection of an alternative method of maintaining GMO traffic threshold compliance, or

d. Enter into agreement, approved by the City, with other Otay Ranch developers that alleviates congestion and achieves GMO traffic threshold compliance for Olympic Parkway. The Agreement will identify the deficiencies in transportation infrastructure that will need to be constructed, the parties that will construct said needed infrastructure, a timeline for such construction, and provides assurances for construction, in accordance with the City's customary requirements, for said infrastructure.

2. If GMO compliance cannot be achieved through 1a, 1b, 1c or 1d above, then the City shall stop issuing new building permits after building permits for 2, 463 dwelling units have been issued for any development east of 1-805 after April 4, 2011, until such time that GMO traffic threshold standard compliance can be assured to the satisfaction of the City Manager.

3. These measures shaft constitute full compliance with growth management objectives and policies in accordance with the requirements of the General Plan, Chapter 10 with regard to traffic thresholds set forth in the GMO.

Freeway Segments

Impacts to freeway segments would be less than significant; therefore, no mitigation measures are required.

5.4.6 Level of Significance after Mitigation

5.4.6.1 Direct Impacts

Roadway Segments

Impacts would be less than significant.

Freeway Segments

As identified in mitigation measures 5.4.5.1-1 above, payment of appropriate TDIF funds from the Proposed Project for SANDAG would reduce significant direct impacts to below a level of significance.

5.4.6.2 Cumulative Impacts

Roadway Segments

Implementation of mitigation measure 5.4.5.2-1 identified above would reduce significant cumulative impacts to City roadway segments to below a level of significance.

Implementation of mitigation measures 5.4.5.2-2 identified above would reduce significant cumulative impacts to City of San Diego roadway segments to below a level of significance, but because such improvements fall within the jurisdiction of the City of San Diego, the City does not have authority for these improvements. Impacts would remain significant and unmitigable.

Freeway Segments

As identified in mitigation measures 5.4.5.1-1 identified above, payment of appropriate RTCIP funds from the Proposed Project for SANDAG would reduce significant direct impacts to below a level of significance.

5.4.6.3 Existing + Project Impacts

Roadway Segments

GMO compliance would result in impacts being less than significant.

Freeway Segments

Impacts would be less than significant.

5.5 Air Quality

This section presents a supplemental update to the analysis included in the 2005 GPU/GDP EIR with respect to the potential effects on air quality that could result from implementation of the Proposed Project. The 2005 GPU/GDP EIR, along with the supporting documents is hereby incorporated by reference. As an update to the 2005 GPU/GDP EIR, RECON prepared the Otay Ranch Air Quality Analysis, August, 2011. The Analysis is attached as Appendix D and the relevant contents are summarized below.

5.5.1 Existing Conditions

The City is located within the San Diego Air Basin (SDAB), one of 15 air basins that geographically divide the state of California. The SDAB is currently classified as a federal non-attainment area for ozone and a state non-attainment area for particulate matter less than 10 microns (PM_{10}), particulate matter less than 2.5 microns ($PM_{2.5}$), and ozone.

5.5.1.1 Regulatory Plans and Policies

Federal Regulations

FEDERAL CLEAN AIR ACT

Ambient Air Quality Standards (AAQS) represent the maximum levels of background pollution considered safe, with an adequate margin of safety, to protect the public health and welfare. The federal Clean Air Act (CAA) was enacted in 1970 and amended in 1977 and 1990 [42 U.S.C. 7401] for the purposes of protecting and enhancing the quality of the nation's air resources to benefit public health, welfare, and productivity. In 1971, the U.S. EPA developed primary and secondary national ambient air quality standards (NAAQS).

Seven pollutants of primary concern have been designated: ozone (O_3), carbon monoxide (CO), sulfur dioxide (SO_2), nitrogen dioxide (NO_2), lead (Pb), and respirable particulate matter PM_{10} and $PM_{2.5}$. The primary NAAQS ". . . in the judgment of the Administrator, based on such criteria and allowing an adequate margin of safety, are requisite to protect the public health . . . " and the secondary standards ". . . protect the

public welfare from any known or anticipated adverse effects associated with the presence of such air pollutant in the ambient air" [42 U.S.C. 7409(b)(2)]. The primary NAAQS were established, with a margin of safety, considering long-term exposure for the most sensitive groups in the general population (i.e., children, senior citizens, and people with breathing difficulties). The federal AAQS are presented in Table 5.5-1.

State Regulations

CALIFORNIA CLEAN AIR ACT

The EPA allows states the option to develop different (stricter) standards. The state of California generally has set more stringent limits on the seven criteria pollutants (see Table 5.5-1). The California CAA was signed into law on September 30, 1988, and became effective on January 1, 1989. The California CAA requires that districts implement regulations to reduce emissions from mobile sources through the adoption and enforcement of transportation control measures. The California CAA also requires that a district must (South Coast Air Quality Management District [SCAQMD] 2003a):

- Demonstrate the overall effectiveness of the air quality program;
- Reduce nonattainment pollutants at a rate of five percent per year, or include all feasible measures and expeditious adoption schedule;
- Ensure no net increase in emissions from new or modified stationary sources;
- Reduce population exposure to severe nonattainment pollutants according to a prescribed schedule;
- Include any other feasible controls that can be implemented, or for which implementation can begin, within 10 years of adoption of the most recent air quality plan; and
- Rank control measures by cost-effectiveness.

TABLE 5.5-1
AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	California Standards[1]		Federal Standards[2]		
		Concentration[3]	Method[4]	Primary[3,5]	Secondary[3,6]	Method[7]
Ozone (O_3)	1 Hour	0.09 ppm (180 µg/m^3)	Ultraviolet Photometry	–	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.07 ppm (137 µg/m^3)		0.075 ppm (147 µg/m^3)		
Respirable Particulate Matter (PM_{10})	24 Hour	50 µg/m^3	Gravimetric or Beta Attenuation	150 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m^3		–		
Fine Particulate Matter ($PM_{2.5}$)	24 Hour	No Separate State Standard		35 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m^3	Gravimetric or Beta Attenuation	15.0 µg/m^3		
Carbon Monoxide (CO)	8 Hour	9.0 ppm (10 mg/m^3)	Non-dispersive Infrared Photometry (NDIR)	9 ppm (10 mg/m^3)	–	Non-dispersive Infrared Photometry (NDIR)
	1 Hour	20 ppm (23 mg/m^3)		35 ppm (40 mg/m^3)		
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		–	–	–
Nitrogen Dioxide (NO_2)	Annual Arithmetic Mean	0.030 ppm (57 µg/m^3)	Gas Phase Chemi-luminescence	0.053 ppm (100 µg/m^3)	Same as Primary Standard	Gas Phase Chemi-luminescence
	1 Hour	0.18 ppm (339 µg/m^3)		0.100 ppm[8]	–	
Lead[9]	30 Day Average	1.5 µg/m^3	Atomic Absorption	–	–	–
	Calendar Quarter	–		1.5 µg/m^3	Same as Primary Standard	High Volume Sampler and Atomic Absorption
	Rolling 3-Month Average[10]	–		0.15 µg/m^3		
Sulfur Dioxide (SO_2)	Annual Arithmetic Mean	–	Ultraviolet Fluorescence	0.030 ppm (80 µg/m^3)	–	Spectro-photometry (Pararosaniline Method)
	24 Hour	0.04 ppm (105 µg/m^3)		0.14 ppm (365 µg/m^3)	–	
	3 Hour	–		–	0.5 ppm (1300 µg/m^3)	
	1 Hour	0.25 ppm (655 µg/m^3)		–	–	–
Visibility Reducing Particles	8 Hour	Extinction coefficient of 0.23 per kilometer – visibility of 10 miles or more (0.07 – 30 miles or more for Lake Tahoe) due to particles when relative humidity is less than 70%. Method: Beta Attenuation and Transmittance through Filter Tape.		No Federal Standards		
Sulfates	24 Hour	25 µg/m^3	Ion Chroma-tography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m^3)	Ultraviolet Fluorescence			
Vinyl Chloride[9]	24 Hour	0.01 ppm (26 µg/m^3)	Gas Chroma-tography			

SOURCE: State of California 2010a.
ppm = parts per million; µg/m^3 = micrograms per cubic meter; – = not applicable.

TABLE 5.5-1
AMBIENT AIR QUALITY STANDARDS
(continued)

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[1]California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1- and 24-hour), nitrogen dioxide, suspended particulate matter—PM10, PM2.5, and visibility reducing particles—are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

[2]National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration in a year, averaged over three years, is equal to or less than the standard. For PM10, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 $\mu g/m^3$ is equal to or less than one. For PM2.5, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. Environmental Protection Agency (EPA) for further clarification and current federal policies.

[3]Concentration 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 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

[4]Any equivalent procedure which can be shown to the satisfaction of the Air Resources Board to give equivalent results at or near the level of the air quality standard may be used.

[5]National Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health.

[6]National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

[7]Reference method as described by the EPA. An “equivalent method” of measurement may be used but must have a “consistent relationship to the reference method” and must be approved by the EPA.

[8]To attain this standard, the 3-year average of the 98th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 0.100 ppm (effective January 22, 2010).

[9]The ARB has identified lead and vinyl chloride as “toxic air contaminants” with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

[10]National lead standard, rolling 3-month average; final rule signed October 15, 2008.

THE CALIFORNIA ENVIRONMENTAL QUALITY ACT

Section 15125(d) of the CEQA Guidelines requires discussion of any inconsistencies between the Proposed Project and applicable general plans and regional plans, including the applicable air quality attainment or maintenance plan (or State Implementation Plan).

STATE IMPLEMENTATION PLAN

The State Implementation Plan (SIP) is a collection of documents that set forth the state's strategies for achieving the air quality standards. As discussed below, the San Diego Air Pollution Control District (SDAPCD) is responsible for preparing and implementing the portion of the SIP applicable to the SDAB. The SDAPCD adopts rules, regulations, and programs to attain state and federal air quality standards, and appropriates money (including permit fees) to achieve these objectives.

Local Regulations

SAN DIEGO AIR POLLUTION CONTROL DISTRICT

The SDAPCD is the agency that regulates air quality in the SDAB. The SDAPCD prepared the 1991/1992 Regional Air Quality Strategy (RAQS) (County of San Diego 1992). Included as part of the RAQS, are the Transportation Control Measures (TCMs) for the air quality plan prepared by SANDAG (SANDAG 1992). The required triennial updates of the RAQS and corresponding TCMs were most recently adopted in 2009. The RAQS and TCMs set forth the steps needed to accomplish attainment of state and federal ambient air quality standards.

On January 1, 1969, the SDAPCD adopted rules and regulations focused on the improvement of air quality and the protection of the health and welfare of County residents and their environment. Since certification of the 2005 GPU/GDP EIR, updated rules and regulations relating to fugitive dust control (Rule 55), effective December 24, 2009, were adopted.

Diesel-exhaust particulate matter emissions have been established as Toxic Air Contaminants (TACs). Diesel emissions generated within the County and surrounding areas pose a potential hazard to residents and visitors. Following the identification of

diesel particulate matter as a TAC in 1998, the CARB has developed strategies and regulations aimed at reducing the risk from diesel particulate matter (State of California 2000). A stated goal of the strategic plan is to reduce the cancer risk statewide arising from exposure to diesel particulate matter 75 percent by 2010 and 85 percent by 2020.

A number of programs and strategies to reduce diesel particulate matter have been implemented or are in the process of being developed. As an ongoing process, CARB will continue to establish new programs and regulations for the control of diesel particulate emissions as appropriate. The continued development and implementation of these programs and policies will ensure that the public exposure to diesel particulate matter will continue to decline.

The SDAPCD also started sampling for toxic air contaminants at the Chula Vista and El Cajon monitoring stations in the mid-1980s. The 24-hour samples are performed once every 12 days. Excluding diesel particulates, Chula Vista has shown a 69 percent reduction in the ambient incremental cancer risk from air toxics (County of San Diego 2009).

CITY OF CHULA VISTA GROWTH MANAGEMENT ORDINANCE

The City's Growth Management Ordinance requires an Air Quality Improvement Plan (AQIP) to be submitted with all SPA Plans or major development projects consisting of 50 dwelling units or more (or non-residential or mixed-use projects with equivalent dwelling units (EDUs) to a residential project of 50 or more dwelling units). As required by Growth Management Ordinance, the AQIP shall provide an analysis of air pollution impacts, which would result from the project and will be required to demonstrate the best available design to reduce vehicle trips, maintain or improve traffic flow, and reduce vehicle miles traveled, including implementation of appropriate traffic control measures and other means of reducing emissions (direct or indirect) from the project.

CITY OF CHULA VISTA GENERAL PLAN

Objective E 6 of the City's GP contains multiple policies focused on the improvement of air quality:

Objective E 6

Improve local air quality by minimizing the production and emission of air pollutants and toxic air contaminants and limit the exposure of people to such pollutants.

Policies

E 6.1 Encourage compact development featuring a mix of uses that locate residential areas within reasonable walking distance to jobs, services, and transit.

E 6.2 Promote and facilitate transit system improvements in order to increase transit use and reduce dependency on the automobile.

E 6.3 Ensure that operational procedures of the City promote clean air by maximizing the use of low-and zero-emissions equipment and vehicles.

E 6.4 Avoid siting new or re-powered energy generation facilities and other major toxic air emitters within 1,000 feet of a sensitive receiver, or the placement of a sensitive receiver within 1,000 feet of a major toxic emitter.

E 6.5 Ensure that plans developed to meet the City's energy demand use the least polluting strategies, wherever practical. Conservation, clean renewables, and clean distributed generation should be considered as part of the City’s energy plan, along with larger natural gas-fired plants.

E 6.6 Explore incentives to promote voluntary air pollutant reductions, including incentives for developers who go above and beyond applicable requirements and for facilities and operations that are not otherwise regulated.

E 6.7 Encourage innovative energy conservation practices and air quality improvements in new development and redevelopment projects consistent with the City's Air Quality Improvement Plan Guidelines or its equivalent, pursuant to the City's Growth Management Program.

E 6.8 Support the use of alternative fuel transit, City fleet and private vehicles in Chula Vista.

E 6.9 Discourage the use of landscaping equipment powered by two-stroke gasoline engines within the City and promote less-polluting alternatives to their use.

E 6.10 The siting of new sensitive receivers within 500 feet of highways resulting from development or redevelopment projects shall require the preparation of a health risk assessment as part of the CEQA review of the project. Attendant health risks identified in the Health Risk Assessment (HRA) shall be feasibly mitigated to the maximum extent practicable, in accordance with CEQA, in order to help ensure that applicable federal and state standards are not exceeded.

E 6.11 Develop strategies to minimize CO hot spots that address all modes of transportation.

E 6.12 Promote clean fuel sources that help reduce the exposure of sensitive uses to pollutants.

E 6.13 Encourage programs and infrastructure to increase the availability and usage of energy-efficient vehicles, such as hybrid electric vehicles, electric vehicles, or those that run on alternative fuels.

E 6.14 The City will implement a clean vehicle/alternative fuel program for City vehicles (except safety vehicles and equipment, when not feasible) and promote the development of infrastructure to support their use.

E 6.15 Site industries in a way that minimizes the potential impacts of poor air quality on homes, schools, hospitals, and other land uses where people congregate.

Otay Ranch General Development Plan

Part II, Chapter 6, Section C establishes goals to minimize the adverse impacts of development on air quality including creating a safe and efficient multi-modal transportation network which minimizes the number and length of single passenger vehicle trips.

Objective: Minimize the number and length of single passenger vehicle trips to and from employment and commercial centers to achieve an average of 1.5 persons per passenger vehicle during weekday commute hours. While most policies associated with

implementing this objective are not relevant at this level of analysis, they are listed below for informational purposes.

Policies:

- Encourage, as appropriate, alternative transportation incentives offered to employees, alternative work hour programs, alternative transportation promotional materials, information on car pool and van pool matching services, transit pass information, space for car pool and van pool riders-wanted advertisements, information about transit and rail service, as well as information about bicycle facilities, routes, storage, and location of nearby shower and locker facilities.

- Promote telecommuting and teleconferencing programs and policies in employment centers.

- Establish or participate in education based commute programs, which minimize the number and length of single passenger vehicle trips.

- Provide on-site amenities in commercial and employment centers, to include: childcare facilities, post offices, banking services, cafeterias/delis/ restaurants, etc.

- Should Otay Ranch include a college or university, the facility should comply with RAQS transportation demand management strategies relating to such uses.

5.5.1.2 Existing Air Quality

Air quality at a particular location is a function of the kinds, amounts, and dispersal rates of pollutants being emitted into the air locally and throughout the basin. The major factors affecting pollutant dispersion are wind speed and direction, the vertical dispersion of pollutants (which is affected by inversions), and the local topography.

Air quality is commonly expressed as the number of days in which air pollution levels exceed state standards set by the CARB or federal standards set by the EPA. As stated above, the Project Area is within the SDAB. The SDAPCD maintains 10 air-quality monitoring stations located throughout the greater San Diego metropolitan region. Air

pollutant concentrations and meteorological information are continuously recorded at these 10 stations. Measurements are then used by scientists to help forecast daily air pollution levels. Table 5.5-2 summarizes the number of days per year during which state and federal standards were exceeded in the SDAB overall from 2004 to 2008. The Chula Vista monitoring station, located approximately three miles west of the project site, is the nearest station to the Project Area. The Chula Vista monitoring station measures ozone, CO, NO_2, SO_2, PM_{10}, and $PM_{2.5.}$ Table 5.5-3 provides a summary of measurements of ozone, CO, NO_2, SO_2, PM_{10}, and $PM_{2.5}$ collected at the Chula Vista monitoring station for the years 2004 through 2008.

Ozone

Nitrogen oxides and hydrocarbons (reactive organic gases [ROGs]) are known as the chief “precursors” of ozone. These compounds react in the presence of sunlight to produce ozone. Ozone is the primary air pollution problem in the SDAB. Because sunlight plays such an important role in its formation, ozone pollution, or smog, is mainly a concern during the daytime in summer months. The SDAB is currently designated a federal and state non-attainment area for ozone. During the past 20 years, the County experienced a decline in the number of days with unhealthy levels of ozone despite the region’s growth in population and vehicle miles traveled (County of San Diego 2009).

About half of smog-forming emissions come from automobiles. Population growth in the San Diego region has resulted in a large increase in the number of automobiles expelling ozone-forming pollutants while operating on area roadways. In addition, the occasional transport of smog-filled air from the South Coast Air Basin (SCAB) only adds to the SDAB’s ozone problem. More strict automobile emission controls, including more efficient automobile engines, have played a large role in why ozone levels have steadily decreased.

The former national one-hour ozone standard of 0.12 ppm was not exceeded at the Chula Vista monitoring station during the five-year period of 2004 to 2008. The stricter state one-hour ozone standard of 0.09 ppm was exceeded once in 2004, twice in 2007, and once in 2008.

In order to address adverse health effects due to prolonged exposure, the U.S. EPA phased out the national one-hour ozone standard and replaced it with the more

TABLE 5.5-2
AMBIENT AIR QUALITY SUMMARY – SAN DIEGO AIR BASIN

Pollutant	Average Time	California Ambient Air Quality Standards[a]	Attainment Status	National Ambient Air Quality Standards[b]	Attainment Status[c]	Maximum Concentration					Number of Days Exceeding State Standard					Number of Days Exceeding National Standard				
						2004	2005	2006	2007	2008	2004	2005	2006	2007	2008	2004	2005	2006	2007	2008
O_3	1 hour	0.09 ppm	N	N/A	N/A	.129	.113	.121	.134	.139	12	16	23	21	18	1	0	0	1	2
O_3	8 hours	0.07ppm	N	0.08 ppm	N	.095	.089	.100	.092	.109	43	51	68	50	69	8	5	14	7	11
CO	1 hour	20 ppm	A	35 ppm	A	6.90	Na	Na	Na	Na	0	Na	Na	Na	Na	0	Na	Na	Na	Na
CO	8 hours	9 ppm	A	9 ppm	A	4.11	4.71	3.61	5.18	3.51	0	0	0	0	0	0	0	0	0	0
NO_2	1 hour	0.18 ppm*	A	N/A	N/A	.125	.109	.097	.101	.123	0	0	0	0	0	N/A	N/A	N/A	N/A	N/A
NO_2	Annual	0.030 ppm*	N/A	0.053 ppm	A	.017	.015	.017	.015	Na	N/A	N/A	N/A	N/A	Na	NX	NX	NX	NX	Na
SO_2	1 hour	25 pphm	A	N/A	N/A	.045	Na	Na	Na	Na	0	Na	Na	Na	Na	N/A	N/A	N/A	N/A	Na
SO_2	24 hours	4 pphm	A	14 pphm	A	.016	Na	Na	Na	Na	0	Na	Na	Na	Na	0	Na	Na	Na	Na
SO_2	Annual	N/A	N/A	3 pphm	A	Na	Na	Na	Na	Na	N/A	N/A	N/A	N/A	Na	Na	Na	Na	Na	Na
PM_{10}	24 hours	50 $\mu g/m^3$	N	150 $\mu g/m^3$	U	138	154	134	392	147	174.5	52.7	159.4	158.7	Na	0	2	0	1	0
PM_{10}	Annual	20 $\mu g/m^3$	N	N/A	N/A	51.7	28.6	54.1	58.5	Na	EX	EX	EX	EX	Na	N/A	N/A	N/A	N/A	N/A
$PM_{2.5}$	24 hours	N/A	N/A	35 $\mu g/m^3$	A	Na	Na	Na	Na	Na	Na	Na	Na	Na	Na	Na	Na	Na	Na	Na
$PM_{2.5}$	Annual	12 $\mu g/m^3$	N	15 $\mu g/m^3$	A	Na	Na	Na	Na	Na	Na	Na	Na	Na	Na	Na	Na	Na	Na	Na

SOURCE: State of California. (2010b). California Air Quality Data Statistics. California Air Resources Board Internet Site. URL http://www.arb.ca.gov/adam/welcome.html.
*This concentration was approved by the Air Resources Board on February 22, 2007. New 1-hour and annual concentrations would not have been exceed during the years 2004 through 2008.
[a]California standards for ozone, carbon monoxide (except at Lake Tahoe), sulfur dioxide (1-hour and 24-hour), nitrogen dioxide, and PM_{10} are values that are not to be exceeded. Some measurements gathered for pollutants with air quality standards that are based upon 1-hour, 8-hour, or 24-hour averages, may be excluded if the CARB determines they would occur less than once per year on average.
[b]National standards other than for ozone and particulates, and those based on annual averages or annual arithmetic means are not to be exceeded more than once a year. The 1-hour ozone standard is attained if, during the most recent 3-year period, the average number of days per year with maximum hourly concentrations above the standard is equal to or less than one.
[c]A = attainment; N = non-attainment; U = Unclassifiable N/A = not applicable; Na = data not available; NX = annual average not exceeded; EX = annual average exceeded.
NOTE: Federal 1 hour ozone standard revoked in SDAB on June 15, 2005
ppm = parts per million, pphm = parts per hundred million, $\mu g/m^3$ = micrograms per cubic meter.
Calculated days are the estimated number of days that a measurement would have been greater than the level of the standard had measurements been collected every day. The number of days above the standard is not necessarily the number of violations of the standard for the year.

TABLE 5.5-3
SUMMARY OF AIR QUALITY MEASUREMENTS RECORDED AT THE CHULA VISTA MONITORING STATION

Pollutant/Standard	2004	2005	2006	2007	2008
Ozone					
Days State 1-hour Standard Exceeded (0.09 ppm)	1	0	0	2	1
Days State 8-hour Standard Exceeded (0.07 ppm)	3	3	0	3	4
Days Federal 1-hour Standard Exceeded (0.12 ppm)[a]	0	0	0	0	0
Days '97 Federal 8-hour Standard Exceeded (0.08 ppm)	1	1	0	1	1
Days '08 Federal 8-hour Standard Exceeded (0.075 ppm)	1	1	0	1	3
Max. 1-hr (ppm)	0.097	0.093	0.084	0.105	0.107
Max 8-hr (ppm)	0.088	0.081	0.069	0.087	0.084
Nitrogen Dioxide					
Days State 1-hour Standard Exceeded (0.18 ppm)	0	0	0	0	0
Max 1-hr (ppm)	0.072	0.071	0.074	0.082	0.072
Annual Average (ppm)	0.016	0.016	0.017	0.015	0.015
PM_{10}					
Days State 24-hour Standard Exceeded (50 $\mu g/m^3$)	0	2	2	2	1
Days Federal 24-hour Standard Exceeded (150 $\mu g/m^3$)	0	0	0	0	0
Max. Daily ($\mu g/m^3$)	45.0	53.0	52.0	58.0	54.0
State Annual Average ($\mu g/m^3$)	26.4	27.0	26.3	26.1	26.7
Federal Annual Average ($\mu g/m^3$)	25.8	26.5	25.7	25.5	26.2
$PM_{2.5}$					
Days '97 Federal 24-hour Standard Exceeded (65 $\mu g/m^3$)	0	0	0	1	0
Days '06 Federal 24-hour Standard Exceeded (35 $\mu g/m^3$)	0	0	0	3	0
Max. Daily ($\mu g/m^3$)	32.7	34.3	30.2	77.8	32.9
State Annual Average ($\mu g/m^3$)	12.2	Na	11.2	Na	12.3
Federal Annual Average ($\mu g/m^3$)	12.2	11.8	11.2	12.5	12.3
Carbon Monoxide					
Days State 8-hour Standard Exceeded (9 ppm)	0	0	0	0	0
Days Federal 8-hour Standard Exceeded (9 ppm)	0	0	0	0	0
Max. 8-hr (ppm)	2.48	2.13	2.20	2.24	1.87
Sulfur Dioxide					
Days State 24-hour Standard Exceeded (0.04 ppm)	0	0	0	0	0
Days Federal 24-hour Standard Exceeded (0.14 ppm)	0	0	0	0	0
Max. Daily (ppm)	0.016	0.005	0.006	0.004	0.004
Annual Average (ppm)	0.003	0.003	0.003	0.002	0.002

SOURCE: State of California 2010b.

Na = Not available.

[a]The federal 1-hour standard for ozone (0.12 ppm) has been revoked.

protective eight-hour ozone standard (EPA 2009a). The SDAB is currently a nonattainment area for the previous national eight-hour standard and is recommended as a nonattainment area for the revised national eight-hour standard of 0.075 ppm. The previous national eight-hour standard of 0.08 ppm was exceeded one day in 2004, one day in 2005, one day in 2007, and one day in 2008 at the Chula Vista monitoring station. The revised national eight-hour standard of 0.075 ppm was exceeded one day in 2004, one day in 2005, one day in 2007, and three days in 2008. The stricter state eight-hour ozone standard of 0.07 ppm was exceeded three days in 2004, three days in 2005, three days in 2007, and four days in 2008.

Not all of the ozone within the SDAB is derived from local sources. Under certain meteorological conditions, such as during Santa Ana wind events, ozone and other pollutants are transported from the SCAB and combine with ozone formed from local emission sources to produce elevated ozone levels in the SDAB.

Local agencies cannot control either the source or the transportation of pollutants from outside the air basin. The SDAPCD's policy, therefore, has been to control local sources effectively enough to reduce locally produced contamination to clean air standards. Through the use of air pollution control measures outlined in the RAQS, the SDAPCD has effectively reduced ozone levels in the SDAB.

Actions that have been taken in the SDAB to reduce ozone concentrations include:

- **Transportation Control Measures if vehicle travel and emissions exceed attainment demonstration levels.** TCMs are strategies that will reduce transportation-related emissions by reducing vehicle use or improving traffic flow.

- **Enhanced motor vehicle inspection and maintenance program.** The smog check program is overseen by the Bureau of Automotive Repair. The program requires most vehicles to pass a smog test once every two years before registering in the state of California. The smog check program monitors the amount of pollutants automobiles produce. One focus of the program is identifying "gross polluters," or vehicles that exceed two times the allowable emissions for a particular model. Regular maintenance and tune-ups, changing the oil, and checking tire inflation can improve gas mileage and lower air pollutant emissions. It can also reduce traffic congestion due to preventable breakdowns, further lowering emissions.

- **Clean-fuel vehicle program.** The clean-fuel vehicle program, overseen by CARB, requires the development of cleaner burning cars and clean alternative fuels by requiring the motor vehicle industry to develop new technologies to meet air quality requirements. Clean-fuel vehicles are those that meet the emissions standards set in the 1990 amendments to the CAA (EPA 1970). Cleaner vehicles and fuels will result in continued reductions in vehicle pollutant emissions despite increases in travel.

Carbon Monoxide

The SDAB is classified as a state attainment area and as a federal maintenance area for CO (County of San Diego 1998). Until 2003, no violations of the state standard for CO had been recorded in the SDAB since 1991, and no violations of the national standard had been recorded in the SDAB since 1989. The violations that took place in 2003 were likely the result of massive wildfires that occurred throughout the County. As shown in Table 5.5-2, the federal and state eight-hour CO standards were not exceeded during the period from 2004 through 2008. The federal and state one-hour standards were not exceeded in 2004. One-hour data were not available for 2005 through 2008. As shown in Table 5.5-3, the federal and state eight-hour CO standards were not exceeded at the Chula Vista monitoring station from 2004 through 2008. One-hour data were not available.

Small-scale, localized concentrations of CO above the state and national standards have the potential to occur at intersections with stagnation points, such as those that occur on major highways and heavily traveled and congested roadways. Localized high concentrations of CO are referred to as “CO hot spots” and are a concern at congested intersections when automobile engines burn fuel less efficiently and their exhaust contains more CO.

PM_{10}

PM_{10} is particulate matter with an aerodynamic diameter of 10 microns or less. Ten microns is about one-seventh of the diameter of a human hair. Particulate matter is a complex mixture of very tiny solid or liquid particles composed of chemicals, soot, and dust. Sources of PM_{10} emissions in the SDAB consist mainly of urban activities, dust suspended by vehicle traffic, and secondary aerosols formed by reactions in the atmosphere.

Under typical conditions (i.e., no wildfires) particles classified under the PM_{10} category are mainly emitted directly from activities that disturb the soil, including travel on roads and construction, mining, or agricultural operations. Other sources include windblown dust, salts, brake dust, and tire wear (County of San Diego 1998). For several reasons hinging on the area's dry climate and coastal location, the SDAB has special difficulty in developing adequate tactics to meet present state particulate standards.

The SDAB is designated as federal unclassified and state nonattainment for PM_{10}. In 2005, the measured federal PM_{10} standard was exceeded twice in 2005 and once in 2007 in the SDAB. The 2007 exceedance occurred on October 21, 2007, at times when major wildfires were raging throughout the county. Consequently, this exceedance was likely caused by the wildfires and would be beyond the control of the SDAPCD. As such, this event is covered under the EPA's Natural Events Policy that permits, under certain circumstances, the exclusion of air quality data attributable to uncontrollable natural events (e.g., volcanic activity, wild land fires, and high wind events). The 2005 exceedances did not occur during wildfires and are not covered under this policy.

At the Chula Vista monitoring station, the national 24-hour PM_{10} standard was not exceeded from 2004 through 2008. The stricter state 24-hour PM_{10} standard was exceeded two days in 2005, two days in 2006, two days in 2007, and one day in 2008.

$PM_{2.5}$

Airborne, inhalable particles with aerodynamic diameters of 2.5 microns or less have been recognized as an air quality concern requiring regular monitoring. Federal regulations required that $PM_{2.5}$ monitoring begin January 1, 1999 (County of San Diego 1999). The Chula Vista monitoring station is one of five stations in the SDAB that monitors $PM_{2.5}$. Federal $PM_{2.5}$ standards established in 1997 include an annual arithmetic mean of 15 $\mu g/m^3$ and a 24-hour concentration of 65 $\mu g/m^3$. As discussed above, the 24-hour $PM_{2.5}$ standard has been changed to 35 $\mu g/m^3$. However, this does not apply to the monitoring from 2004 to 2006. State $PM_{2.5}$ standards established in 2002 are an annual arithmetic mean of 12 $\mu g/m^3$. Table 5.5-3 shows that the prior 24-hour $PM_{2.5}$ standard of 65 $\mu g/m^3$ was exceeded one day in 2007 and the new standard of 35 $\mu g/m^3$ was exceeded three days in 2007 at the Chula Vista monitoring station.

The SDAB was classified as an attainment area for the previous federal 24-hour $PM_{2.5}$ standard of 65 $\mu g/m^3$ and has also been classified as an attainment area for the revised federal 24-hour $PM_{2.5}$ standard of 35 $\mu g/m^3$ (U.S. EPA 2004, 2009b). The SDAB is a non-attainment area for the state $PM_{2.5}$ standard (State of California 2009a).

Other Criteria Pollutants

The national and state standards for NO_2, SO_x, and previous lead are being met in the SDAB, and the latest pollutant trends suggest that these standards will not be exceeded in the foreseeable future. As discussed above, the CARB recommended to the EPA that the SDAB be designated unclassifiable for the new lead standard.

5.5.2 Thresholds of Significance

The Proposed Project would result in a significant impact to air quality if it would:

1. Conflict with or obstruct implementation of the applicable air quality plan.

2. Violate any air quality standard or contribute substantially to an existing or projected air quality violation.

3. 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). The City uses the SCAQMD thresholds shown in Table 5.5-4 to assess the significance of air quality impacts (SCAQMD 1993).

TABLE 5.5-4
SCAQMD THRESHOLDS
(pounds per day)

Pollutant	Project Construction	Project Operation
NO_x	100	55
VOC	75	55
PM_{10}	150	150
$PM_{2.5}$	55	55
SO_x	150	150
CO	550	550

4. Expose sensitive receptors to substantial pollutant concentrations.

5. Create objectionable odors affecting a substantial number of people.

5.5.3 Impacts

5.5.3.1 2005 GPU/GDP EIR Conclusion

Threshold 1: Plan Consistency

The 2005 GPU/GDP EIR concluded that impacts associated with plan consistency represent a significant impact. While project design measures were included in the GPU (bicycle paths, emphasis on public transit) to lessen air quality impacts, because the GPU was not consistent with the growth assumptions used to develop the RAQS, there remained a conflict with the air quality plan.

Threshold 2: Air Quality Violation

The 2005 GPU/GDP EIR concluded that due to increased development potential under the GPU, air emissions associated with planned industrial uses could represent a significant impact. Application of GP policies would be self-mitigating because Policy E 6.4 avoids the placement of sensitive receivers within 1,000 feet of any major toxic air emitters. Impacts would be less than significant.

Threshold 3: Criteria Pollutants

The 2005 GPU/GDP EIR concluded that since the region is not in compliance with the PM_{10} standards, and the GPU would result in average daily increases in PM_{10}, impacts would be cumulatively considerable. Mitigation requires active dust control measures during construction. With the application of this measure, significant impacts resulting from PM_{10} emissions would be mitigated; however, impacts from daily operation would remain significant and unmitigated until the region is in compliance with the standard.

Threshold 4: Sensitive Receptors

The 2005 GPU/GDP EIR concluded that the potential for development under the GPU to expose sensitive receptors to substantial pollutant concentrations could be significant.

Application of GP policies would be self-mitigating and impacts would be reduced to less than significant.

Threshold 5: Odors

The 2005 GPU/GDP EIR concluded that no significant odor impacts would occur because the GPU does not include the placement of any residential uses adjacent to the Otay Landfill. As an additional measure, mitigation provides that no residential use shall be permitted within 1,000 feet of the landfill unless a project specific analysis is performed.

5.5.3.2 Analysis of Proposed Project

Threshold 1: Plan Consistency

Threshold 1 states that significant impacts to air quality would occur if the Proposed Project would conflict with or obstruct implementation of an applicable air quality plan.

As noted above, the SIP is the document that sets forth the state's strategies for achieving air quality standards. The SDAPCD is the agency that regulates air quality in the SDAB and is responsible for preparing and implementing the portion of the SIP applicable to the SDAB. The RAQS and TCM plan developed by the SDAPCD and SANDAG set forth the steps needed to accomplish attainment of state and federal ambient air quality standards. The SDAPCD adopts rules, regulations, and programs to attain state and federal air quality standards, and appropriates money (including permit fees) to achieve these objectives.

In order to meet federal air quality standards in California, the CARB required each air district to develop its own strategy for achieving the NAAQS. The SDAPCD prepared the 1991/1992 RAQS in response to the requirements set forth in the California CAA. The TCM plan prepared by SANDAG is attached as part of the RAQS. Together, the RAQS and TCM plan set forth the steps needed to accomplish attainment of state and federal ambient air quality standards.

The basis for these plans is the distribution of population in the region as projected by SANDAG. Growth forecasting is based in part on the land uses established by the City's GP. Amending the GP to change development potential would, necessarily, result in an

inconsistency between the land uses included in the existing 2009 air quality strategy and the amended land uses that are part of the Proposed Project. Therefore, because land use changes included in the proposed GPA and GDPA would be inconsistent with land uses upon which the existing RAQS was based, the Proposed Project would not conform to the current RAQS. Consequently, like the GPU at the time of its approval, the Proposed Project would conflict with the adopted air plan and impacts would be considered significant.

Threshold 2: Air Quality Violation

Threshold 2 states that significant impacts to air quality would occur if the Proposed Project would violate any air quality standard or contribute substantially to an existing or projected air quality violation.

There are currently no air quality violations on or near the Project Area (State of California 2009b). The Proposed Project would allow similar residential, mixed-use, and park uses as analyzed in the 2005 GPU/GDP EIR. These land uses would not result in any significant stationary sources of emissions and impacts would be less than significant. Emissions from increased traffic on area roadways, and operation and construction of projects pursuant to the Proposed Project are discussed under Threshold 3 below.

Threshold 3: Criteria Pollutants

Threshold 3 states that significant impacts to air quality would occur if the Proposed Project would result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard.

Air quality impacts can result from the construction and operation of a project. Construction impacts are short-term and result from fugitive dust, equipment exhaust, and indirect effects associated with construction workers and deliveries. Operational impacts can occur on two levels: regional impacts resulting from development or local hot-spot effects stemming from sensitive receivers being placed close to highly congested roadways. As was the case in the 2005 GPU/GDP EIR, operational impacts

of the Proposed Project are primarily due to emissions to the basin from mobile sources associated with the vehicular travel along the roadways within the Project Area.

Air emissions were calculated using the URBEMIS 2007 computer program (Rimpo and Associates 2007). The URBEMIS 2007 is an updated version of the program used to estimate air emissions in the 2005 GPU/GDP EIR. The model generates emissions from three basics sources: construction sources, area sources (e.g. fireplaces and natural gas heating), and operational sources (e.g. traffic).

Inputs to URBEMIS 2007 include such items as the air basin containing the project, land uses, trip generation rates, trip lengths, vehicle fleet mix (percentage autos, medium truck, etc.), trip distribution (i.e. percent home to work), duration of construction phases, construction equipment usage, grading areas, season, and ambient temperature, as well as other parameters. URBEMIS 2007 does not include specific SDAB emission data. Consequently, for this assessment SCAB emission data were used. This is appropriate, because the meteorological data associated with the Proposed Project are similar to the characteristics of the SCAB. The URBEMIS 2007 output files contained in Attachment 1 of Appendix D indicate the specific inputs for each model run. Emissions of NO_x, CO, SO_x, PM_{10}, $PM_{2.5}$, and ROG, an ozone precursor, are calculated. Emission factors are not available for lead, and consequently, lead emissions are not calculated. The SDAB is currently in attainment of the state and federal lead standards. Furthermore, fuel used in construction equipment and most other vehicles is not leaded.

CONSTRUCTION

Construction-related activities are temporary, short-term sources of air emissions. Sources of construction-related air emissions include:

- Fugitive dust from grading activities;
- Construction equipment exhaust;
- Construction-related trips by workers, delivery trucks, and material-hauling trucks; and
- Construction-related power consumption.

Air pollutants generated by the construction of projects within the Project Area would vary depending upon the number of projects occurring simultaneously and the size of

each individual project. Construction-related pollutants result from dust that is raised during grading, emissions from construction vehicles, and chemicals used during construction.

Fugitive dust emissions vary greatly during construction and are dependent on the amount and type of activity, silt content of the soil, and the weather. Vehicles moving over paved and unpaved surfaces, demolition, excavation, earth movement, grading, and wind erosion from exposed surfaces are all sources of fugitive dust. Construction operations are subject to the requirements established in Regulation 4, Rules 52 and 54, of the SDAPCD's rules and regulations (County of San Diego 2010a).

At this program level of analysis, the exact number and timing of all future development projects that could occur are unknown. Approval of the Proposed Project would not permit the construction of any individual project, and no specific construction details are available. Upon application for individual development projects, the City would use the SCAQMD construction thresholds, shown in Table 5.5-4, to assess the significance of air quality impacts. These thresholds are applied on a project-by-project basis and are not used for assessment of regional planning impacts.

Future projects under the Proposed Project would implement standard dust and emission control during grading operations to reduce potential nuisance impacts and to ensure compliance with SDAPCD rules and regulations. In addition, future projects would be required to implement mitigation measures detailed in the 2005 GPU/GDP EIR (see Section 5.5.5 below). With implementation of standard dust and emission control measures during grading operations, compliance with SDAPCD rules and regulations, and implementation of City mandated BMPs, emissions due to construction of future projects within the project site would be less than significant.

OPERATION

Operational source emissions would originate from traffic generated within or as a result of the Proposed Project. Area source emissions would result from activities such as use of natural gas, fireplaces, and consumer products. In addition, landscaping maintenance activities associated with the proposed land uses would produce pollutant emissions.

Implementation of the Proposed Project would result in an increase in development potential within the Land Use Change Area as compared to the Preferred Plan analyzed in the 2005 GPU/GDP EIR. An assessment of the anticipated air emissions resulting from buildout of the Proposed Project in the year 2030 was prepared using the URBEMIS 2007 computer program. In the 2005 GPU/GDP EIR, citywide air emissions were calculated using URBEMIS 2002. To update the analysis for the Proposed Project, the land uses entered into URBEMIS 2002 for the GPU were entered into URBEMIS 2007. The increase in development potential within the Land Use Change Area was then modeled using URBEMIS 2007 and the results were added to the citywide emissions under the 2005 GPU Preferred Plan to obtain the total citywide emissions due to the Proposed Project. Table 6 of the Air Quality Analysis provides detail of the Proposed Project's increase in development potential within the Land Use Change Area. Table 5.5-5, below, summarizes the increase in development.

TABLE 5.5-5
INCREASE IN DEVELOPMENT POTENTIAL
DUE TO PROPOSED PROJECT

Land Use	Amount
Single Family	247 units
Multi-Family	633 units
Commercial	550,000 sf
Industrial/RTP	2.2 million sf
School	6.4 acres
Park	5.1 acres
Community Purpose Facility	-9.3 acres

sf= square feet

The primary land use changes included as part of the Proposed Project would accommodate approximately 880 additional dwelling units more than the 2005 GPU/GDP EIR Preferred Plan for the same area. Additionally, the Proposed Project would increase commercial space by 550,000 sf and add 2.2 million sf of industrial uses within the 85-acre RTP. The average winter and summer temperatures used in URBEMIS 2007 were assumed to be 40°F and 75°F, respectively. The average trip length for the County is 5.8 miles (SANDAG 2009). The defaults for other mobile source parameters, such as vehicle fleet mix, were assumed. Pursuant to URBEMIS 2007, the proposed land uses in the GPA and GDPA would generate approximately 38,162 additional ADT above that calculated for the 2005 GPU/GDP EIR. Default area source parameters in URBEMIS 2007 were used for the analysis of area emissions except for

those associated with hearth fuel combustion. For hearth fuel combustion, it was assumed that 5 percent of households would have wood fireplaces and 10 percent would have natural gas fireplaces. It was also assumed that those households with wood fireplaces would burn a quarter of a cord per year. The defaults for natural gas use in URBEMIS 2007 were assumed.

Table 5.5-6 shows the future (Year 2030) average daily emissions associated with the Proposed Project's additional increase of pollutant emissions. The URBEMIS 2007 output files for project operation are contained in Appendix D. As seen in Table 5.5-6, future emissions under the Proposed Project are projected to be greater than future emissions analyzed in the 2005 GPU/GDP EIR thereby resulting in an increase in total city wide emissions.

Implementation of the Proposed Project would seek to reduce air pollution and minimize air quality impacts by promoting mixed land use patterns and creating walkable neighborhoods and vibrant town centers. Future development within the Project Area would be subject to the GP Objective E 6, which focuses on the improvement of air quality through minimization of the production and emission of air pollutants. Specific air pollution reduction measures would include the following:

- Policy E 6.1 encourages the development of compact mixed-use communities.
- Policy E 6.2 promotes use and facilitation of a transit system to reduce reliance on automobiles.
- Policy E 6.8 supports the use of alternative fuel sources.
- Policy E 6.9 encourages programs which increase the availability of energy efficient vehicles.

Likewise, conformance with the Otay Ranch GDP requires seeking ways to reduce reliance on automobiles and reduce distance traveled. Additionally, subsequent SPA Plans within the Project Area would conform to the City's Growth Management Ordinance requiring the submittal of an AQIP. The AQIP will provide an analysis of air pollution impacts that would result from future projects and identify the

TABLE 5.5-6
FUTURE (YEAR 2030) AVERAGE DAILY EMISSIONS TO THE SAN DIEGO AIR BASIN
(pounds/day)

	2005 General Plan Update Citywide Emissions			Increase in Emissions due to Proposed Project			Citywide Emissions after Buildout of the Proposed Project		
Season/Pollutant	Area Source Emissions	Operational (Vehicle Emissions)	Total Emissions[1]	Area Source Emissions	Operational (Vehicle Emissions)	Total Emissions[1]	Area Source Emissions	Operational (Vehicle Emissions)	Total Emissions[1]
Summer									
ROG	8,920	8,344	17,264	65	76	140	8,984	8,419	17,403
NO_x	1,978	8,318	10,296	17	76	92	1,994	8,395	10,389
CO	3,306	84,358	87,667	25	767	792	3,331	8,525	88,460
SO_x[2]	0	215	215	0	2	2	0	217	217
PM_{10}	10	41,776	41,785	0	382	382	10	42,158	42,167
$PM_{2.5}$	10	8,122	8,132	0	74	74	10	8,196	8,206
Winter									
ROG	24,675	9,080	33,755	186	83	269	24,861	9,163	34,051
NO_x	2,213	10,495	12,708	18	96	114	2,231	10,591	12,822
CO	18,894	91,503	110,397	146	833	980	19,040	92,336	111,377
SO_x[2]	29	215	244		2	2	29	217	246
PM_{10}	2,451	41,776	44,227	19	382	401	2,470	42,158	44,628
$PM_{2.5}$	2,359	8,122	10,481	18	74	92	2,377	8,196	10,573

[1]Totals may differ due to rounding.
[2]Emissions calculated by URBEMIS2007 are for SO_2.

best available design to reduce vehicle trips, improve traffic flow, and other means of reducing emissions.

Implementation of the Proposed Project would increase air emissions within the Land Use Change Area above that contemplated in the 2005 GPU/GDP EIR. Notwithstanding regulatory compliance and conformance with GP and GDP objectives, the resulting emissions would be a significant air quality impact.

Threshold 4: Sensitive Receptors

Threshold 4 states that significant impacts to air quality would occur if the Proposed Project would expose sensitive receptors to substantial pollutant concentrations.

CO HOT SPOTS

Small-scale, localized concentrations of CO above the state and national standards have the potential to occur near stagnation points of heavily traveled intersections. Localized, high concentrations of CO are referred to as “CO hot spots.” CO hot spots can occur when projects contribute traffic to area intersections. However, CO hot spots almost exclusively occur near intersections with LOS E or worse in combination with relatively high traffic volumes on all roadways. The SDAB is in attainment of both the federal and state CO standards, and background CO concentrations are well below federal and state limits. For buildout conditions, all studied intersections are projected to operate at LOS D or better (LLG 2011). Therefore, CO hot spots are not anticipated and impacts would be less than significant.

TOXIC AIR EMISSIONS

GP Policy E 6.10 addresses the siting of sensitive receptors adjacent to heavily traveled roadways, stating:

> The siting of new sensitive receivers within 500 feet of highways resulting from development or redevelopment projects shall require the preparation of a health risk assessment as part of the CEQA review of the project. Attendant health risks identified in the Health Risk Assessment (HRA) shall be feasibly mitigated to the maximum extent practicable, in

accordance with CEQA, in order to help ensure that applicable federal and state standards are not exceeded.

The health effects of exposure to diesel particulate matter generated by traffic on roadways have been raised as a potential concern. In April 2005, the CARB published the *Air Quality and Land Use Handbook: A Community Health Perspective*. The handbook makes recommendations directed at protecting sensitive land uses while balancing a myriad of other land use issues (e.g. housing, transportation needs, economics). It notes that the handbook is not regulatory or binding on local agencies and recognizes that application takes a qualitative approach. As reflected in the CARB handbook, there is currently no adopted standard for the significance of health effects from mobile sources. Therefore, the CARB has provided guidelines for the siting of land uses near heavily traveled roadways. Of pertinence to this study, the CARB guidelines indicate that siting new sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day should be avoided when possible (State of California 2005).

There are two freeways in the vicinity of the project site that would carry more than 100,000 vehicles per day: I-805 and SR-905. The traffic report prepared for the Proposed Project indicates that Year 2030 traffic volumes for I-805 and SR-905 in the project vicinity are projected to be up to 268,000 ADT and 223,000 ADT, respectively (LLG 2011). However, I-805 is located approximately 3 miles west to the western project boundary and SR-905 is located approximately 1.7 miles south of the southern project boundary. Consequently, the Proposed Project lies well outside of the land use avoidance guidelines established by the CARB. There is no change to the analysis within the 2005 GPU/GDP EIR concluding that impacts related to toxic air emissions would be less than significant. While SR-125 would carry fewer than 100,000 vehicles per day and would not result in toxic air emission levels above CARB guidelines; conformance with GP Policy E 6.10 would require an HRA for sensitive receptors located within 500 feet of that freeway.

Threshold 5: Odors

Threshold 5 states that significant impacts to air quality would occur if the Proposed Project would result in objectionable odors.

There are no existing sources of odors within the Project Area. The Proposed Project would allow residential, mixed-use, and park development, and is not anticipated to create or expose sensitive receivers to odors. The Proposed Project does not propose any specific new sources of odor that could affect sensitive receptors. Impacts would therefore be less than significant.

5.5.4 Level of Significance Prior to Mitigation

Threshold 1: Plan Consistency

Because the proposed land use changes would not be consistent with the GP upon which the RAQS are based, the Proposed Project would not conform to the current RAQS. Consequently, the Proposed Project would conflict with the adopted air plan and impacts would be significant.

Threshold 2: Air Quality Violation

Based on the land use types proposed, it is not anticipated that projects to be constructed as a result of the Proposed Project would result in significant stationary sources of emissions. Impacts would be less than significant.

Threshold 3: Criteria Pollutants

The Proposed Project seeks to reduce air pollution and minimize air quality impacts by promoting mixed land use patterns and creating walkable neighborhoods and vibrant town centers. While future projects would be subject to GP and GDP Objectives, and standard dust control measures, implementation of the Proposed Project would increase development, resulting in significant air emission impacts.

Threshold 4: Sensitive Receptors

All studied intersections are projected to operate at LOS D or better and, therefore, CO hot spots are not anticipated. Impacts are less than significant. In addition, the Project Area is located more than 500 feet from I-805 and SR-905. While the SR-125 is projected to have traffic volumes fewer than 100,000 vehicles per day, conformance with GP Policy E 6.10 would require an HRA for sensitive receptors located within 500 feet.

Consequently, based on CARB guidelines, and GP compliance, impacts related to toxic air emissions would be less than significant.

Threshold 5: Odors

The Proposed Project is not anticipated to create or expose sensitive receivers to odors. Impacts would be less than significant.

5.5.5 Mitigation Measures

Threshold 1: Plan Consistency

The Proposed Project's land use changes would be inconsistent with the plans upon which the RAQS are based. Consequently, adoption of the Proposed Project would result in a significant conflict with the adopted air plan. Because the significant air impact stems from an inconsistency between the Proposed Project and the adopted plans upon which the RAQS was based, the only measure that can lessen the effect is the revision of the RAQS based on the Proposed Project. This effort is the responsibility of SANDAG and the SDAPCD and is outside the jurisdiction of the City. As such, like the 2005 GPU/GDP EIR at the time of its certification no mitigation is available to the City. Impacts associated with plan consistency would remain significant.

Threshold 2: Air Quality Violation

Impacts of the Proposed Project would be less than significant and no mitigation is required.

Threshold 3: Criteria Pollutants

The region is not in compliance with the PM_{10} standard and the Proposed Project will increase PM_{10} emissions. Like the Preferred Plan analyzed in the 2005 GPU/GDP EIR, the Proposed Project seeks to reduce air pollution and minimize air quality impacts by promoting mixed land use patterns and creating walkable neighborhoods and vibrant town centers. Because regulatory compliance and conformance with GP and GDP objectives alone will not reduce impacts to air quality to a less than significant level, implementation of the following mitigation measure, as identified in the 2005 GPU/GDP EIR, is required to be incorporated into future SPA Plan environmental documents.

5.5.5-1 Mitigation of PM_{10} impacts requires active dust control during construction. As a matter of standard practice, the City shall require the following standard construction measures during construction to the extent applicable:

1. All unpaved construction areas shall be sprinkled with water or other acceptable SDAPCD dust control agents during dust-generating activities to reduce dust emissions. Additional watering or acceptable SDAPCD dust control agents shall be applied during dry weather or windy days until dust emissions are not visible.

2. Trucks hauling dirt and debris shall be properly covered to reduce windblown dust and spills.

3. A 20-mile-per-hour speed limit on unpaved surfaces shall be enforced.

4. On dry days, dirt and debris spilled onto paved surfaces shall be swept up immediately to reduce resuspension of particulate matter caused by vehicle movement. Approach routes to construction sites shall be cleaned daily of construction-related dirt in dry weather.

5. On-site stockpiles of excavated material shall be covered or watered.

6. Disturbed areas shall be hydroseeded, landscaped, or developed as quickly as possible and as directed by the City and/or SDAPCD to reduce dust generation.

7. To the maximum extent feasible:

   Heavy-duty construction equipment with modified combustion/fuel injection systems for emissions control shall be utilized during grading and construction activities.

   Catalytic reduction for gasoline-powered equipment shall be used.

8. Equip construction equipment with prechamber diesel engines (or equivalent) together with proper maintenance and operation to reduce emissions of nitrogen oxide, to the extent available and feasible.

9. Electrical construction equipment shall be used to the extent feasible.

10. The simultaneous operations of multiple construction equipment units shall be minimized (i.e., phase construction to minimize impacts).

These mitigation measures would apply to PM_{10} from construction activities and would reduce impacts to less than significant. Impacts resulting from daily operation would, however, remain significant until the region is determined to be in attainment with the PM_{10} standard.

Threshold 4: Sensitive Receptors

Impacts would be less than significant. No mitigation is required.

Threshold 5: Odors

Impacts would be less than significant. No mitigation is required.

5.5.6 Level of Significance after Mitigation

Because the effort to revise the RAQS to create consistency with the Proposed Project is the responsibility of SANDAG and the SDAPCD and is outside the jurisdiction of the City, impacts would remain significant and unmitigated.

Although future emissions under the Proposed Project are projected to be greater than the existing condition implementation of mitigation identified in the 2005 GPU/GDP EIR would reduce impacts, but, also like the 2005 GPU/GDP EIR, not to a less than significant level. Impacts resulting from daily operation would remain significant and unmitigated.

5.5.7 Change in the Results of the 2005 GPU/GDP EIR Impact Analysis.

Implementation of the Proposed Project would not increase the severity of impacts nor change the conclusions reached by the analysis contained in the 2005 GPU/GDP EIR with respect to air quality resources. The mitigation presented in the 2005 GPU/GDP EIR and the mitigation requirement for new construction as identified herein would be required to be adopted along with the Proposed Project. No new impacts are identified and no new mitigation is required.

5.6 Noise

This section supplements the analysis included in the 2005 GPU/GDP EIR with respect to the potential noise effects that could result from implementation of the Proposed Project. Specifically, the supplemental analysis herein examines whether noise impacts anticipated from the Proposed Project differ from those evaluated in the 2005 GPU/GDP EIR. While contours associated with the change in noise levels would be indistinguishable, the following section does identify those road segments that would experience an increase in traffic noise of 3 decibels or greater than analyzed in the 2005 GPU/GDP EIR.

The 2005 GPU/GDP EIR, along with the supporting documents is hereby incorporated by reference. As an update to the 2005 GPU/GDP EIR, RECON prepared the Otay Ranch Noise Analysis (October 2010). The Analysis is attached as Appendix E and the relevant contents are summarized below.

Like Section 5.4, this section analyzes the Proposed Project's buildout traffic volumes added to the existing traffic volumes and existing roadway configurations. As previously described, this "Existing + Project" scenario represents a "snap-shot" in time. It does not account for changes in traffic volumes and roadway infrastructure unrelated to the Proposed Project, which occur over the long term buildout of the Project Area.

5.6.1 Existing Conditions

5.6.1.1 Regulatory Plans and Policies

The City uses the community noise equivalent level (CNEL) as the measure for assessing transportation noise impacts with respect to land use planning. The CNEL is a 24-hour A-weighted average sound level [dB(A) L_{eq}] from midnight to midnight obtained after the addition of 5 decibels (dB) to sound levels occurring between 7:00 P.M. and 10:00 P.M., and 10 dB to sound levels occurring between 10:00 P.M. and 7:00 A.M. A-weighting is a frequency correction that often correlates well with the subjective response of humans to noise. Adding 5 dB and 10 dB to the evening and nighttime hours, respectively, accounts for the added sensitivity of humans to noise during these time periods.

City of Chula Vista General Plan

Table 5.6-1 contains the exterior land use-noise compatibility guidelines contained in Section 3.5 of the E of the GP. These guidelines reflect the levels of noise exposure that are generally considered to be compatible with various types of land use. The element notes that these guidelines are to be used at the land use planning stage, for noise impact assessments, and to determine mitigation requirements for development proposals.

TABLE 5.6-1
EXTERIOR LAND USE/NOISE COMPATIBILITY GUIDELINES

Land Use	Annual CNEL in Decibels					
	50	55	60	65	70	75
Residential						
Schools, Libraries, Daycare Facilities, Convalescent Homes, Outdoor Use Areas, and Other Similar Uses Considered Noise Sensitive						
Neighborhood Parks, Playgrounds						
Community Parks, Athletic Fields						
Office and Professional						
Places of Worship (excluding outdoor use areas)						
Golf Courses						
Retail and Wholesale Commercial, Restaurants, Movie Theaters						
Industrial, Manufacturing						

SOURCE: Table 9-2 of the City of Chula Vista General Plan (2005).

Specific objectives which address the avoidance of adverse noise impacts are as follows:

Objective E 21

Protect people from excessive noise through careful land use planning and the incorporation of appropriate mitigation techniques.

Policies

E 21.1: Apply the exterior land use-noise compatibility guidelines contained in Table 9-1 (see Table 5.6-1 of this SEIR) of the E to new development where applicable and in light of project-specific considerations.

E 21.2: Where applicable, the assessment and mitigation of interior noise levels shall adhere to the applicable California Building Code with local amendments and other applicable established City standards.

E 21.3: Promote the use of available technologies in building construction to improve noise attenuation capacities.

E 21.4: Continue to implement and enforce the City's noise control ordinance.

Objective E 22

Protect the community from the effects of transportation noise.

Policies

E 22.1: Work to stabilize traffic volumes in residential neighborhoods by limiting throughways and by facilitating the use of alternative routes around, rather than through, neighborhoods.

E 22.2: Explore the feasibility of using new technologies to minimize traffic noise, such as use of rubberized asphalt in road surface materials.

E 22.3: Employ traffic calming measures where appropriate, such as narrow roadways and on-street parking, in commercial and mixed-use districts.

E 22.4: Encourage walking, biking, carpooling, use of public transit, and other alternative modes of transportation to minimize vehicular use and associated traffic noise.

E 22.5: Require projects to construct appropriate mitigation measures in order to attenuate existing and projected traffic noise levels in accordance with applicable standards, including the exterior land use-noise compatibility guidelines contained in Table 9-1 of this Environmental Element (see Table 5.6-1 of this SEIR).

Standards Applicable to Vehicle Traffic Noise

As discussed above, Table 5.6-1 summarizes the City's exterior land use-noise compatibility guidelines. These guidelines reflect the levels of noise exposure that are generally considered to be compatible with various land uses.

Title 24 of the California Code of Regulations further specifies that, for multi-family residences, if the exterior noise level exceeds 60 CNEL an acoustical analysis shall demonstrate that the design would achieve the prescribed interior noise standard of 45 CNEL (State of California 2005).

Standards Applicable to Air Traffic Noise

The ALUCP for Brown Field identifies land uses compatible with annual noise levels due to aircraft operations. These land use compatibility noise levels are to be used in determining whether a proposed land use is consistent with ALUCP policies and guidelines. The noise compatibility criteria include noise limits of 65 CNEL for residential, recreational, office, and retail uses (County of San Diego 2010).

Standards Applicable to On-Site Generated Noise

The Chula Vista Noise Control Ordinance contains the maximum permissible sound level that can be produced by a noise generator at a receiving property boundary (City of Chula Vista 1985). These performance standards generally apply to stationary sources of noise (i.e., noise sources other than transportation related). Table 5.6-2 shows the exterior noise limits of the Noise Control Ordinance. These levels are applied to both environmental and nuisance noise sources, as defined by the ordinance.

TABLE 5.6-2
EXTERIOR NOISE LIMITS

Receiving Land Use Category	Noise Level [dB(A)]	
	10 P.M. to 7 A.M. (Weekdays) 10 P.M. to 8 A.M. (Weekends)	7 A.M. to 10 P.M. (Weekdays) 8 A.M. to 10 P.M. (Weekends)
All residential (except multiple dwelling)	45	55
Multiple dwelling residential	50	60
Commercial	60	65
Light industry – I-R and I-L zone	70	70
Heavy industry – I zone	80	80

NOTES:
I-R = Research Industrial Zone; I-L = Limited Industrial Zone; I = General Industrial Zone
Environmental Noise – L_{eq} in any hour.
Nuisance Noise – Not to be exceeded any time.

Otay Ranch General Development Plan

Part II, Chapter 7 establishes goals to promote a quiet community were residents live without noise which is detrimental to health and enjoyment of property and ensure residents are not adversely affected by noise.

Objective: Otay Ranch shall have a noise abatement program to enforce regulations to control noise.

***Policies*:**

- Prohibit excessive noises which are a detriment to the health and safety of residents.
- Limit noise at the source, along the path of transmission and/or at the receiver site.
- Reduce the need for noise mitigation through site and land use planning techniques, whenever feasible.
- Consider the effects of noise, especially from transportation, in land use decisions to ensure noise compatibility.
- Comply with applicable noise ordinances and performance standards in zoning ordinances.

- Use the Environmental Review Process to evaluate the effects of noise.
- Regularly review technological developments and building techniques which decrease the project related noise impacts on-site and off-site and specify needed noise mitigation measures.

5.6.1.2 Existing Ambient Noise

Existing noise levels within the City are dominated by traffic-generated noise. Other noise sources in the City include:

- The San Diego Trolley operated by the Metropolitan Transit Development Board;
- The Chula Vista Amphitheater (operates during the summer concert season);
- Aircraft operations associated with Brown Field (located outside the City limits);
- Operations at the Otay Landfill (located within the City boundaries but operated by the County);

The Project Area is currently vacant land. The project vicinity consists of newly constructed homes and roads. While there are currently no roadways through the Project Area, the Proposed Project includes the extension of Main Street, La Media Road, Eastlake Parkway, Hunte Parkway, and Otay Valley Road through the Project Area.

Because conditions have changed since the certification of the 2005 GPU/GDP EIR, new ambient noise measurements were taken in and around the Project Area. In order to provide a qualitative assessment of the variability of noise throughout the study area, a series of seven daytime noise measurements that were 15 minutes in duration were made throughout the study area. The measurement locations are shown in Figure 5.6-1 and were chosen (1) to obtain existing noise levels in the vicinity of the proposed village/RTP sites and (2) to obtain existing noise levels of free flow traffic on roads that would be constructed on the Project Area.

Measurement 1 was located at the intersection of Eastlake Parkway and Hunte Parkway at the northeast corner of the Project Area. In the vicinity of the measurement location,

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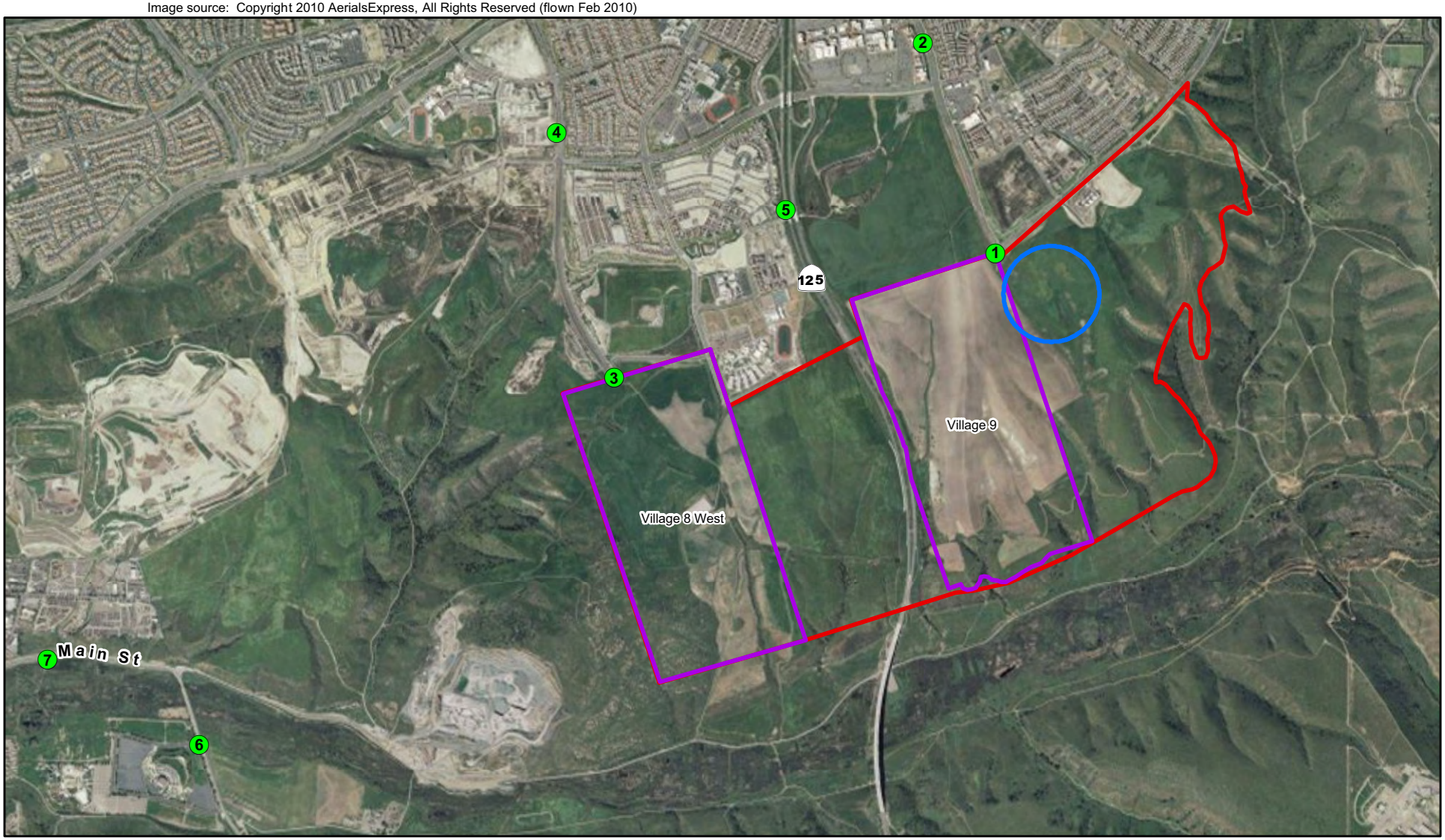

Project Boundary

Village 8 West and Village 9

RTP

Noise Measurement Locations

0 Feet 2,500

FIGURE 5.6-1

Noise Measurement Locations

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the roadways are newly constructed and little traffic was observed. During the 15-minute measurement period, 11 cars passed through the intersection. The average measured noise level was 51.6 dB(A) L_{eq}.

As a part of the existing Circulation Plan, Eastlake Parkway would be extended south along the eastern edge of the Project Area. To obtain existing noise levels of free flow traffic on Eastlake Parkway, Measurement 2 was located north of the Project Area between Birch Road and Olympic Parkway at approximately 50 feet from the centerline of Eastlake Parkway. In the vicinity of the measurement location, Eastlake Parkway is a six-lane roadway. The dominant source of noise was traffic on Eastlake Parkway. Other noise sources included activities in the shopping center parking lot. During the 15-minute measurement period, traffic on Eastlake Parkway was counted. The average measured noise level was 63.4 dB(A) L_{eq}.

Measurement 3 was located at the dead end of La Media Road at the northern boundary of the Project Area. During the 15-minute measurement period, five cars were observed passing through the intersection of La Media Road and Santa Luna Street. The average measured noise level was 51.9 dB(A) L_{eq}.

As a part of the Proposed Project, La Media Road would be extended south through the Project Area. To obtain existing noise levels of free flow traffic on La Media Road, Measurement 4 was located north of the Project Area between Birch Road and Santa Venetia Street at approximately 60 feet from the centerline of La Media Road. In the vicinity of the measurement location, La Media Road is a six-lane roadway. The dominant source of noise was traffic on La Media Road. During the 15-minute measurement period, traffic on La Media Road was counted. The average measured noise level was 61.9 dB(A) L_{eq}.

Measurement 5 was located north of the Project Area adjacent to SR-125 at approximately 90 feet from the centerline. In the vicinity of the measurement location, SR-125 is a four-lane toll road. The measurement was located at the top of a slope slightly above the elevation of the roadway. There is an approximately 5-foot wall located between SR-125 and the residences to the west. The noise meter was located on the west side of the wall with the microphone above the wall. During the 15-minute

measurement period, traffic on SR-125 was counted. The average measured noise level was 65.9 dB(A) L_{eq}.

Measurement 6 was located west of the Project Area adjacent to Heritage Road at approximately 40 feet from the centerline. The dominant source of noise was traffic on Heritage Road. During the 15-minute measurement period, traffic on Heritage Road was counted. The average measured noise level was 74.1 dB(A) L_{eq}.

As a part of the existing Circulation Plan, Main Street would be extended east through the Project Area. To obtain existing noise levels of freeflow traffic on Main Street, Measurement 7 was located west of the Project Area between Nirvana Avenue and Heritage Road at approximately 45 feet from the centerline of Main Street. The dominant source of noise was traffic on Main Street. During the 15-minute measurement period, traffic on Main Street was counted. The average measured noise level was 73.7 dB(A) L_{eq}.

Table 5.6-3 presents the results of the noise measurements and traffic counts.

TABLE 5.6-3
NOISE MEASUREMENT RESULTS

Measure-ment	Location	15-Minute Traffic Counts					Measured Noise Level
		Cars	Motor-cycles	Buses	Medium Trucks	Heavy Trucks	
1	Eastlake Parkway/ Hunte Parkway	11	0	0	0	0	51.6
2	Eastlake Parkway	109	0	1	3	0	63.4
3	La Media Road	5	0	0	0	0	51.9
4	La Media Road	112	1	0	0	1	61.9
5	SR-125	94	0	0	4	4	65.9
6	Heritage Road	143	1	0	8	8	74.1
7	Main Street	184	1	0	11	12	73.7

Measurements 1 and 3 are the most characteristic of the current ambient noise environment on-site. The following is a brief discussion of the noise characteristics surrounding the Project Area. This discussion is provided because the future noise environment in the Project Area would be similar to the noise environment in the surrounding area. As indicated, existing noise levels in the vicinity of the Proposed Project are primarily due to traffic on area roadways but are also composed of other sources.

Vehicle Traffic

The main source of existing and future noise in the Project Area is vehicle traffic on area roadways. The roadways that would affect the Project Area and were examined in this analysis are SR-125, La Media Road, Main Street, Heritage Road, and Eastlake Parkway.

Air Traffic

The primary sources of aircraft noise in the vicinity of the study area are due to aircraft operations associated with Brown Field, located within the City of San Diego south of the Project Area. As discussed in Chapter 5.1 of the SEIR, the Proposed Project is not subject to the 2010 ALUCP for Brown Field and has been deemed compatible with the 2004 ALUCP.

Other Sources of Noise

Other sources of noise within the Project Area are due to the normal activities associated with a given land use. For example, within residential areas noise sources may include dogs, landscaping activities, and parties. Commercial uses may include car washes, fast food restaurants, and auto repair facilities.

5.6.2 Thresholds of Significance

The Proposed Project would result in significant noise impacts if it would:

1. Result in exposure of people to excessive noise.

2. Result in the generation of excessive noise.

3. Expose people residing or working within an established Airport Influence Area to excessive noise levels.

5.6.3 Impacts

5.6.3.1 2005 GPU/GDP EIR Conclusion

Threshold 1: Exposure of People to Excessive Noise

The 2005 GPU/GDP EIR concluded that through compliance with GP policies requiring future projects to comply with exterior land use-noise compatibility guidelines, as well as other additional noise attenuation measures, excessive noise impacts would not be significant for new development. However, traffic increases could result in noise increases for receivers adjacent to affected roadways. Lessening noise levels in these areas of increased traffic would require lot-by-lot review of potential exterior and interior noise levels. The 2005 GPU/GDP EIR determined that this detail of analysis was infeasible at the program level. Therefore, impacts would remain significant and unmitigated.

Threshold 2: Generation of Excessive Noise

The GPU Preferred Plan does not propose any development that would violate GP or Noise Ordinance standards. Application of both GP and ordinance standards would be self-mitigating assuring that impacts associated with excessive noise generation would be less than significant.

Threshold 3: Aircraft Noise

The 2005 GPU/GDP EIR concluded that land uses proposed within the AIA would be consistent with the ALUCP and impacts would be less than significant.

5.6.3.2 Analysis of Proposed Project

Threshold 1: Exposure of People to Excessive Noise

Threshold 1 states that significant impacts to noise would occur if the Proposed Project would result in exposure of people to excessive noise. A significant impact would occur as a result of the adoption of the Proposed Project if future development projects would expose sensitive receptors to exterior noise in excess of the levels specified in Table 5.6-1, or interior noise in excess of the standard set by Title 24 (State of California 2005).

The main source of noise in the Project Area is vehicle traffic on area roadways. The roadways that would affect the Project Area and were examined in this analysis are SR-125, La Media Road, Main Street, Heritage Road, and Eastlake Parkway.

Impacts Associated with the Change in Noise Levels from the Proposed Project Compared to the 2005 GPU/GDP EIR

Table 5.6-4 shows future traffic under buildout, with the Proposed Project compared to the buildout analyzed in the 2005 GPU/GDP EIR. As shown in Table 5.6-4, buildout under the Proposed Project would result in the following road segments experiencing an increase in traffic of 3 decibels or greater than analyzed in the 2005 GPU/GDP EIR:

- Otay Valley Road from La Media Road to SR-125
- Otay Valley Road from SR-125 to Otay Villa Road

An additional four road segments experiencing an increase in traffic of 3 decibels or greater are identified in the cumulative condition. These are discussed in Section 6.6.

Impacts Associated with Proposed Land Uses within Noise Contours

Noise contours associated with the change in noise levels would be indistinguishable between the two land use plans; future noise contours for the Proposed Project are shown in Figure 5.6-2. Distances to the noise contours assume a hard, flat site with no intervening barriers or obstructions.

It should be noted that at any specific location the actual existing noise would depend upon not only the source noise, but the nature of the path from the source to the sensitive receptor. Buildings, walls, and other barriers would reduce the direct line-of-sight noise levels. For the existing noise contours, the first row of buildings (where they exist) would reduce road noise to sensitive receptors placed behind those structures. All future projects within the Project Area would be subject to GP Objectives E 21 and 22, requiring careful land use planning through the application of the exterior land use noise compatibility guidelines and protection of residents from transportation noise. Examples of noise reduction measures would include the following:

TABLE 5.6-4
FUTURE YEAR 2030 TRAFFIC VOLUMES: PROPOSED PROJECT VERSUS 2005 GPU

Roadway	From	To	Year 2030 Volume – 2005 GPA/GDP	Year 2030 Direct Volume – Proposed Project	Year 2030 Cumulative Volume – Proposed Project	Change in dB – 2005 GPA/GDP to Direct Proposed Project	Change in dB – 2005 GPA/GDP to Cumulative Proposed Project
Telegraph Canyon Road	I-805	Oleander Avenue	70,100	60,200	59,300	-0.7	-0.7
	Heritage Road	La Media Road	36,700	47,400	47,100	1.1	1.1
Olympic Parkway	I-805	Brandywine Avenue	52,500	50,700	51,300	-0.2	-0.1
	Brandywine Avenue	Heritage Road/Paseo Ranchero	49,500	33,900	34,800	-1.6	-1.5
	Heritage Road/Paseo Ranchero	La Media Road	48,700	32,700	33,300	-1.7	-1.7
	La Media Road	SR-125	35,000	43,400	43,900	0.9	1.0
	SR-125	Eastlake Parkway	47,500	49,500	49,400	0.2	0.2
	Eastlake Parkway	Hunte Parkway	25,400	34,100	34,200	1.3	1.3
	Hunte Parkway	Wueste Road	Na	26,300	30,100		
Birch Road	La Media Road	SR-125	32,500	23,800	26,200	-1.4	-0.9
	SR-125	Eastlake Parkway	29,300	27,400	28,500	-0.3	-0.1
Main Street	I-805	Brandywine Avenue	48,400	53,000	59,300	0.4	0.9
	Brandywine Avenue	Maxwell Street	48,400	46,200	50,200	-0.2	0.2
	Maxwell Street	Heritage Road	48,400	40,800	45,200	-0.7	-0.3
Rock Mountain Road	Heritage Road	La Media Road	42,000	42,900	44,900	0.1	0.3
(Main Street)	La Media Road	SR-125	42,600	33,000	33,100	-1.1	-1.1
	SR-125	Eastlake Parkway	Na	43,900	48,400	--	--
Hunte Parkway	Eastlake Parkway	Exploration Falls Drive	26,100	33,900	40,000	1.1	1.9
	Exploration Falls Drive	Olympic Parkway	26,100	28,000	31,600	0.3	0.8
Otay Valley Road	La Media Road	SR-125	4,200	24,700	31,400	7.7	8.7
	SR-125	Otay Villa Road	6,900	30,900	33,500	6.5	6.9
	Otay Villa Road	Eastlake Parkway	6,900	13,600	16,100	2.9	3.7
Otay Mesa Road	Otay Mesa Road	Corporate Center Drive	Na	32,400	48,200	--	--
	Corporate Center Drive	Heritage Road	Na	19,300	32,500	--	--
	Heritage Road	Britannia Boulevard	Na	22,800	45,600	--	--
	Britannia Boulevard	La Media Road	Na	21,000	47,300	--	--
	La Media Road	Piper Ranch Road	Na	14,900	49,600	--	--
	Piper Ranch Road	SR-125	Na	12,700	33,200	--	--
	SR-125	Harvest Road	Na	16,800	39,000	--	--
Bonita Road	Central Avenue	San Miguel Road	19,600	15,800	16,200	-0.9	-0.8
Sweetwater Road	Bonita Road	Park Drive	13,700	24,400	25,900	2.5	2.8
Airway Road	Cactus Road	Britannia Boulevard	Na	5,100	25,400	--	--
	Britannia Boulevard	La Media Road	Na	13,200	31,100	--	--

TABLE 5.6-4
FUTURE YEAR 2030 TRAFFIC VOLUMES: PROPOSED PROJECT VERSUS 2005 GPA/GDP
(continued)

Roadway	From	To	Year 2030 Volume – 2005 GPA/GDP	Year 2030 Direct Volume – Proposed Project	Year 2030 Cumulative Volume – Proposed Project	Change in dB – 2005 GPA/GDP to Direct Proposed Project	Change in dB – 2005 GPA/GDP to Cumulative Proposed Project
Siempre Vivi Road	Cactus Road	Britannia Boulevard	Na	7,500	39,500	--	--
	Britannia Boulevard	La Media Road	Na	5,200	54,100	--	--
	La Media Road	Avenida de la Fuente	Na	6,400	26,300	--	--
	Avenida de la Fuente	SR-905	Na	22,300	50,100	--	--
Heritage Road	Olympic Parkway	Main Street/Rock Mountain Road	32,200	33,400	42,300	0.2	1.2
	Main Street	Avenida de las Vistas	29,700	41,700	61,400	1.5	3.2
	Avenida de las Vistas	City Boundary	29,700	40,000	60,200	1.3	3.1
	City Boundary	Datsun Street/Otay Valley Road	Na	25,600	47,400	--	--
	Datsun Street/Otay Valley Road	Otay Mesa Road	Na	32,200	52,600	--	--
	Otay Mesa Road	SR-905	Na	10,000	20,800	--	--
La Media Road	Olympic Parkway	Birch Road	25,100	26,300	28,300	0.2	0.5
	Birch Road	Main Street/Rock Mountain Road	25,100	15,700	18,000	-2.0	-1.4
	Main Street/Rock Mountain Road	Otay Valley Road	13,700	25,400	27,300	2.7	3.0
	Lonestar Road	Otay Mesa Road	Na	20,300	16,400	--	--
	Otay Mesa Road	SR-905	Na	21,900	37,300	--	--
Eastlake Parkway	Olympic Parkway	Birch Road	31,400	27,400	27,600	-0.6	-0.6
	Birch Road	Hunte Parkway	31,400	23,000	22,800	-1.4	-1.4
	Hunte Parkway	Otay Valley Road	31,600	15,500	18,600	-3.1	-2.3
Piper Ranch Road	Lonestar Road	Otay Mesa Road	Na	5,300	5,200	--	--
I-805	Olympic Parkway/Orange Avenue	Main Street/Auto Park Drive	243,000	238,000	268,000	-0.1	0.4
	Main Street/Auto Park Drive	Palm Avenue	Na	224,900	258,100	--	--
	Palm Avenue	SR-905	Na	205,400	236,500	--	--
SR-125	Olympic Parkway	Birch Road	56,400	13,400	28,100	-6.2	-3.0
	Birch Road	Main Street/Rock Mountain Road	58,200	13,700	30,200	-6.3	-2.8
	Main Street/Rock Mountain Road	Otay Valley Road	77,100	23,900	46,300	-5.1	-2.2
	Otay Valley Road	Lonestar Road	Na	57,800	90,700	--	--
	Lonestar Road	Otay Mesa Road	Na	53,400	80,600	--	--
	Otay Mesa Road	SR-905	Na	26,000	33,700	--	--
SR-905	I-805	Ocean View Hills Parkway	Na	147,700	223,600	--	--
	Ocean View Hills Parkway	Heritage Road	Na	136,700	214,900	--	--
	Heritage Road	Britannia Boulevard	Na	129,200	197,500	--	--
	Britannia Boulevard	La Media Road	Na	121,800	171,400	--	--
	La Media Road	SR-125	Na	97,900	133,200	--	--

Na = Not available

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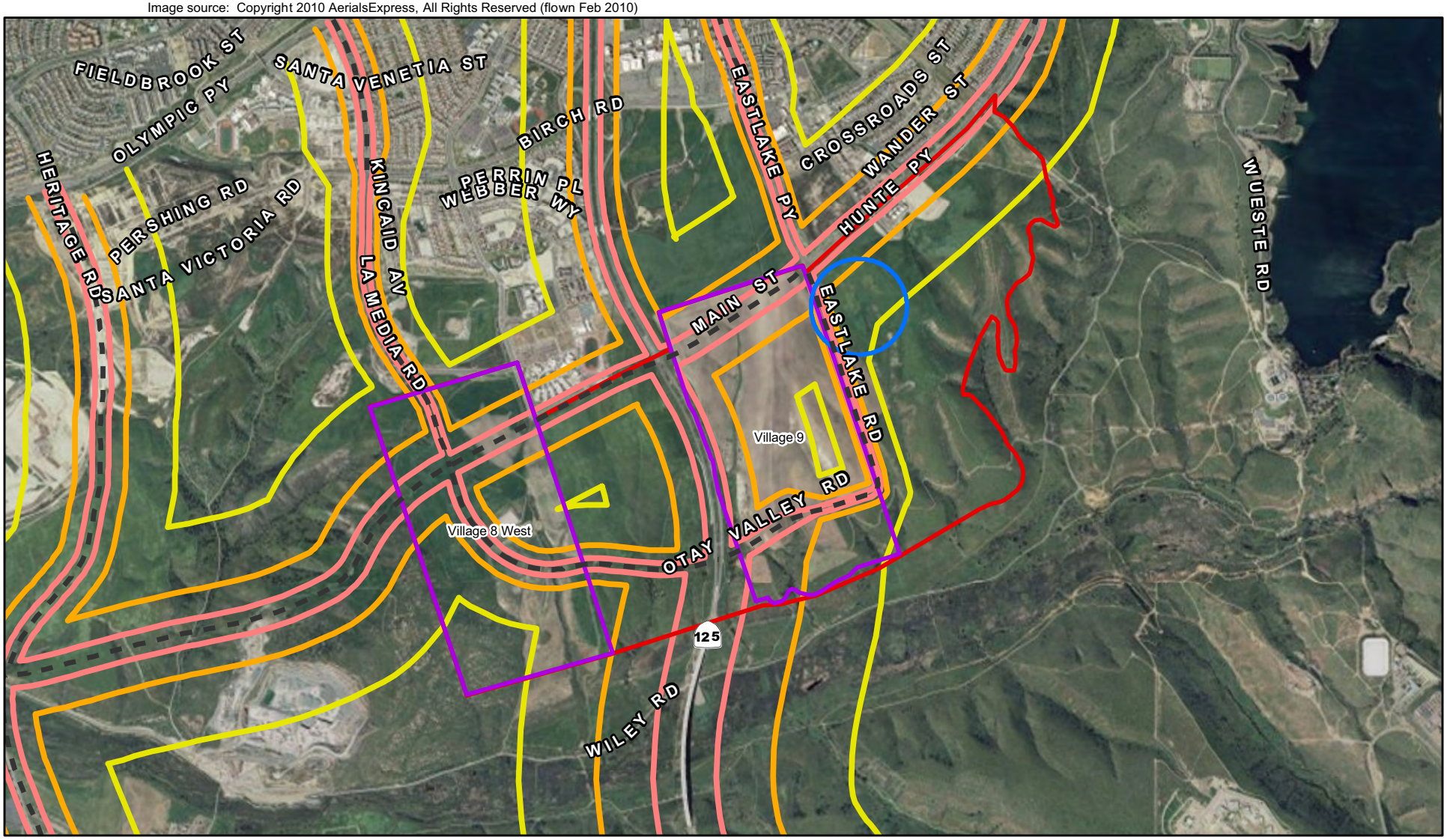

Project Boundary
Village 8 West and Village 9
RTP
Future Roadway Alignment

Noise Contours
60 CNEL
65 CNEL
70 CNEL

0 Feet 2,500

FIGURE 5.6-2
Future Flat-Site Roadway Contours

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- Policy E 21.3 promotes the use of new technologies in building construction and design focused on noise attenuation.
- Policy E 22.2 enlists the exploration of using new technology in road construction such as rubberized asphalt.
- Policy E 22.3 requires the employment of traffic calming measures in mixed-use areas.
- Policy E 22.4 encourages alternative modes of transportation including bicycles, public transit and pedestrian travel in lieu of motor vehicles.

Additionally, E 22.5 requires future projects to apply mitigation measures in order to attenuate noise levels associated with traffic. Likewise, development would be subject to the GDP requiring the consideration of noise impacts in the land use planning process.

The 2005 GPU/GDP EIR concluded that while GP and GDP compliance would assist in the reduction of noise levels, it is not possible at that level of review to identify the specific location of land uses and apply the measures in a meaningful analysis. Therefore, the following analysis discusses potential impacts associated with the placement of land uses within different noise contours. Specific project design measures, in conformance with the GP, would then be applied to future projects.

Noise levels exceed 60 CNEL across most of the Project Area. As shown in Figure 5.6-2, uses proposed to be located closest to roadways would be exposed to noise levels in excess of 65 CNEL. The Proposed Project includes residential, school, commercial, mixed-use, park, and RTP/industrial uses. A significant impact would occur if residential, school, or park receptors were exposed to roadway noise in excess of 65 CNEL; if office or professional uses were exposed to roadway noise in excess of 70 CNEL; or if retail, wholesale commercial, or restaurant receptors were exposed to roadway noise levels in excess of 75 CNEL.

There are residential uses and mixed-uses (areas exceeding 65 CNEL. These areas are shown in Figure 5.6-3. Because future residential, school, or park receptors located within these areas have the potential to be exposed to noise levels in excess of 65 CNEL, impacts would be potentially significant.

Project Boundary

Village 8 West and Village 9

RTP

Areas Subject to Noise Levels Greater Than 65 CNEL

0 Feet 2,000

FIGURE 5.6-3

Areas Exceeding 65 CNEL

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There are mixed-uses (which may include office and professional components) located within the distances indicated in the 70 CNEL column of Table 5.6-4. These areas are shown in Figure 5.6-4. Because future office and professional receptors located within these areas have the potential to be exposed to noise levels in excess of 70 CNEL, impacts would be potentially significant.

As shown in Figure 5.6-2, noise levels would be less than 75 CNEL across the entire Project Area. The future RTP site and all future retail, wholesale commercial, or restaurant receptors that may be constructed in the mixed-use areas would not be exposed to noise levels greater than 75 CNEL. Therefore, impacts would less than significant.

Figure 5.6-5 shows the areas that would exceed 60 CNEL. Because interior noise levels at multi-family residential uses located in these areas have the potential to exceed 45 CNEL, impacts would be potentially significant.

Impacts Associated with the Existing + Project Scenario

As discussed above, the Existing + Project analysis presumes full buildout of the Proposed Project added to the existing traffic volumes, existing infrastructure, and existing land uses. Existing + Project traffic parameters are detailed in Section 2.3.11 of the Noise Analysis prepared for the Proposed Project. Table 5.6-5 summarizes the existing versus the Existing + Project distances to the 60, 65, 70, 75, and 80 CNEL noise contours. Figure 5.6-6 shows existing flat site road way contours. Existing + Project noise contours are shown in Figure 5.6-7.

As shown in Figure 5.6-6, land uses located closest to the circulation element roadways are currently exposed to noise levels in excess of 65 CNEL. As shown in Figure 5.6-7, adding project traffic to existing traffic volumes would result in a slight increase in noise levels. Table 5.6-5 summarizes the change in noise levels that would result from adding project traffic to existing traffic volumes. As shown, the following roadway segments would experience more than a 3 db decibel noise increase:

Project Boundary

Village 8 West and Village 9

RTP

Areas Subject to Noise Levels Greater Than 70 CNEL

0 Feet 2,000

FIGURE 5.6-4

Areas Exceeding 70 CNEL

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Project Boundary

Village 8 West and Village 9

RTP

Areas Subject to Noise Levels Greater Than 60 CNEL

0 Feet 2,000

FIGURE 5.6-5

Areas Exceeding 60 CNEL

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TABLE 5.6-5
EXISTING VERSUS EXISTING + PROJECT NOISE INCREASES

Roadway	From	To	Existing Volume	Existing + Project Volume	Noise Increase [dB(A)]
Olympic Parkway	I-805	Brandywine Avenue	47,000	63,463	1.3
	Brandywine Avenue	Heritage Road/Paseo Ranchero	48,700	69,785	1.6
	Heritage Road/Paseo Ranchero	La Media Road	50,500	84,383	2.2
	La Media Road	SR-125	43,600	53,712	0.9
	SR-125	Eastlake Parkway	40,500	50,181	0.9
	Eastlake Parkway	Hunte Parkway	13,900	20,895	1.8
	Hunte Parkway	Wueste Road	Na	5,915	Na
Birch Road	La Media Road	SR-125	10,200	46,546	**6.6***
Main Street	I-805	Brandywine Avenue	26,400	26,831	0.1
	Brandywine Avenue	Maxwell Street	18,700	18,700	0.0
Hunte Parkway	Eastlake Parkway	Exploration Falls Drive	700	12,737	**12.6***
	Exploration Falls Drive	Olympic Parkway	800	11,013	**11.4***
Heritage Road	Main Street/Rock Mountain Road	City Boundary	10,000	10,000	0.0
La Media Road	Olympic Parkway	Birch Road	11,000	56,946	**7.1***
	Birch Road	Main Street/La Media Road Couplet	1,000	3,585	**5.5***
Eastlake Parkway	Olympic Parkway	Birch Road	9,200	25,115	**4.4***
	Birch Road	Hunte Parkway	1,300	46,864	**15.6***
I-805	Olympic Parkway/Orange Avenue	Main Street/Auto Park Drive	151,000	156,756	0.2
	Main Street/Auto Park Drive	Palm Avenue	149,000	154,756	0.2
	Palm Avenue	SR-905	113,000	115,301	0.1
SR-905	I-805	Otay Mesa Road	60,000	60,000	0.0

Na = Not Available

Bold = Exceeds 3 dB

*Residential developments constructed adjacent to these segments have been designed according to General Plan policies (including policy EE21, discussed below, and the noise limits shown in Table 5.6-2), and noise barriers have been constructed.

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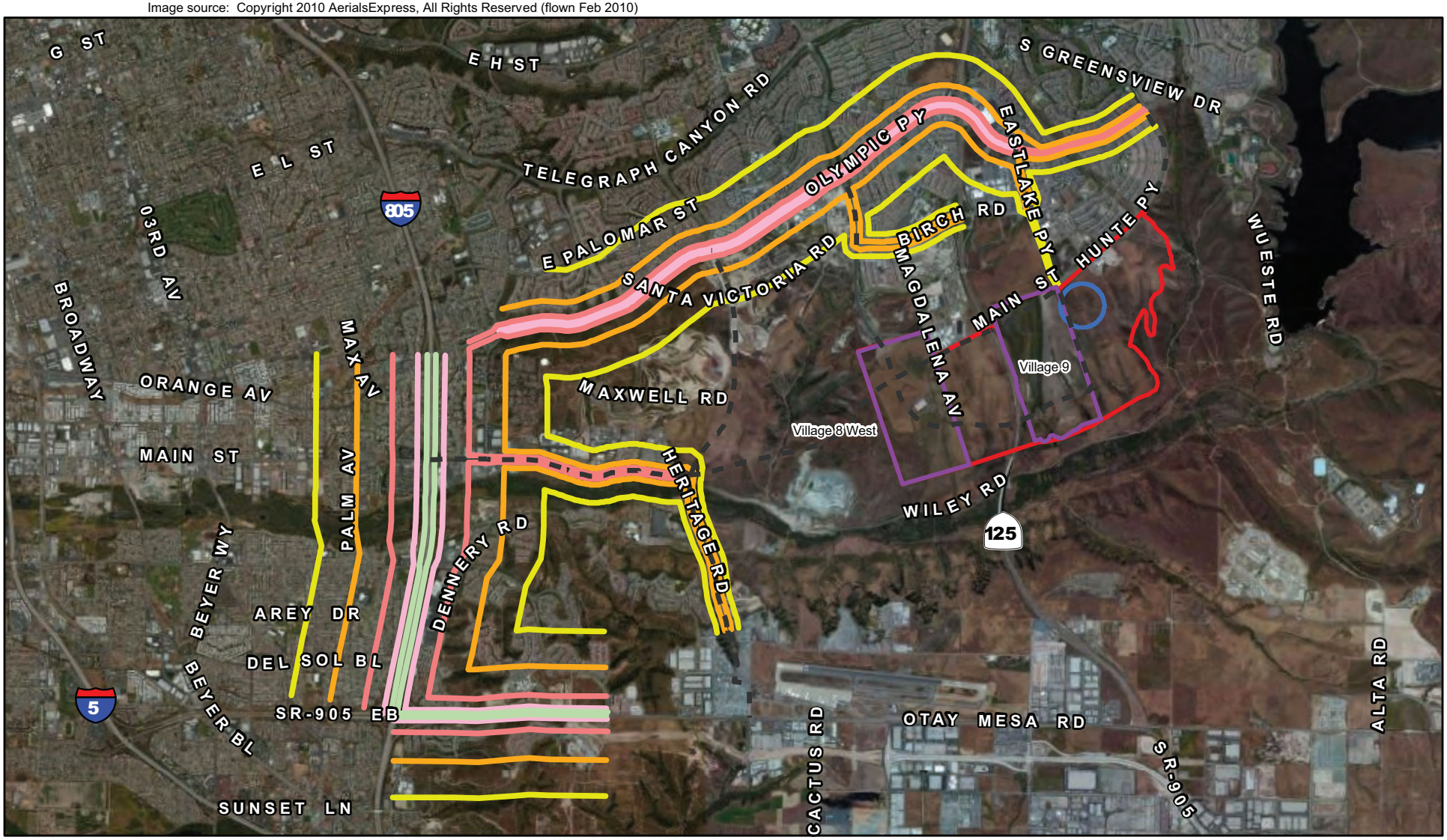

Project Boundary
Village 8 West and Village 9
RTP
Future Roadway Alignment

Noise Contours
60 CNEL
65 CNEL
70 CNEL
75 CNEL
80 CNEL

0 Miles 1

FIGURE 5.6-6

Existing Flat-Site Roadway Contours

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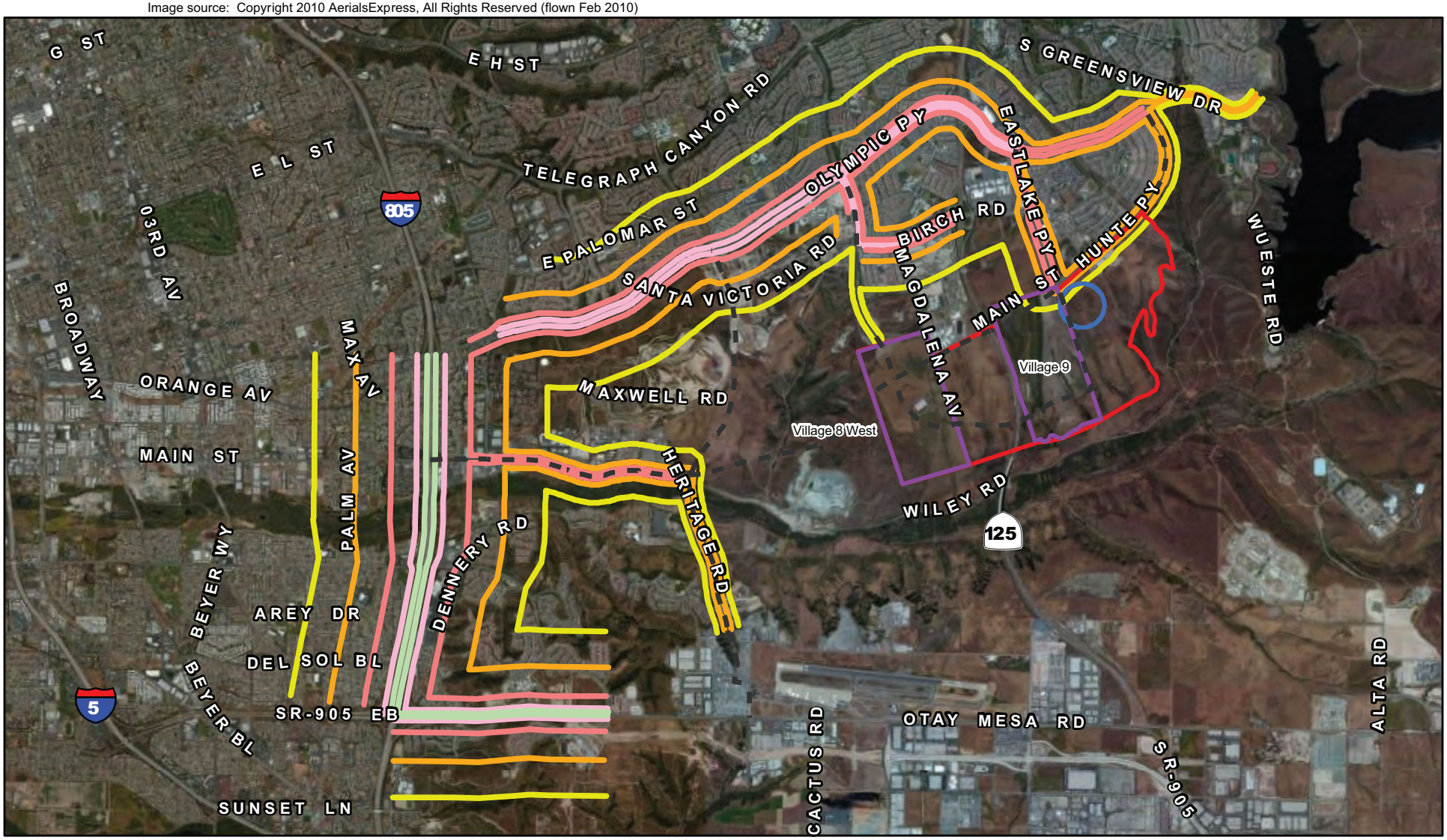

Project Boundary
Village 8 West and Village 9
RTP
Future Roadway Alignment

Noise Contours
60 CNEL
65 CNEL
70 CNEL
75 CNEL
80 CNEL

0 Miles 1

FIGURE 5.6-7

Existing + Project Flat-Site Roadway Contours

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- Birch Road between La Media Road and SR-125
- Hunte Parkway between Eastlake Parkway and Olympic Parkway
- La Media Road between Olympic Parkway and Main Street/La Media Road Couplet
- Eastlake Parkway between Olympic Parkway and Hunte Parkway.

There are existing residential, commercial, and school uses located adjacent to these roadway segments. However, the residential and school developments constructed adjacent to these segments have been designed according to GP policies (including Policy E 21, discussed above, and the noise limits shown in Table 5.6-2). Noise barriers have been constructed to ensure that noise levels do not exceed 65 CNEL. Therefore, impacts at these existing uses are less than significant.

Threshold 2: Generation of Excessive Noise

Threshold 2 states that significant impacts to noise would occur if the Proposed Project would result in the generation of excessive noise. A significant impact would occur as a result of the adoption of the Proposed Project if future development projects would generate noise levels in excess of the noise limits specified in Table 5.6-2.

As discussed above, other sources of noise within the Project Area are due to the activities associated with a given land use. Noise from these types of activities are considered normal environmental noises that are expected to occur within these types of land uses and excessive noises resulting from these activities are regulated by the City (City of Chula Vista 1985). The Proposed Project allows for the development of commercial and mixed-use land uses, which could result in intermittent or continuous operational noise impacts on sensitive receptors. Noise generated commercial activity impacts in mixed-use development could include operation, mechanical equipment, truck deliveries, and high pedestrian traffic.

Application of GP and GDP policies would result in the self-mitigation of any potential impacts. Specifically, GP Objective E 21 requires future projects to comply with exterior land use-noise compatibility guidelines, use noise attenuating building materials, and to conform to Noise Ordinance standards.

Threshold 3: Aircraft Noise

Threshold 3 states that significant impacts to noise would occur if the Proposed Project would result in exposing people residing or working within an established AIA to excessive noise levels. The Proposed Project has been deemed compatible with the Brown Field ALUCP and no additional analysis is required.

5.6.4 Level of Significance Prior to Mitigation

Threshold 1: Exposure of People to Excessive Noise

Impacts Associated with the Change in Noise Levels from the Proposed Project Compared to the 2005 GPU/GDP EIR

Implementation of the Proposed Project would result in a direct increase greater than 3 db in traffic noise beyond that contemplated in the 2005 GPU/GDP EIR along the following road segments, as discussed above:

- Otay Valley Road from La Media Road to SR-125
- Otay Valley Road from SR-125 to Otay Villa Road.

Impacts Associated with Proposed Land Uses within Noise Contours

While noise contours along Project Area roads would change, the contours would be indistinguishable from the contours associated with the 2005 GPU land uses. Based on contours created for the Proposed Project, residential, school, and park land uses are sited within the 65 CNEL contour for roadways (see Figure 5.6-3). Mixed-uses, which may include office and professional components, are sited within the 70 CNEL contour for roadways (see Figure 5.6-4). In addition, interior noise levels for multi-family residential uses located within the 60 CNEL contour for roadways (see Figure 5.6-5) have the potential to exceed 45 CNEL. Future receptors have the potential to be exposed to significant traffic generated noise levels. As discussed above, GP and GDP policies would assure that future development would comply with exterior land use-noise compatibility guidelines, as well as other additional noise attenuation measures. While the Proposed Project includes some changes in land uses from the 2005 GPU/GDP EIR Preferred Plan, this conclusion is unchanged from the outcome of the GPU analysis. A

detailed noise analysis to demonstrate site specific noise attenuation measures is not feasible at this program level, therefore, impacts would be potentially significant.

Impacts Associated with the Existing + Project Scenario

Existing land uses located closest to the circulation element roadways are currently exposed to noise levels in excess of 65 CNEL. Adding project traffic to existing traffic volumes would result in a slight increase in noise levels as summarized in Table 5.6-5. Under the Existing +Project scenario, the following roadway segments would experience more than a 3 db decibel noise increase:

- Birch Road between La Media Road and SR-125
- Hunte Parkway between Eastlake Parkway and Olympic Parkway
- La Media Road between Olympic Parkway and Main Street/La Media Road Couplet
- Eastlake Parkway between Olympic Parkway and Hunte Parkway.

The existing residential, commercial, and school uses located adjacent to these roadway segments have been designed according to GP policies including the construction of noise barriers to ensure that noise levels do not exceed 65 CNEL. Therefore, impacts at these existing uses are less than significant.

Threshold 2: Generation of Excessive Noise

The Proposed Project includes residential, school, commercial, mixed-use, and park uses. In general, increased commercial land increases the potential that noise producing uses will be developed. Conformance with GP and GDP policies, as well as ordinance compliance assures that potentially significant impacts are less than significant.

Threshold 3: Aircraft Noise

Noise levels due to operations at Brown Field are less than significant.

5.6.5 Mitigation Measures

Threshold 1: Exposure of People to Excessive Noise

Similar to the conclusions reached in the 2005 GPU/GDP EIR, potentially significant impacts associated with new development would be self-mitigating due to conformance to GP and GDP policies. Specifically, GP Objective E 21 requires future projects to comply with exterior land use-noise compatibility guidelines (Policy E 21.1), use noise attenuating building materials (Policies E 21.2 and 21.3), and to conform to Noise Ordinance standards (Policy E 21.4). However, a significant impact could occur as a result of the change in noise levels from the Proposed Project compared to the 2005 GPU/GDP EIR and/or from proposed land uses within noise contours. While future SPA plans would require project-level exterior analysis to assess the feasibility of reducing noise levels to outdoor use areas, this level of analysis is infeasible at the programmatic stage of the analysis Therefore impacts remain significant and unmitigated.

No significant impacts are anticipated to occur under the Existing + Project scenario. No mitigation is required.

5.6.6 Level of Significance after Mitigation

Because mitigation measures for exposure of people to excessive noise as a result of the change in noise levels from the Proposed Project compared to the 2005 GPU/GDP EIR and/or from proposed land uses within noise contours cannot be identified at this time, impacts would remain significant and unmitigated.

5.6.7 Change in the Results of the 2005 GPU/GDP EIR Impact Analysis

Implementation of the Proposed Project would not result in more severe impacts nor change the conclusions reached by the analysis contained in the 2005 GPU/GDP EIR with respect to noise. Impacts would remain significant and unmitigated.

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5.7 Public Services

Public services consist of fire and emergency services, police services, schools, libraries, and parks and recreation. The following section supplements the 2005 GPU/GDP EIR relating to potential impacts that the Proposed Project could have upon existing and planned public services, as compared to the analysis contained in the 2005 GPU/GDP EIR.

The City Council adopted Threshold Standards for the City in November 1987, which established "quality of life" indicators for the five public service topics addressed in this section. Each topic was assigned standards in terms of a goal, objective(s), a threshold, and implementation measures (City of Chula Vista 1987). These standards are intended to preserve and enhance the environment and City residents' quality of life as growth occurs.

The Growth Management (GM) Element of the GP contains Objective GM 1 to assure public facilities and services are available to residents and visitors of the City in a timely manner as development occurs. The associated policies are as follows:

GM 1.1 Maintain a set of quantitative level-of-service measures (Growth Management Threshold Standards) as a tool to assess the relative impact of new facility and service demands created by growth, and apply those standards, as appropriate, to approval of discretionary projects.

GM 1.2 Appoint and provide staff support to the Growth Management Oversight Commission, which is authorized to administer the Growth Management Program and to prepare an Annual Growth Management Report.

GM 1.3 Prepare detailed development forecasts and monitor development activity as it occurs in support of growth management program activities.

GM 1.4 Provide growth forecasts and related information to City departments and other local government entities and request annual responses regarding their ability to provide services and facilities consistent with the Threshold Standards.

GM 1.5 As part of the Growth Management Program, conduct an ongoing Development Monitoring Program focused on new development activity and related infrastructure and public facility construction to determine compliance with Threshold Standards and other City policies and programs.

GM 1.6 Periodically review and revise the Threshold Standards to assure that they reflect current service delivery and measurement techniques and to assure their effectiveness at achieving quality of life goals.

GM 1.7 Create and periodically update a set of Facility Master Plans for major municipal infrastructure and public facilities.

GM 1.8 Adopt and periodically update Development Impact Fee Programs that assure that new development contributes a proportional share of funding for necessary municipal infrastructure and public facilities

GM 1.9 Require that all major development projects prepare a Public Facilities Financing Plan (PFFP) that articulates infrastructure and public facilities requirements and costs and funding mechanisms.

GM 1.10 Provide incentives that make agreements attractive for major development projects. Agreements should be offered when items or concessions are sought that cannot be exacted through zoning and subdivision map requirements.

GM 1.11 Establish the authority to withhold discretionary approvals and subsequent building permits from projects demonstrated to be out of compliance with applicable Threshold Standards.

GM 1.12 Establish the authority for the City Council to impose limits on the total amount of development demonstrated to be out of compliance when such development, in aggregate, has or is forecasted to exceed Threshold Standards or otherwise negatively affect quality of life and public health, safety, or welfare of the City.

GM 1.13 Establish the authority for the City Council to impose limits upon the rate of development, as needed, to assure that development occurs at an optimal rate that does not negatively affect quality of life and public health, safety, or welfare of the City.

5.7.1 Fire Protection and Emergency Services

5.7.1.1 Existing Regulatory Plans and Policies

City Threshold Standard

The City requires that 80 percent of emergency calls throughout the City shall be responded to within seven minutes. This time standard includes dispatch and turnout time.

City of Chula Vista General Plan

In additional to the GP Objective GM 1, the PFS Element contains the following two objectives and associated policies that address fire protection:

Objective PFS 5

Maintain sufficient levels of fire protection, emergency medical service and police service to protect public safety and property.

Policies

PFS 5.1 Continue to adequately equip and staff the Fire Department to ensure that established service standards for emergency calls are met.

PFS 5.2 Upgrade fire and emergency medical equipment as required to protect the public from hazards and to ensure the safety of fire fighters.

PFS 5.3 Support the provision of new fire stations as deemed necessary through the existing or updated Fire Station Master Plan.

PFS 5.7 Prior to approval of any discretionary projects, ensure that construction is phased with provision of police and fire protection services such that services are provided prior to or concurrent with need.

Objective PFS 6

Provide adequate fire and police protection services to newly developing and redeveloping areas of the City.

Policies

PFS 6.1 Continue to require new development and redevelopment projects to demonstrate adequate access for fire and police vehicles.

PFS 6.2 Require new development and redevelopment projects to demonstrate adequate water pressure to new buildings.

Fire Station Master Plan (August 14, 1997)

The City is in the process of updating the Fire Master Plan (FMP). The existing Fire Station Master Plan (FSMP) dated 1997 establishes six guidelines to assess alternative fire station needs and networks. These guidelines address travel time, response time, cost, and relative workloads among stations. The FSMP recommends 1.5-acre sites for all fire stations and calls for a total of nine fire stations in the City.

Otay Ranch General Development Plan

Section E, Part 4 of the GDP addresses fire protection and emergency services facilities. As part of the GDP, four new stations were identified to serve the Otay Ranch area at buildout.

Objective

Provide sufficient fire and emergency services facilities to respond to calls within the Otay Ranch urban communities: within a 7-minute response time in 85 percent of the cases.

Policies

- Otay Ranch SPA plans shall include Emergency Disaster Plans to become operative during periods of major emergency.
- Otay Ranch shall participate in cooperative agreements with urban and rural emergency services providers.
- Incorporate the Otay Ranch Project Area into existing regional disaster preparedness programs.
- Otay Ranch shall site fire and emergency services facilities consistent with the following factors:

(a) Ability to meet travel/response time policies;

(b) Proximity to a pool of volunteer firefighters for service within the unincorporated areas, when appropriate;

(c) Ability of the site to support the appropriate facility to serve current and future development in the intended service area;

(d) Distances from other fire stations, including those operated by neighboring districts;

(e) Safe access to roadways in emergency responses;

(f) Special needs for fire suppression, and emergency services, including needs created by recreation areas and industrial land uses;

(g) Avoid close proximity to fault traces; and

(h) Ability to meet any adopted local community facility level standard, if appropriate.

- Consideration shall be given to shared law enforcement and fire service facilities such as public safety "storefronts" within village centers, training rooms and equipment storage.
- Otay Ranch shall evaluate the provision of fire suppression sprinkler systems for residential development within the Project Area as part of SPA plans.
- Fire protection and emergency services facilities shall be available or will be available concurrent with need.
- In areas lacking local public structural fire protection and within the sphere of influence of a fire protection agency, approval of Otay Ranch discretionary applications shall be conditioned on the annexation to that agency.
- Otay Ranch shall cooperate in the development of a strategy to address emergency medical service facilities and responsibilities in areas lacking a local provider of these services.

- Otay Ranch shall work with affected fire protection agencies to cooperatively develop guidelines for appropriate water provision requirements necessary for fire protection in ground water dependent areas.

- Otay Ranch shall participate in fire mitigation fee or development impact fee programs to enable fire protection agencies to meet the facility and equipment needs generated by Otay Ranch.

5.7.1.2 Existing Conditions

Fire protection and emergency medical services for the Project Area are provided by the Chula Vista Fire Department (CVFD). CVFD's medical transport is provided through a contract with American Medical Response (AMR). Citywide, the average calendar year 2009 response time was 7.23 minutes (City of Chula Vista 2010). This is within the Threshold Standard for fire response.

Because the Project Area is vacant, it is not included in the area or population for which emergency services are provided. The AMR ambulance station located closest to the Project Area is at 861 Otay Lakes Road, Chula Vista. This location maintains one 24-hour car and one twelve-hour car, along with two paramedics for each. Existing fire stations closest to the Project Area, including their locations, equipment and staffing, are listed in Table 5.7-1. As discussed in detail below, distance to the Project Area and response times from each station has not been determined at this time. There is also a proposal for a new station to be located within the EUC.

TABLE 5.7-1
FIRE STATION LOCATIONS, EQUIPMENT AND STAFFING

Station	Location	Equipment	Staffing
Station 3	1410 Brandywine Avenue	Engine 51 Truck 51 Battalion 51	Assigned: 24 On Duty: 8
Station 7	1640 Santa Venetia Road	Engine 57 Truck 57 Battalion 52	Assigned: 24 On Duty: 8

5.7.1.3 Thresholds of Significance

The Proposed Project would result in a significant impact to public services if it would:

1. Result in the inability for the City to provide an adequate level of service in accordance with the adopted standards and thresholds.

5.7.1.4 Impacts

2005 GPU/GDP EIR CONCLUSION

THRESHOLD 1: INABILITY TO PROVIDE ADEQUATE LEVEL OF SERVICE

The 2005 GPU/GDP EIR concluded that impacts associated with fire protection and emergency services would be less than significant due to conformance with applicable GP objectives and policies prohibiting discretionary approval for projects that do not comply with the City's Threshold Standard.

Analysis of Proposed Project

Threshold 1 states that the Proposed Project would result in a significant impact if it would result in the inability for the City to provide an adequate level of service in accordance with the adopted standards and thresholds.

Implementation of the Proposed Project would result in an increase in population required to be served by the fire department above that analyzed in the 2005 GPU/GDP EIR. This increase has the potential to affect CVFD's ability to provide an adequate level of service. Conformance with GP Objective GM 1 requires the City to maintain tools to assess the impact of new facility and service demands created by growth and, where appropriate to limit approval of individual discretionary projects unless adequate levels of service can be met. These levels of services would include the ability to meet response times. Additionally, GP Policies assure that the Proposed Project is adequately protected, as follows:

- **PFS 5.1** requires the CVFD to maintain adequate equipment and staff.
- **PFS 5.2** requires upgrades to service equipment to protect firefighters.
- **PFS 5.3** requires the construction of new fire stations, as needed.

- **PFS 5.7** assures that construction and approval of new projects is phased with provision of police and fire protection services such that services are provided prior to or concurrent with need.

The City is currently updating the FSMP. Upon its completion, the document will address the need, location, and timing for fire and medical response resources. In the interim, GP Objective PFS 5 requires the demonstration of adequate levels of service, emergency access, and water pressure prior to approval of any discretionary projects.

Likewise, conformance with the Otay Ranch GDP assures that fire and emergency services facilities meet specifications related to response times, siting, access, and equipment. Additionally, the GDP requires that fire protection and emergency services facilities are available concurrent with need.

Compliance with GP and GDP policies and the City Threshold Standard for emergency response time would assure that future development within the Project Area would not be approved unless the ability to meet these standards is demonstrated. Therefore, implementation of the Proposed Project would not result in any significant impacts associated with the inability for the City to provide an adequate level of fire and emergency service in accordance with the adopted standards and thresholds.

5.7.1.5 Level of Significance Prior to Mitigation

Compliance with GP and GDP policies would ensure that the level of impacts associated with the provision of fire and emergency services would be less than significant.

5.7.1.6 Mitigation Measures

The level of impacts would be less than significant; thus, no mitigation measures are required.

5.7.1.7 Level of Significance After Mitigation

Impacts would be less than significant.

5.7.1.8 Change in the Results of the 2005 GPU/GDP EIR Impact Analysis

Implementation of the Proposed Project would not increase the severity of impacts nor change the conclusions reached by the analysis contained in the 2005 GPU/GDP EIR with respect to fire and emergency services. No new impacts are identified and no new mitigation is required.

5.7.2 Police Services

5.7.2.1 Existing Regulatory Plans and Policies

City's Threshold Standards

The Threshold Standard requires that, among other considerations, 81 percent of Priority I emergency calls (i.e., life threatening) and 57 percent of Priority II urgent calls (i.e., misdemeanor in progress) throughout the City shall be responded to within seven minutes and shall maintain an average response time of 5.5 and 7.5 minutes, respectively.

City of Chula Vista General Plan

In addition to the Threshold Standard, stated above, the PFS Element contains the following two objectives and associated policies that address police protection:

The GP objectives PFS 5, PFS 6, and GM 1, and the related policies, discussed in the preceding section, also address police protection. The following additional policies address police services.

Objective PFS 6

Provide adequate fire and police protection services and response times to newly developing and re-developing areas of the City.

Policies

PFS 6.1 Continue to require new development and redevelopment projects to demonstrate adequate access for fire and police vehicles.

PFS 6.3 Encourage Crime Prevention through Environmental Design (CPTED) techniques in new development and redevelopment projects.

Otay Ranch General Development Plan

Section E, Part 6, Law Enforcement Facilities, identifies the goal of protecting life and property and the prevention of crime.

Objective: Enhance conditions for public safety by utilizing land use and site design techniques to deter criminal activity and promote law enforcement.

Objective: Site law enforcement facilities in appropriate locations in order to serve the population.

Additionally, Chapter 8, Section B sets the goal to promote public safety.

Objective: Prevent property damage and loss of life due to fire, crime or hazardous substances.

Policies:

- Fire protection, law enforcement and emergency services facilities shall be available prior to or concurrent with need.
- Arrange land uses in a manner consistent with recognized health, fire, crime prevention and protection practices.

5.7.2.2 Existing Conditions

Police protection for the City is provided by the Chula Vista Police Department (CVPD). The CVPD currently maintains a ratio of 0.83 sworn personnel per 1,000 residents. There is one central police station within the City, located at 315 Fourth Avenue. All police operations are based out of this one central facility. For the purposes of providing police services, the City is subdivided into three geographic sectors. The Project Area would be served by sectors 2 and 3, as well as beats 24 and 32.

Response time is just one measure of how police services are keeping pace with growth. The City has implemented measures to improve police response time. These measures range from staffing to technological improvements. The calendar year 2009 response times for Priority I and Priority II calls were 4.21 and 9.24 minutes, respectively (City of Chula Vista 2010a). While Priority I was within the Threshold Standard, Priority II calls were not. The

CVPD reports that it has adequate facilities; however, the current staffing levels are not sufficient to meet City response time standards (City of Chula Vista 2010a).

5.7.2.3 Thresholds of Significance

The Proposed Project would result in a significant impact to public services if it would:

1. Result in the inability for the City to provide an adequate level of service in accordance with the adopted standards and thresholds.

5.7.2.4 Impacts

2005 GPU/GDP EIR Conclusion

THRESHOLD 1: INABILITY TO PROVIDE ADEQUATE LEVEL OF SERVICE

The 2005 GPU/GDP EIR concluded that impacts associated with police protection would be less than significant due to conformance with applicable GP objectives and policies prohibiting discretionary approval for projects that do not comply with the City's Threshold Standard.

Analysis of Proposed Project

Threshold 1 states that the Proposed Project would result in a significant impact if it would result in the inability for the City to provide an adequate level of police service in accordance with the adopted standards and thresholds.

The CVPD does not currently meet the threshold standards established for Priority II response times. Implementation of the Proposed Project would increase population beyond that analyzed in the 2005 GPU/GDP EIR, requiring a greater number of citizens to be served by the CVPD. This could potentially increase response times to an even greater extent resulting in the City's inability to provide an adequate level of service.

As discussed above, the GP contains Objective GM 1 and associated policies to assure that public facilities and services are available in a timely manner as development occurs. Additionally, GP Objective PFS 5 requires sufficient levels of police service to exist to protect public safety and property. Likewise, the Otay Ranch GDP contains objectives and policies to assure that law enforcement services are available to serve new development.

Specifically, the GDP states that "law enforcement… shall be available prior to or concurrent with need" (Otay Ranch GDP Section E, Part 6). To meet these needs, the CVPD is currently pursuing both temporary and permanent storefront locations in the Project Area. Additionally, the department is anticipating meeting the challenges of overall growth in the City through technological upgrades, including a computer-aided dispatch system integrated with in-car GPS systems, MDC mapping capabilities in every car, and the ongoing efforts to implement CPTED strategies.

Additional GP policies include:

- **PFS 5.7** requires that large scale development will only be approved through a process that phases its construction with provision of police services prior to or concurrent with need.

- **PFS 6.1** requires the demonstration of adequate emergency access prior to approval of any discretionary projects.

Compliance with GP and GDP policies and the City's Threshold Standards would assure that future development within the Project Area will not occur unless the ability to meet these standards is demonstrated. Therefore, impacts associated with the inability for the City to provide an adequate level of law enforcement service in accordance with the adopted standards and thresholds would be less than significant.

5.7.2.5 Level of Significance Prior to Mitigation

Compliance with GP and GDP policies would ensure that impacts associated with the provision of law enforcement services would be less than significant.

5.7.2.6 Mitigation Measures

Impacts would be less than significant; thus, no mitigation measures are required.

5.7.2.7 Level of Significance After Mitigation

Impacts would be less than significant.

5.7.2.8 Change in the Results of the 2005 GPU/GDP EIR Impact Analysis

Implementation of the Proposed Project would not increase the severity of impacts nor change the conclusions reached by the analysis contained in the 2005 GPU/GDP EIR with respect to law enforcement services. No new impacts are identified and no new mitigation is required.

5.7.3 Schools

5.7.3.1 Existing Regulatory Plans and Policies

Senate Bill 50/CA Government Code Section 65995

Senate Bill 50 (SB 50) was signed into law in 1998 imposing limitations on the power of cities and counties to require mitigation of school facilities' impacts as a condition of approving new development. It also authorizes school districts to levy statutory developer fees at a higher rate for residential development than previously allowed. SB 50 amended Government Code Section 65995(a) to provide that only those fees expressly authorized by law (Education Code Section 17620 or Government Code Sections 65970, et seq.) may be levied or imposed in connection with or made conditions of any legislative or adjudicative act by a local agency involving planning, use, or development of real property.

Other relevant sections of the Government Code include:

- Section 65995(h), which declares that the payment of the development fees authorized by Education Code Section 17620 is "full and complete mitigation of the impacts of any legislative or adjudicative act . . . on the provision of adequate school facilities."

- Section 65995(i), which prohibits an agency from denying or refusing to approve a legislative or adjudicative act involving development "on the basis of a person's refusal to provide school facilities mitigation that exceeds the amounts authorized [by SB 50]."

City's Threshold Standard

The Threshold Standard states that the City shall provide the two local public school districts with an annual report that includes a 12- to 18-month growth forecast; and the District shall provide the City's GMOC with an evaluation of their ability to accommodate that growth.

City of Chula Vista General Plan

In addition to GP Objective GM 1, stated above, the proposed PFS Element contains the following two objectives and associated policies that address school services and facilities:

Objective PFS 9

Develop schools that cultivate and educate people of all ages, that meet the needs of the work force, and that serve as community centers.

Policies

PFS 9.1 Continue coordinating with local school districts during review of land use issues requiring discretionary approval to provide adequate school facilities, to meet needs generated by development and to avoid overcrowding, in accordance with the guidelines and limitations of Government Code 65996(b).

PFS 9.2 Encourage the consideration of new approaches to accommodate student enrollments, including alternative campus locations and education programs.

PFS 9.3 Assist school districts in identifying and acquiring school sites for new construction in needed time frames.

Objective PFS 10

Efficiently locate and design school facilities.

Policies

PFS 10.1 Continue to coordinate and make recommendations to the school districts and property owners/developers on the location, size and design of school facilities relative to their location in the community. Suggest to the school districts that they consider joint use and alternative structural design such as multi-story buildings where appropriate.

PFS 10.3 Require that proposed land uses adjacent to a school site be planned in such a manner as to minimize noise impacts and maximize compatibility between the uses.

PFS 10.4 Encourage the central location of new schools within the neighborhoods or areas they serve so as to further community development and enhance the quality of life.

Otay Ranch GDP

The goal of Section E, Chapter 8, School Facilities, of the Otay Ranch GDP is to provide educational facilities for Otay Ranch residents by coordinated planning of school facilities with the appropriate districts. The GDP identifies seven elementary schools within the GDP area.

Objective: School facilities shall be provided concurrently with need and integrated with related facility needs, such as childcare, health care, parks, and libraries, where practical.

Policies:

- Coordinate the planning and siting of schools, recreational facilities, childcare centers, libraries and other related public facilities.
- Additional facilities needed to serve children generated by the new development shall be provided concurrent with need, and shall be of the quality and quantity sufficient to meet, at a minimum, State Department of Education standards.

5.7.3.2 Existing Conditions

There are two public school districts that provide primary and secondary school facilities and services to the Project Area: Chula Vista Elementary District (CVESD) and Sweetwater Union High School District (SUHSD). CVESD operates kindergarten through sixth grade and SUHSD operates junior and senior high schools, and ancillary programs. Higher education is available through Southwestern Community College. The City is also pursuing development of a four-year college or university.

There are five elementary schools in the CVESD that now serve students residing within the Otay Ranch GDP area. These include Heritage Elementary, McMillin Elementary, Hedenkamp Elementary, Veterans Elementary, and Wolf Canyon Elementary. Secondary

schools include Otay Ranch and Olympian High Schools. Enrollment and capacity in these schools (based on www.greatschools.org, accessed June 2010) are shown in Table 5.7-2.

TABLE 5.7-2
PROJECT AREA SCHOOLS

School	Enrollment	Capacity
Heritage Elementary	875	913
McMillin Elementary	779	825
Hedenkamp Elementary	608	984
Veterans Elementary	633	693
Wolf Canyon Elementary	432	664
Otay High School	2,940	2,400
Olympian High School	866	2,400

5.7.3.3 Thresholds of Significance

The Proposed Project would result in a significant impact to public services, if it would:

1. Result in the inability for the public school system to provide adequate schools.

5.7.3.4 Impacts

2005 GPU/GDP EIR Conclusions

THRESHOLD 1: INABILITY TO PROVIDE ADEQUATE SCHOOLS

The 2005 GPU/GDP EIR concluded that the projected increase in students would be substantial; however, the responsibility for the actual provision of schools falls to the district. Impacts to the provision of school services would be avoided through the imposition of statutory fees pursuant to Government Code Section 65995, which provides that the payment of statutory fees is the exclusive means of considering and mitigating for school impacts. Additionally, although specific sites for new schools were not identified at the time of certification of the 2005 GPU/GDP EIR, GP PFS 9.3 provides that school sites are identified and acquired based on growth. Therefore, compliance with the GPU and state regulations would result in the avoidance of significant impacts.

Analysis of Proposed Project

Threshold 1 states that the Proposed Project would result in a significant impact if it would result in the inability for the public school system to provide adequate schools.

The Proposed Project would result in an increase in population beyond that analyzed in the 2005 GPU/GDP EIR. Therefore, the Proposed Project would generate an increased number of students residing within the districts serving the Project Area. The estimated number of students to be generated by the Proposed Project is based on the student generation factors used by each of the school districts. The generation rates are presented in Table 5.7-3.

TABLE 5.7-3
STUDENT GENERATION RATES

	Elementary School	Middle School	High School
Single-Family	0.385	0.11	0.221
Multi-Family	0.2255	0.098	0.196

SOURCE: CVESD SNFA Report, February 2003; Sweetwater Union High School District, 2003.

Implementation of the Proposed Project would result in the development of 247 single family and 633 multi-family residential dwelling units above that analyzed in the 2005 GPU/GDP EIR analyzed for the Land Use Change Area. Using the student generation rates in Table 5.7-3, the Proposed Project would generate an increase of approximately estimated 237 elementary school students to be served by the CVESD. Likewise, the Proposed Project would result in the generation of 89 additional middle and 179 additional high school students. As discussed, Objective GM 1 and associated policies would assure that public facilities and services are available in a timely manner as development occurs. Additionally, Policy PFS 9.1 provides for the coordination with local school districts during review of land use issues to provide adequate school facilities to meet the needs generated by proposed development. Ultimately, the provision of schools is the responsibility of the school districts. SB 50 provides that the statutory fees found in the Government and Education Codes are the exclusive means of considering, as well as mitigating for school impacts.

While the existing CVESD schools have minimal capacity to serve the Proposed Project, the Proposed Project includes three new elementary schools and one new middle school within the Project Area. Future siting and development will be required by the district to assure that school facilities are available to accommodate the projected student population and potential impacts to the public school system would be less than significant.

5.7.3.5 Level of Significance Prior to Mitigation

Implementation of the Proposed Project would increase population within the Project Area above that contemplated in the 2005 GPU/GDP EIR. The Proposed Project would result in the generation of additional school age students above the 2005 GPU Preferred Plan. Conformance with the policies associated with GP Objectives GM1, and PFS 9 and 10 would result in the review of the discretionary projects in accordance with the district's ability to provide adequate schools. Policies contained in the GDP state that schools are to be made available concurrent with the needs of growing communities. Impacts resulting from development completed in conformance with the Proposed Project would be avoided through payment of fees pursuant to Government Code Section 6995, which finds that the payment of statutory fees are the exclusive means of mitigating for school impacts. Therefore, the level of potential impacts would be less than significant

5.7.3.6 Mitigation Measures

Impacts would be less than significant. No mitigation measures are required.

5.7.3.7 Level of Significance After Mitigation

Impacts would be less than significant.

5.7.3.8 Change in the Results of the 2005 GPU/GDP EIR Impact Analysis

Implementation of the Proposed Project would not increase the severity of impacts nor change the conclusions reached by the analysis contained in the 2005 GPU/GDP EIR with respect to school services. No new impacts are identified and no new mitigation is required.

5.7.4 Library Service

5.7.4.1 Existing Regulatory Plans and Policies

City's Threshold Standard

The Threshold Standard states that the City shall construct 60,000 gross square feet (GSF) of library space, in the area east of I-805 by buildout. Additionally, construction of these facilities shall occur in phases such that the City will not fall below the citywide ratio of 500 GSF per 1,000 residents.

City of Chula Vista General Plan

The PFS Element contains three objectives and associated policies that address library services and facilities:

Objective PFS 11

Provide a library system of facilities and programs that meets the needs of Chula Vista residents of all ages.

Policies

PFS 11.1 During review of land use issues requiring discretionary approval, coordinate with the City of Chula Vista Public Library to provide adequate library facilities that meet the needs generated by development.

PFS 11.2 Within 5 to 8 years encourage an update to the Chula Vista Public Library Facilities Master Plan.

PFS 11.3 In needed timeframes assist the Chula Vista Public Library in identifying and acquiring library sites for new construction.

Objective PFS 12

Efficiently locate and design library facilities.

Policies

PFS 12.1 Continue to coordinate and make recommendations to the Chula Vista Public Library and property owners/developers on the location, size and design of library facilities relative to their location in the community.

PFS 12.3 Require that proposed land uses adjacent to a library site be planned in such a manner as to minimize noise impacts and maximize compatibility between the uses.

Objective PFS 13

Use of alternative site location and design methods, including joint use of facilities, to meet the public school and public library needs of the City.

Policies

PFS 13.1 Consider and suggest joint use of school and public library facilities where feasible, especially at high schools and institutions of higher learning.

PFS 13.3 Encourage the maintenance of safe access, clear signage and sufficient parking for joint use school and public library facilities.

Chula Vista Library Strategic Plan

The Library Strategic Plan (LSP) was recently revised in April 2011 to provide a blueprint for library service over both a long-term and interim period of time. Long-term is defined in the LSP as “after the year 2020.” The LSP is designed to focus priorities and resources in order to ensure residents of the City receive the highest quality library services possible (City of Chula Vista 2011).

The Chula Vista Public Library (CVPL) currently operates three libraries including the Civic Center, South Chula Vista and Otay Town Center Libraries. The LSP identifies that based on the projected buildout population of the City, there is a need for at least another 60,000 square feet of library. Specifically, the long-term “additional needed library square footage can be developed as multiple smaller branches (as recommended in prior master plans), or more cost effectively, as one large “destination” library, which would be the most cost-effective strategy” (City of Chula Vista 2011).

Otay Ranch General Development Plan

Section E, Part 7, Library Facilities, of the Otay Ranch GDP requires that 500 GSF per 1,000 residents of library facilities and services be provided to meet the information and education needs of Otay Ranch residents.

5.7.4.2 Existing Conditions

There are currently three full-service libraries in the City: the Civic Center Branch, the South Chula Vista Branch, and the Otay Town Center. The three facilities comprise a total of 96,500 square feet of library space.

The Otay Town Center Branch is the closest library to the Project Area. The branch was initially envisioned in the LSP and currently encompasses approximately 3,500 square feet.

5.7.4.3 Thresholds of Significance

The Proposed Project would result in a significant impact to public services if it would:

1. Result in the inability for the City to provide an adequate level of service in accordance with the adopted standards and thresholds, which currently requires the provision of 500 GSF of library facilities per 1,000 residents for new development.

5.7.4.4 Impacts

2005 GPU/GDP EIR Conclusion

THRESHOLD 1: INABILITY TO PROVIDE ADEQUATE LEVEL OF SERVICE

Based on the 2005 GPU Preferred Plan, population within the Land Use Change Area could total 13,819 residents. The 2005 GPU/GDP EIR concluded that impacts associated with library services would be considered less than significant throughout the City due to conformance with applicable GPU objectives and policies requiring coordination between population growth and library facilities.

Analysis of Proposed Project

Threshold 1 states that the Proposed Project would result in a significant impact if it would result in the inability for the City to provide an adequate level of service in accordance with the adopted standards and thresholds, which currently requires the provision of 500 GSF of library facilities per 1,000 residents for new development

It should be noted that the library requirement is citywide and can be met anywhere in the City. Therefore, while the increase in library services demand stems from the proposed land use changes within the Land Use Change Area, the threshold need can be met in other areas of the City.

Implementation of the Proposed Project would increase the demand for library services to accommodate the population of new residents within the Land Use Change Area beyond that analyzed in the 2005 GPU/GDP EIR. Table 5.7-4 provides the calculation for library facilities pursuant to the Proposed Project.

TABLE 5.7-4
LIBRARY REQUIREMENT

Proposed Population	1,000 Population	Library Requirement (1,000 population x 500 gross square feet)
16,275	16	8,000

Implementation of the 2005 GPU Preferred Plan would have resulted in a total population of 13,819 residents within the Land Use Change Area. This would generate a need for 6,500 square feet of library space. As shown in Table 5.7-4, the Proposed Project would result in the need for 8,000 square feet of library space, a total of 1,500 square feet more than required under the 2005 GPU/GDP EIR plan. The LSP long-term recommendations include the construction of a new “destination” library to be located on the east side of SR-125. This branch library currently accommodates the needs of the City, offering a 3,500-square-foot space within the Otay Ranch Town Center.

Additionally, the GP contains objectives intended to assure that library facilities grow along with forecasted population to allow the City to provide an adequate level of service, as follows:

- **Objective GM 1** assures public facilities and services are available in a timely manner as development occurs.
- **PFS 11** requires land use reviews to consider library facility need prior to approval of discretionary actions.
- **PFS 12 and 13** demonstrate the City’s commitment to ensuring adequate library facilities and services.

Along with the GP, the City has numerous mechanisms intended to assist the public library system to acquire sites, identify funding, and assure the provision of libraries required as the result of new development are addressed through the discretionary approval process. Through mechanisms, existing land use plans, and GP and GDP conformance, the level of potential impacts resulting from the inability for the City to provide an adequate level of library services would be less than significant.

5.7.4.5 Level of Significance Prior to Mitigation

Implementation of the Proposed Project would result in an increased demand on the existing libraries in the City to meet the standard of 500 GSF per 1,000 residents. Conformance with GP Objectives would ensure that adequate services are maintained and libraries are provided concurrent with need. Therefore, potential impacts to library services would be less than significant.

5.7.4.6 Mitigation Measures

Impacts would be less than significant; therefore, no mitigation measures are required.

5.7.4.7 Level of Significance After Mitigation

Impacts would be less than significant.

5.7.4.8 Change in the Results of the 2005 GPU/GDP EIR Impact Analysis

Implementation of the Proposed Project would not increase the severity of impacts nor change the conclusions reached by the analysis contained in the 2005 GPU/GDP EIR with respect to library services. No new impacts are identified and no new mitigation is required.

5.7.5 Parks and Recreation

5.7.5.1 Existing Regulatory Plans and Policies

City's Threshold Standard Policy

The Growth Management Threshold Standard requires that three acres of neighborhood and community parkland with appropriate facilities shall be provided per 1,000 residents in the area east of I-805.

Chula Vista Municipal Code

The Chula Vista Municipal Code, Section 17.10, also known as the Park Development Ordinance (PDO), applies a standard of three acres of park land for every 1,000 residents to all new development.

City of Chula Vista General Plan

The PFS Element contains the following objectives and associated policies that address park and recreation services and facilities:

Objective PFS 14

Provide parks and recreation facilities and programs citywide that are well maintained, safe, accessible to all residents and that offer opportunities for personal development and fitness in addition to recreation.

Policies

PFS 14.2 Construct new parks and recreation facilities that reflect the interests and needs to the community.

PFS 14.3 Continue to maintain and update the Chula Vista Parks and Recreation Master Plan; the Greenbelt Master Plan; the Park Dedication Ordinance; and the recreation component of the Public Facilities Development Impact Fee (DIF)

PFS 14.5 Work with proponents of new development projects and redevelopment projects at the earliest stages to ensure that parks, recreation, trails and open space facilities are designed to meet City standards and are built in a timely manner to meet the needs of residents they will serve.

Objective PFS 15

Provide new park and recreation facilities for residents of new development citywide.

Policies

PFS 15.1 Continue to pursue a city-wide standard for the provision of developed parkland for new development projects of three acres per estimated one thousand new residents.

PFS 15.4 Promote the inclusion of park and recreation facilities in or near redevelopment areas to both serve the new development and to contribute to meeting existing park and recreation needs.

PFS 15.7 Work with proponents of new development projects and redevelopment projects at the earliest stages to ensure that parks, recreation, trails and open space facilities are designed to meet City standards and are built in a timely manner to meet the needs of residents they will serve.

Parks and Recreation Master Plan

The City is updating its Parks and Recreation Master Plan, which is designed to create a comprehensive parks and recreation system that utilizes public and quasi-public resources that strive to meet the needs of the City by effectively distributing park types and their associated recreation facilities and programs. The current Plan contains several policies that address the siting and acreage of community and neighborhood parks.

Otay Valley Regional Park Concept Plan

The intent of the Otay Valley Regional Park Concept Plan (OVRPCP) is to provide recreation facilities, protect resources, and coordinate the park's development with adjacent land uses to ensure compatible development, buffering, and linkages with other regional resources. In addition, the OVRPCP requires that a comprehensive management plan be implemented to address long-term management of the park, provide protection for park visitors and neighbors, develop recreational programs, and enhance park/open space activities and resources. The Project Area is located just north of the "Heritage Road (Paseo Ranchero) to Otay Lakes Vicinity Segment" of the OVRPCP, with a small area in the southwestern corner of the Project Area designated as Open Space/Preserve Area. Just south of the Project Area, the OVRPCP designates both trail corridors and recreational areas.

Greenbelt Master Plan

The Greenbelt Master Plan, as it relates to parks and recreation, ensures public access within the Greenbelt through an active and passive recreation park system with trails connecting each segment. As shown in Figure 5.1-3, a small portion of the southwest corner of proposed Village 8 West and a portion of Village 9 is situated within the Greenbelt Master Plan area.

Otay Ranch General Development Plan

Chapter 4 of the Otay Ranch GDP addresses parks and recreation. The intent of the GDP is to provide diverse park and recreational opportunities within Otay Ranch which meet the recreational, conservation, preservation, cultural, and aesthetic needs of the community.

5.7.5.2 Existing Conditions

The Project Area is located in the eastern portion of the City. In this area, the three acres per 1,000 population threshold standard is currently being met.

5.7.5.3 Thresholds of Significance

The Proposed Project would result in a significant impact to public services if it:

1. Resulted in the inability for the City to provide an adequate level of service in accordance with the adopted standards and thresholds, which currently requires the provision of three acres of dedicated parkland per 1,000 residents for new development.

5.7.5.4 Impacts

2005 GPU/GDP EIR Conclusion

THRESHOLD 1: INABILITY TO PROVIDE ADEQUATE LEVEL OF SERVICE

The 2005 GPU/GDP EIR concluded that the level of impacts associated with parkland dedication would be less than significant due to conformance with applicable GPU objectives and policies.

Analysis of Proposed Project

Threshold 1 states that the Proposed Project would result in a significant impact if it would result in the inability for the City to provide an adequate level of service in accordance with the adopted standards and thresholds, which currently require the provision of three acres of dedicated parkland per 1,000 residents for new development.

Implementation of the Proposed Project would result in an increase in the need for parkland and recreation facilities beyond that analyzed in the 2005 GPU/GDP EIR. Implementation of

the 2005 GPU Preferred Plan would have resulted in a total population of 13,818 residents within the Land Use Change Area, requiring 41.5 acres of parkland. As shown in Table 5.7-5, the Proposed Project would result in a required 48.8 acres of parkland, a total of 7.3 acres more than required under the 2005 GPU/GDP EIR plan.

TABLE 5.7-5
PARK ACREAGE REQUIREMENT

Proposed Population	1,000 Population	Park Need (1,000 population x 3 acres)
16,275	16	48.8

The Proposed Project includes approximately 55.4 acres of park areas to be included in future SPA plans.

Additionally, the Proposed Project includes provisions for the creation of Town Squares and pedestrian areas which are included in park land designations. While the details of the location and sizes of these areas are unknown at this time, GP conformance requires that the developer provide or make parklands available in a timely manner as development occurs. Conformance with these policies will assure that adequate parkland is developed to meet the needs of the population. Therefore, future SPA plans will be required to identify specific locations prior to their approval assuring that impacts resulting from the inability of the City to provide an adequate level of services in accordance with adopted standards and thresholds would be less than significant.

5.7.5.5 Level of Significance Prior to Mitigation

Implementation of the Proposed Project would result in increased population within the Land Use Change Area necessitating additional parks. The City's PDO applies to developers and requires the application of a standard of 3 acres of parkland for every 1,000 residents to new developments. Implementation of the Proposed Project would meet this standard because the GDP includes the development of multiple parks. Impacts to parkland is self-mitigating due to the Proposed Project's conformance with the PDO, as well as GP and GDP policies, which provide for adequate parklands concurrent with need. Therefore, the level of potential impacts would be less than significant.

5.7.5.6 Mitigation Measures

Impacts would be less than significant; therefore, no mitigation measures are required.

5.7.5.7 Level of Significance After Mitigation

Impacts would be less than significant.

5.7.5.8 Change in the Results of the 2005 GPU/GDP EIR Impact Analysis

Implementation of the Proposed Project would not increase the severity of impacts nor change the conclusions reached by the analysis contained in the 2005 GPU/GDP EIR with respect to park and recreational services. No new impacts are identified and no new mitigation is required.

5.8 Public Utilities

Public utilities consist of the provision of water, sewer, and integrated waste management services and facilities. While energy is also a public utility, energy consumption is discussed in Chapter 5.3. The water and waste management portion of this discussion provides a supplemental analysis to the 2005 GPU/GDP EIR, focusing on potential impacts the Proposed Project could have upon these existing and planned public utilities as compared to the analysis in the 2005 GPU/GDP EIR. The basis of analysis for the wastewater portion of this chapter includes the Master Plan forecasts, updated to include subsequent refinements to the 2005 GPU land uses. Significant impacts are then identified based on the Proposed Project's potential increase to these City-wide "existing" conditions.

5.8.1 Water

In association with the GPU, the City prepared a water technical report to describe the various components of the existing water supply and distribution system serving the City, the current condition of those components, and the standards used to maintain the quality of water service (City of Chula Vista 2004). The City's water technical report was included as an Appendix to the 2005 GPU/GDP EIR and hereby incorporated by reference. An update to this report was prepared in June 2011 as part of the Proposed Project and attached to this SEIR as Appendix F.

5.8.1.1 Regulatory Plans and Policies

Senate Bill 7 of the Seventh Extraordinary Session of 2009

On November 10, 2009, Senate Bill 7 of the Seventh Extraordinary Session of 2009 (SBX7-7) was passed seeking to achieve a 20 percent statewide reduction in urban per capita water use by December 2015. In order to meet this goal, urban retail water suppliers are required to develop water use targets to help meet the goal.

Title 24, Part 11 – California Green Building Standards

The 2010 California Green Building Standards Code, referred to as CALGreen, took effect January 2011 instituting mandatory minimum environmental performance standards for all ground-up new construction of commercial and low-rise residential occupancies. It includes both mandatory requirements and additional voluntary environmental performance

standards. Local jurisdictions must enforce the minimum mandatory requirements and may also adopt the Green Building Standards with amendments for stricter requirements.

The mandatory standards require 20 percent mandatory reduction in indoor water use relative to specified baseline levels. A water use compliance form must demonstrate the minimum 20 percent reduction in indoor water use by either showing a 20 percent reduction in the overall baseline water use as identified in CalGreen or a reduced per-plumbing-fixture water use rate.

Chula Vista Green Building Standards

The Green Building Standards ordinance (GBS ordinance) (Ordinance No. 3140) was adopted by the City Council on October 6, 2009, and became effective November 5, 2009. This represents early adoption of the then pending California Green Building Standards discussed above. Permit applications for all new/remodel residential and non-residential projects submitted on or after November 5, 2009 are required to comply with the GBS ordinance. Through adherence to the GBS ordinance, new residential and non-residential construction, additions, remodels and improvements will benefit from enhanced energy efficiency, pollutant controls, interior moisture control, improved indoor air quality and exhaust, indoor water conservation, storm water management, and construction waste reduction and recycling.

Water Resources

Water imported to the San Diego region comes from two primary sources, the Colorado River through the 240-mile Colorado River Aqueduct, and the State Water Project from Northern California through the Sacramento-San Joaquin River Delta and the 444-mile-long California Aqueduct. These sources deliver water to the Metropolitan Water District of Southern California (MWD), which then distributes water supplies to water agencies throughout the Southern California region including the San Diego County Water Authority (SDCWA). The SDCWA is composed of 23 member agencies and receives purchased water by gravity through two aqueducts containing five large-diameter pipelines. These pipelines then supply the member water agencies, (i.e., Otay Water District) which serve the Project Area.

The SDCWA was created through special act legislation by the California Legislature in 1944 to administer the region's Colorado River water rights, import water and take over the

operation of the aqueduct from the Navy. The first imported water arrived in the county in November 1947. Providing a safe and reliable water supply to the people who live and work in the San Diego region is the mission of the SDCWA. The region's 3.2 million residents and $174 billion economy depend upon the SDCWA to fulfill this vital mission. The best way to ensure reliability now and into the future is to avoid being overly dependent upon any single source of water. Today, up to 80 percent of the region's water is imported from the Colorado River and Northern California. The MWD is the SDCWA largest supplier, providing more than half of the water used in the region in fiscal year 2010. Over the past several years, the SDCWA has received a growing percentage of its water supply from its long-term water conservation and transfer agreement with the Imperial Irrigation District (IID) and conserved water from projects that lined portions of the All-American and Coachella canals in Imperial Valley. The remaining water comes from local supply sources including groundwater, local surface water, recycled water, and conservation.

As a means to reduce reliance on the Colorado River as a water source, the SDCWA along with, the IID, MWD and the Coachella Valley Water District, the state of California and the U.S. Department of Interior, completed a series of complex agreements – collectively known as the Colorado River Quantification Settlement Agreement (QSA) to conserve and transfer water. One of those key agreements included the transfer of conserved agricultural water from the IID to the SDCWA. Under the IID-SDCWA water transfer agreement, the SDCWA received 10,000 acre-feet in the first year, with amounts ramping up to 200,000 acre-feet annually by year 19 and thereafter. This represents a new supply of nearly 13 million acre-feet of water over the 75-year term of the agreement.

As part of the agreement, the SDCWA agreed to construct concrete-lined canals alongside sections of the existing All-American and Coachella earthen canals. The SDCWA will receive about 80,000 acre-feet of conserved water per year for 110 years from these projects.

Seeking ways to do more with resources available locally is a key part of the SDCWA's efforts to diversify its overall water supply portfolio. The development of local water resources has for years been a focus of the SDCWA. Efforts to make the most of local resources include recycled water programs, using modern reverse osmosis technology for the desalination of brackish (salty) groundwater in several different parts of the county, groundwater storage projects, and ongoing water conservation efforts that have saved more than 345,000 acre-feet of water since 1990.

Recently, desalination of seawater has emerged as a promising new supply of water. The Carlsbad Desalination Project consists of a 50 million gallon per day (56,000 acre-feet per year) seawater desalination plant and associated water delivery pipelines located at the Encina Power Station in the City of Carlsbad.

MWD Integrated Water Resources Plan Update

In 1996, MWD adopted the Integrated Water Resources Plan (IRP) to provide a 20-year resource plan intended to balance the region between locally developed water resources and imported supplies. The IRP focused on water conservation, recycling, groundwater treatment, storage, and water transfers. On October 12, 2010, the IRP Update was approved, identifying MWD's strategic plan for water reliability through the year 2035.

The 2010 IRP Update seeks to stabilize MWD's traditional imported water supplies and establish water reserves to withstand California's inevitable dry cycles and growth in water demand. Utilizing a collaborative process, the 2010 IRP Update identifies a strategy to buffer the region from future changing circumstances through accelerated conservation and local supply development. It also advances long-term planning for potential future contingency resources, such as stormwater capture and large-scale seawater desalination, in close coordination with MWD's 26 member agencies and other utilities (MWD 2010).

San Diego County Water Authority 2010 Urban Water Management Plan

On June 23, 2011, the SDCWA Board of Directors adopted its final 2010 Urban Water Management Plan (UWMP). The 2010 UWMP identifies a diverse mix of water resources projected to be developed over the next 25 years to ensure long-term water supply reliability for the region. The 2010 UWMP includes projected water use based on SANDAG's 2050 Regional Growth forecasts, which include the City's 2005 GPA.

The plan quantifies the regional mix of existing and projected local and imported supplies necessary to meet future retail demands within the SDCWA service area in normal, single dry and multiple dry years. The plans submitted by the member agencies and MWD provide details on their supplies that contribute to the diversification and reliability of supplies for the San Diego region. It is noted that through aggressive conservation programs, the region has conserved an average of 53,605 acre-feet per year (af/yr) of water over the last five years.

Table 5.8-1 shows projected normal water demands for the SDCWA service area through 2035. The table also shows the demand the regional water demand forecast taking into account member agency water conservation targets as required by SBX7-7 (see regulations above). As shown in Table 5.8-1, normal year water demand within the SDCWA's service area is expected to grow from about 654,022acre-feet in 2015 to 903,213acre-feet (AF) by 2035. The application of conservation measures derived by SBX7-7 would result in the incremental increase in water conservation over the next 35 to 40 years. Tables 5.8-2 and 5.8-3 show the forecasted single dry year water demand and multiple dry year total water demand, respectively. Both tables apply conservation savings derived from SBX7-7.

The 2010 UWMP identifies a diverse mix of resources available to the SDCWA to meet future water demands including both local and imported sources. Section 4.0 of the 2010 UWMP provides specific documentation on the existing and projected supply sources being implemented by the SDCWA including the following:

- Long-term transfers of Colorado River water from the IID
- Conserved water transfers from the All-American Canal and Coachella Canal Lining projects
- Imported supplies from Metropolitan Water District
- Carlsbad Seawater Desalination project is a reliable water source commencing in 2020

In addition, local resources developed and managed by the SDCWA's member agencies are included in the assessment of available water supplies. These local supplies include surface water, groundwater, recycled water, and local desalinated seawater. The overall diversity of supplies provides for flexibility and adaptability in the resource mix to handle potential risks associated with managing and developing supplies. These risks could include environmental constraints, lack of political will, water supply contamination, and/or lack of funding.

TABLE 5.8-1
SDCWA NORMAL YEAR WATER DEMAND
ADJUSTED FOR SBX7-7 WATER CONSERVATION (AF)

Type	2015	2020	2025	2030	2035
M&I Demand[1,2,3]	590,731	661,415	728,574	788,174	839,417
Agricultural Demand[4]	55,358	49,534	48,380	47,279	46,178
Near-Term Annexations[5]	5,709	6,670	6,670	6,670	6,670
Accelerated Forecasted Growth[6]	2,224	4,421	6,605	8,776	10,948
Total Demand Forecast	654,022	722,040	790,229	850,899	903,213
SBX7-7 Conservation	-6,737	-46,951	-72,234	-97,280	-117,528
Total Demand With Sbx7-7 Conservation	647,285	675,089	717,995	753,619	785,685

SOURCE: Table 2-2 and 2-5 of 2010 UWMP
AF=acre-feet
[1]M&I: Municipal and Industrial demands includes 12,000 AF demand for Camp Pendleton
[2]Reflects passive historic conservation savings
[3]Includes increment of demand associated with the decay of historic active conservation program savings as follows: 2015=7,111 AF; 2020=14,221 AF; post 2020=21,332 AF
[4]Includes forecasts from two different categories:1) projected demands in the SDCWA's Special Agricultural Water rate program and 2) demands under SDCWA M&I rate
[5]Known near-term annexation demands include: Escondido (314 AF), Otay Ranch Village 13 and parcels east of Village 13 (2,361 AF), Peaceful Valley Ranch (70 AF), Sycuan reservation (392 AF), Stoddard Parcel (2 AF), San Ysidro Mt. Parcel Village 17 (148 AF), Viejas (2,000 AF), Rincon (417 AF), Meadowood Development (460 AF), Pauma Ranch (76 AF), and Warner Ranch/Sycamore Ranch (430 AF).
[6]Accounts for projected growth as identified by SANDAG which are not yet included in local jurisdictions' plans.

TABLE 5.8-2
SDCWA SINGLE DRY YEAR WATER DEMAND FORECAST
ADJUSTED FOR WATER CONSERVATION (AF)

	2015	**2020**	**2025**	**2030**	**2035**
Single Dry-Year Demand	694,257	765,409	836,967	901,210	956,544
SBX7-7 Conservation	-6,737	46,951	72,234	97,280	117,528
TOTAL DEMANDS	687,520	718,458	764,733	803,930	839,016

SOURCE: Table 2-7 of the 2010 UWMP

TABLE 5.8-3
SDCWA MULTIPLE DRY YEAR TOTAL WATER DEMAND FORECAST INCLUDING FUTURE CONSERVATION SAVINGS (AF)

Year	Total Estimated Demands (AF/year)
2012	658,381
2013	679,509
2014	711,241
2016	682,338
2017	705,461
2018	740,326
2021	724,294
2022	751,800
2023	790,177
2126	772,892
2027	801,649
2028	844,137
2031	811,421
2032	842,947
2033	882,795

SOURCE: San Diego County Water Authority 2010

Section 9.0 of the 2010 UWMP provides an assessment of the reliability of the SDCWA water supply to meet normal, single dry year and multiple dry water years demands. Table 5.8-4 shows the normal year assessment, summarizing the total water demands for the SDCWA through the year 2035 along with supplies necessary to meet demands under normal conditions.

As shown in Table 5.8-4, the 2010 UWMP concludes that “if water supplies are developed as planned, along with achievement of the SBX7-7 conservation target, no shortages are anticipated within the SDCWA service area in a normal year through 2035.” Likewise, no shortages are anticipated in a single dry year through 2035 (SDCWA 2010). Under multi dry-year conditions, some level of shortage could be experienced (SDCWA 2010:Tables 9-3 through 9-7); however, the SDCWA has invested in carryover storage supply capacity, which can be utilized in dry-years. Over the last five years the SDCWA has developed carry-over storage including in-region surface storage within member agencies reservoirs and increasing capacity through the raising of the San Vicente Dam, which should be completed in 2012.

TABLE 5.8-4
NORMAL WATER YEAR SUPPLY AND DEMAND ASSESSMENT
(AF)

	2015	2020	2025	2030	2035
Water Authority Supplies					
IID Water Transfer	100,000	190,000	200,000	200,000	200,000
ACC and CC Lining Projects	80,200	80,200	80,200	80,200	80,200
Proposed Regional Seawater Desalination	0	56,000	56,000	56,000	56,000
Subtotal	180,200	326,200	336,200	336,200	336,200
Member Agency Supplies					
Surface Water	48,206	47,940	47,878	47,542	47,289
Water Recycling	38,660	43,728	46,603	48,278	49,998
Groundwater	11,710	11,100	12,100	12,840	12,840
Groundwater Recovery	10,320	15,520	15,520	15,520	15,520
Subtotal	108,896	118,288	122,101	124,180	125,647
Metropolitan Water District Supplies	358,189	230,601	259,694	293,239	323,838
Total Projected Supplies	**647,285**	**675,089**	**717,995**	**753,619**	**785,685**
Total Demands w/ SBX7-7 Conservation	647,285	675,089	717,995	753,619	785,685

NOTE: Normal water year demands based on 1960–2008 hydrologies.

Otay Water District 2010 Urban Water Management Plan

The Proposed Project would be served by the OWD. The OWD receives all of its potable water supply from the SDCWA as imported water from SDCWA's Pipeline Number 4 of the Second San Diego Aqueduct. The OWD 2010 UWMP assesses the OWD's water supply sources, water demands, water supply reliability, supply and demand comparison provisions, demand management, water shortage contingency plan, and water recycling through 2035.

Table 5.8-5 provides the projected normal year supply and demand comparison as presented in the OWD 2010 UWMP. Table 5.8-6 presents the same information for the single dry year.

TABLE 5.8-5
PROJECTED NORMAL YEAR SUPPLY AND DEMAND
(AF)

	FY 2015	FY 2020	FY 2025	FY 2030	FY 2035
SDCWA (AF/year)[1]	40,483	41,321	44,015	45,974	48,614
Recycled (AF/year)	4,400	5,000	5,800	6,800	8,000
Total Supply (AF/year)	44,883	46,321	49,815	52,774	56,614
District Demands[2]	44,883	53,768	63,811	70,669	77,171
SBX7-7 Conservation Target	0	-7,447	-13,996	-17,895	-20,557
Demand Totals with Conservation	44,883	46,321	49,815	52,774	56,614
Difference as a % of Supply	0%	0%	0%	0%	0%
Difference as a % of Demand	0%	0%	0%	0%	0%

[1]SDCWA supplies assume that the OWD demands meets its SBX7-7 water use targets
[2]OWD demand projections based on SANDAG2050 population forecasts and near-term annexations
SOURCE: Table 31 OWD UWMP 2010

TABLE 5.8-6
PROJECTED SINGLE DRY YEAR SUPPLY AND DEMAND (AF)

	FY 2015	FY 2020	FY 2025	FY 2030	FY 2035
SDCWA (AF/year)[1]	40,483	41,321	44,015	45,974	48,614
Recycled (AF/year)	4,400	5,000	5,800	6,800	8,000
Total Supply (AF/year)	44,883	46,321	49,815	52,774	56,614
District Demands[2]	44,883	53,768	63,811	70,669	77,171
Demand Totals with Conservation	44,883	46,321	49,815	52,774	56,614
Difference as a % of Supply	0%	0%	0%	0%	0%
Difference as a % of Demand	0%	0%	0%	0%	0%

[1] SDCWA supplies assume that the OWD demands meets its SBX7-7 water use targets
[2] OWD demand projections based on SANDAG2050 population forecasts and near-term annexations
SOURCE: Table 32 OWD UWMP 2010

The 2010 OWD UWMP is based on SANDAG's 2050 Regional Growth Projections which include the City's 2005 GPU and the currently proposed GPA. Therefore, the water demand projections are based on land uses within the OWD service area including the Proposed Project.

The OWD is completely dependent on imported water provided by the SDCWA. Therefore, water supply reliability depends on the reliability of water supplied to SDCWA by MWD (and other means as discussed above). Water conservation measures, emergency and

operational storage, and interagency agreements with neighboring water agencies are additional ways OWD has addressed water supply reliability. As stated above, the SDCWA 2010 UWMP concludes that if development continues as planned, the CWA is able to meet projected demands under normal and dry conditions. Likewise, the OWD 2010 UWMP concludes that in average precipitation years, OWD has sufficient water to meet its customers' needs through 2035, based on continued commitment to conservation programs, which is frequently the lowest cost resource available to OWD.

Water conservation is a critical part of the OWD 2010 UWMP and the long-term strategy for meeting the water needs of the district; OWD is currently engaged in multiple conservation programs and the Plan outlines 14 BMPs for urban water conservation which OWD implements. The OWD UWMP indicates that OWD not only encourages the use of recycled water, but also requires its use for any and all appropriate and approved uses in areas where recycled water is allowed by the regulatory agencies.

The potential impacts of global warming on water supply are addressed in Chapter 5.10 of this SEIR.

Otay Water District Water Resources Master Plan Update-October 2008 (Revised November 2010)

The Water Resources Master Plan Update (WRMP) identifies the capital facilities needed to provide an adequate, reliable, flexible, and cost effective potable and recycled water system for the delivery of OWD, City of San Diego, SDCWA, and/or MWD water supply to meet approved land use development plans and growth projections within the planning area consistent with the SANDAG forecasts through 2030. The October 2008 WRMP was originally approved on February 3, 2010. It considered the land uses within the Otay Ranch GDP area as adopted in the 2005 GPU; the document was revised November 2010 to include the Proposed Project's intended land uses within Villages 8, 9, and the RTP (as identified in the LOA dated April 15, 2008 between the City and OLC) in its list of major planned developments within the OWD. As presented in the WRMP Update, supply options for the OWD area, include water conservation, groundwater development, desalination, recycled water, additional imported water alternatives, and regional water banking and transfers. Future water supply options are integrated into a set of eight alternative water supply strategies. Specifically, the Integrated Resources Plan portion of the report recommends the following projects for implementation.

SHORT-TERM (2008-2010) (While no longer short term, this is how these projects remain identified in the revised report):

- Additional conservation measures
- SD17 agreement with City of San Diego to treat raw water at Alvarado WTP
- Additional purchases from recycled water from the City of San Diego's South Bay
- Water Reclamation Plant (SBWRP)
- North District Recycled Water Concept
- Water banking agreements

LONG-RANGE (2010-2030)

- Central Valley and Land Fallowing Transfers
- Groundwater projects (Demineralization and Conjunctive Use)
- Ocean Desalination (Poseidon, Sweetwater/SD South Bay, Rosarito, Mexico, or other projects)
- Stripping (Scalping) Plant along the County of San Diego's Spring Valley Trunk Sewer
- North of Delta Transfers

In addition to the aforementioned alternative water supply strategies, the WRMP Update discusses water supply off-set projects. The OWD has begun planning for a number of local or regional water supply development projects in order to increase water supplies to serve new development project water supply needs. These potential water supply off-set projects are detailed in Section 3.4 of the WRMP Update. The Update also provides a potable water system evaluation including the transmission and operation of distribution sources, pipelines, and storage.

Otay Water District Growth Management Oversight Commission 2010 Questionnaire

Prepared by the OWD in January 2010, the Growth Management Oversight Commission 2010 Questionnaire (2010 Questionnaire) responds to the issue of whether existing water systems are able to serve projected growth pursuant to the Proposed Project. The

Questionnaire provides an opportunity for the OWD to identify capital improvement programs required to serve the forecasted water demands. The Questionnaire concludes that the near-term water supply outlook remains "unsettled", while the City's long-term growth should be assured of a reliable water supply. It should be noted that although the term "unsettled" was used in the 2010 Questionnaire, the OWD recently approved Water Supply Assessment and Verification Reports for both Village 8 West and Village 9. These approvals are based on the project's ability to demonstrate, in accordance with SB610, that sufficient water supplies are planned for and intended to be acquired to serve the projected demands of the projects.

City of Chula Vista Growth Management Program

The goal of the City's Growth Management Program is to ensure that the supply of water required by existing and future residents is available from suppliers and is at a level of quality necessary for its intended use. The Growth Management Program has two objectives regarding water supply and distribution: 1) ensure that adequate storage, treatment, and transmission facilities are constructed concurrently with planned growth; and 2) ensure that water quality standards are not jeopardized during growth and construction.

The Growth Management Threshold Standard for water supply and distribution states:

> The City shall annually provide the San Diego County Water Authority, the Sweetwater Authority and the Otay Municipal Water District with a 12-to 18-month development forecast and request and evaluation of their ability to accommodate the forecast and continuing growth. Districts' replies should address the following:
>
> a. Water availability to the City and Planning Area, considering both short and long term perspectives;
>
> b. Amount of current capacity, including storage capacity, now used or committed;
>
> c. Ability of affected facilities to absorb forecast growth;
>
> d. Evaluation of funding and site availability for projected new facilities; and
>
> e. Other relevant information the District(s) desire(s) to communicate to the City and the Growth Management Oversight Commission.

The City's Growth Management Ordinance, Municipal Code Section 19.09.050C, requires a Water Conservation Plan (WCP) to be submitted with all SPA Plans. If a SPA Plan is not required, a WCP is required to be submitted with Tentative Subdivision Maps. The Growth Management Program further requires that a WCP be submitted for all major development projects, defined as residential projects consisting of 50 dwelling units or greater, or commercial and industrial projects with 50 EDUs of water demand or greater.

In accordance with the Growth Management Program, WCPs must provide an analysis of water usage requirements of the Proposed Project. This includes a detailed plan of proposed measures for water conservation, use of reclaimed water, and other means of reducing per capita water consumption from the Proposed Project, as well as defining a program to monitor compliance.

City of Chula Vista General Plan

As discussed in Chapter 5.7, Public Services, the City's GP contains Objective GM 1 and associated policies to assure public facilities and services are available to residents and visitors of the City in a timely manner as development occurs. In addition, the PFS Element contains three objectives and associated policies that pertain to the water supply and distribution.

Objective PFS 1

Ensure adequate and reliable water, sewer and drainage service and facilities. For water, this objective is met through compliance with the following policies.

Policies

PFS 1.1 Coordinate with water districts by providing growth forecast information to allow the districts to plan and design water facilities and ensure adequate supply needed to accommodate anticipated growth.

PFS 1.7 Identify ways to obtain timely funding for public facility and service needs. Upon request by community representatives, facilitate the possible formation of assessment districts to finance public infrastructure, upgrades and maintenance.

Objective PFS 2

Increase efficiencies in water use, wastewater generation and its re-use, and handling of stormwater runoff throughout the city through use of alternative technologies. Policies supporting this objective as they pertain to water include:

Policies

PFS 2.1 Promote and encourage local water resource development and explore all opportunities for viable water supplies, including desalination. If appropriate, reserve land areas suitable to accommodate such potentially viable facilities and to protect groundwater sources and water-storage aquifers.

PFS 2.4 In designing water, wastewater and drainage facilities, limit the disruption of natural landforms and water bodies. Encourage the use of natural channels that simulate natural drainage ways while protecting property.

Objective PFS 3

Ensure a long-term water supply to meet the needs of existing and future uses in Chula Vista. Policies that are intended to achieve this objective include:

Policies

PFS 3.1 Assist the water agencies in preparing and maintaining Urban Water Management Plans that identify water demand anticipated by existing and new development.

PFS 3.2 Coordinate with water providers on long-range planning programs.

PFS 3.3 Participate in existing and future regional planning programs for water treatment, reclamation, and distribution.

PFS 3.4 Encourage the development of new technologies and the use of new sources to meet the long-term water demands in Chula Vista.

City of Chula Vista Project Processing Requirements

The City also ensures that an adequate supply and quality of water is provided to accommodate new master planned developments by implementing a set of project

processing requirements for applicants to follow through each stage of development. Processing requirements for GDPs, SPA Plans/Public Facilities Finance Plans, and Tentative Maps are described below:

A GDP for an area shall identify:

- total water demands,
- storage requirements, and
- needed facilities to service all new projects.

A SPA Plan/Public Facilities Finance Plan shall identify:

- demands for street and sewer improvements,
- location of improvements in conformance with the concerned water districts master plan,
- cost estimates and financing responsibilities,
- financing methods, and
- Water Conservation Plan for all developments with 50 dwelling units/equivalent of water demand or greater.

At the Tentative Map stage, identification of the following improvements is required:

- distribution and storage facilities by phase of development,
- dedication of required easements,
- identification of financing for each development,
- letter from the concerned water district verifying their ability to serve the phased development, and
- if needed, conditions to comply with Metro II Program concepts.

At the Final Map stage, conditions are implemented and there is a confirmation of the water district's ability to service project demands. Ultimately, with the issuance of Building Permits all water fees are to be paid.

City of Chula Vista Landscape Manual and Landscape Water Conservation Ordinance

The City's Landscape Manual includes requirements and standards for landscape areas throughout the City and identifies the need for water conservation practices to be implemented in the form of xeriscape landscaping and drought tolerant plant materials.

Chapter 20.12 of the City's Municipal Code, known as the Landscape Water Conservation Ordinance requires new construction and rehabilitated landscapes to conform to applicable landscape design plans to ensure smart water use in terms of plantings, irrigation, conservation and other landscape related matters.

Otay Ranch General Development Plan

Chapter 5, Section C1 of the Otay Ranch GDP identifies the goal of ensuring an adequate supply of water for buildout of the entire Otay Ranch Project Area and to design the Otay Ranch Project Area to maximize water conservation.

Objective: Ensure an adequate supply of water on a long-term basis prior to the development of each phase of the Otay Ranch Project Area.

Objective: Ensure infrastructure is constructed concurrently with planned growth, including adequate storage, treatment, and transmission facilities, which are consistent with development phasing goals, objectives and policies, and the Service/Revenue Plan.

Objective: Ensure that water quality within the Otay Ranch Project Area is not compromised, consistent with NPDES Best Management Practices, and the RWQCB Basin Plans.

Policies:

- Coordinate Otay Ranch land planning with the applicable water district provider.
- Discretionary land development applications dependent on imported water will only be approved if the service provider reasonably expects that water facilities will be

available concurrent with need, and that all appropriate requirements will be met through conditions placed on project approval.

Objective: Promote water conservation through increased efficiency in essential uses and use of low water demand landscaping.

Objective: Encourage suppliers to adopt a graduated rate structure designed to encourage water conservation.

5.8.1.2 Existing Conditions

Otay Water District – Water Supplies

As the Project Area is currently vacant, there is no water use on the site.

Water supply agencies throughout California continue to face climatological, environmental, legal, and other challenges that impact water source supply conditions, such as the court ruling regarding the Sacramento—San Joaquin Delta issues. The 2010 Questionnaire contains up-to-date information regarding potable and recycled water supply issues and capital improvement program projects. The Questionnaire states that the near-term water supply requires thoughtful planning to assure sufficiency of supplies; but that the City's long-term growth should be assured of a reliable water supply. The Questionnaire emphasizes that challenges such as these essentially always will be present; but that the regional water supply agencies, along with OWD nevertheless fully intend to have sufficient, reliable supplies to serve demands.

Otay Water District – Infrastructure

OWD uses and maintains 722 miles of potable water mains and 93 miles of recycled water mains. In 2007, they delivered 39,359 AF of potable water and 4,568 AF of recycled water. The water system includes 39 potable reservoirs, 4 recycled water reservoirs, and 25 pump stations. They have a potable storage capacity of 197,300,000 gallons and a recycled storage capacity of 44,000,000 gallons. OWD also operates the Ralph W. Chapman Water Recycling Facility that can produce 1,300,000 gallons of water per day. As of July 2008, OWD provides water to approximately 191,500 people over a 125.5 square mile area. OWD provides 48,376 metered customers.

The OWD Master Plan states that

> The SDCWA has long advocated and recommends that each of its member agencies provide systems and alternative supply to protect against CWA aqueduct facilities being out of service for up to ten continuous days any time of the year so an aqueduct outage can be survived while service to the member agency customers can continue essentially uninterrupted.

OWD has addressed these concerns as part of their current Capital Improvements Program (CIP) seeking to provide storage of emergency water supply in the event their primary supply line, Pipeline #4 from the CWA, experiences failure. They have successfully completed an emergency supply plan to provide a maximum five annual average days of potable water emergency storage. OWD has also prepared a plan to develop sufficient local supplies such as through arrangements with neighboring agencies when operated in conjunction with storage that meets a supply outage of at least ten continuous days any time of the year.

5.8.1.3 Thresholds of Significance

The Proposed Project would result in a significant impact to water supplies if it would:

1. Require or result in the construction of new water facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
2. Require new or expanded supplies or facilities to meet projected needs.
3. Result in the Proposed Project being inconsistent with the UWMP prepared by the CWA.

5.8.1.4 Impacts

2005 GPU/GDP EIR Conclusion

THRESHOLD 1: NEED FOR CONSTRUCTION OR EXPANSION OF FACILITIES

The 2005 GPU/GDP EIR concluded that impacts would be significant because the OWD capital improvement programs are based on the then current Master Plans, which were based on the existing GP. Adoption of the GPU would require the capital improvement programs to be reevaluated. Significant impacts could occur as a result of the completion of

these projects. The 2005 GPU/GDP EIR found that the extent of those effects is speculative because the nature and location of those improvements were unable to be determined at the time of the analysis and therefore would be significant and unmitigable.

THRESHOLD 2: NEED FOR NEW OR EXPANDED SUPPLIES

The 2005 GPU/GDP EIR concluded that impacts would be significant because implementation of the GPU would require an increase in demand for water relative to the existing GP. While larger projects would be required to perform water supply assessments pursuant to SB 610 and SB 221, is was not possible, at the time of the GPU analysis, to state conclusively that there would be adequate supply to serve the GPU. Therefore, while compliance with the GPU policies and implementation of mitigation measures would reduce the impact to water supply, impacts would remain significant and unmitigated due to the lack of assurance that water supply would be available to adequately serve the projected increase in population resulting from the GPU. Impacts would remain significant and unmitigated.

THRESHOLD 3: INCONSISTENCY WITH UWMP

The 2005 GPU/GDP EIR concluded that impacts would be significant because the CWA's 2000 UWMP was based on SANDAG forecasts, which used the existing GP. Implementation of the GPU would increase water demands not included in the UWMP. Therefore, until the UWMP is amended, impacts would remain significant and unmitigated.

Analysis of Proposed Project

THRESHOLD 1: NEW WATER FACILITIES

Threshold 1 states that the Proposed Project would result in a significant impact if it would result in the construction of new water facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

Buildout of the Proposed Project would place increased demands on the water supply system in terms of both infrastructure and supply beyond that contemplated in the 2005 GPU/GDP EIR. Any increased demand for water would require corresponding improvements to treatment and distribution facilities. The OWD WRMP Update defines and describes the new water facilities that are required to accommodate forecasted growth within the entire

OWD area, including the land uses that are part of the Proposed Project[1] . These facilities are incorporated into the annual OWD six-year CIP for implementation when required to support development activities.

As major development plans are formulated and proceed through the City approval processes, OWD typically requires the developer to prepare a Sub-Area Master Plan (SAMP) for the specific development project consistent with the WRMP. This SAMP document defines and describes all the water and recycled water system facilities to be constructed to provide an acceptable and adequate level of service to the proposed land uses. The SAMP also defines the financial responsibility of the facilities required for service. The OWD through collection of water meter capacity fees, water rates, and other sources of revenue funds those facilities identified as CIP projects.

The 2010 Questionnaire completed by OWD states that OWD has anticipated growth, effectively managed the addition of new facilities, and documented water supply needs. This was done by enhancing the service reliability levels with the addition of major facilities that provide access to existing storage reservoirs and increase supply capacity from the Helix Water District Levy Water Treatment Plant, the City of San Diego South Bay Water Treatment Plant, and the City of San Diego Otay Water Treatment Plant. This is due to the extensive planning OWD has done over the years including the WRMP and the annual process to have the CIP projects funded and constructed in a timely manner corresponding with development construction activities and water demand growth that require new or upgraded facilities. Notwithstanding this planning, impacts associated with the construction of new or expanded facilities could be significant. Like the conclusion reached in the 2005 GPU/GDP EIR, the extent of those effects is speculative at this level of analysis because the nature and location of those improvements has not been determined. Therefore, impacts associated with the Proposed Project's needs and siting of new water facilities would be significant.

[1] The OWD WRMP Update (Revised November 2010) also takes into consideration two subsequent LOA agreements dates May 20, 2008 and August 17, 2010 between the City of Chula Vista and OV Three Two, LLC, and JJJ&K Investments Two, LLC.

THRESHOLD 2: NEED FOR NEW OR EXPANDED SUPPLIES

Threshold 2 states that the Proposed Project would result in a significant impact if it would require new or expanded supplies or facilities to meet projected needs.

Buildout of the Proposed Project would place greater demands on the existing water supply than analyzed in the 2005 GPU/GDP EIR. To determine the Proposed Project's increase in projected water demand from that analyzed in the 2005 GPU/GDP EIR, water demand for the Proposed Project was calculated using water unit duty factors obtained from the 2008 WRMP Update (revised November 2010). As shown in Table 5.8-7, the general potable water demand associated with the increased land uses for Villages 8 West and 9, and the RTP, is calculated to total approximately 538,329 gpd.

TABLE 5.8-7
POTABLE WATER DEMAND SUMMARY FOR THE LAND USE CHANGE AREA (BAU)

Land Use Type	Unit Demand	Quantity	Total Demand Above 2005 GPU Preferred Plan (gpd)
Single Family Residential	500 gpd/unit[1]	247 units	123,500 gpd
Multi Family Residential	255 gpd/unit[2]	633 units	161,415 gpd
Commercial	0.14 gpd/sf[3]	550,000 sf	77,000 gpd
Schools	1,785 gpd/ac	6.4 ac	11,424 gpd
Parks[4]	2,155 gpd/ac	5.1 ac	10,990 gpd
Industrial (RTP)	0.07 gpd/sf[5]	2.2 million sf	154,000 gpd
Community Purpose Facility	893 gpd/ac	-9.3 ac	-8,305 gpd
TOTAL			538,329 gpd

SOURCE: 2008 OWD WRMP (revised November 2010)
gpd= gallons per day
sf= square feet
ac= acre
[1]Based on medium density (3-8 du/acre)
[2]Adjusted to assumed use of reclaimed water
[3]Recommended unit demand of 1,785 gpd/acre has been adjusted to reflect multi-story commercial buildings based on building square feet. To estimate water usage, the 1,785 gpd/acre factor from OWD and a factor of 0.3 from the Water Agency Standards was used to convert gross acres to net building area as follows: 1.0 gross acre is assumed to have 13,068 square feet of building (43,560 sf/acre x 0.3) From this, the demand factor of 0.14 gpd/sf (1,785/13,068) was calculated.
[4]Potable water demand based on assumption that increased acreage will be irrigated by potable water.
[5]The recommended unit demand of 893 gpd/acre has been adjusted. Using the formula in 3, above, the demand factor of 0.07 (893/13,068) was calculated.

Applying conservation measures required in the City's GBS Ordinance, the Proposed Project's water use and would achieve a 20 percent reduction in water consumption (and associated embodied energy) compared to the general water use assumptions contained in the 2008 WRMP Update. Therefore, accounting for the current mandatory conservation

measures included in the Proposed Project, water consumption rates were adjusted by 20 percent as shown in Table 5.8-8.

TABLE 5.8-8
POTABLE WATER DEMAND SUMMARY FOR THE LAND USE CHANGE AREA (ADJUSTED FOR 20 PERCENT CONSERVATION MEASURES)

Land Use Type	Unit demand	Quantity	Total Demand above 2005 GPU Preferred Plan (gpd)
Single-family Residential	400 gpd/unit[1]	247 units	98,800 gpd
Multi-family Residential	205 gpd/unit[2]	633 units	129,765 gpd
Commercial	0.11 gpd/sf[3]	550,000 sf	60,500 gpd
Industrial (RTP)	0.06 gpd/sf[5]	2.2 million sf	132,000 gpd
Schools	1,428 gpd/ac	6.4 ac	9,139 gpd
Parks[4]	1,725 gpd/ac	5.1 ac	8,798 gpd
Community Purpose Facility	714.4 gpd/ac	-9.3 ac	-6,644 gpd
TOTAL			432,358 gpd

SOURCE: 2008 OWD WRMP (revised November 2010)
gpd= gallons per day
sf= square feet
ac= acre
[1]Based on medium density (3-8 du/acre)
[2]Adjusted to assumed use of reclaimed water
[3]Recommended unit demand based on multi-story commercial buildings based on building square feet as described in Note 3, Table 5.8-7 adjusted by 20% to reflect mandatory project conservation measures
[4]Potable water demand based on assumption that increased acreage will be irrigated by potable water.
[5]The recommended unit demand of 893 gpd/acre has been adjusted. Using the formula described in Note 3, Table 5.8-7, adjusted by 20%.

The total increase in water usage associated with the Proposed Project after applying the 20 percent reduction would equate to 432,358 gpd. While future SPA plans could aim for greater percentage reductions, at this level of analysis the minimum required reductions are assumed. The GPU/GDP EIR estimated total water demands within the Land Use Change Area to be 930,494 gpd. Adding the Proposed Project's increased land use potential to this amount, results in total estimated water demands within the Land Use Change Area of approximately 1.4 million gpd.

The 2010 Questionnaire states that the additional water supply demands resulting from the Proposed Project can be addressed through the typical processes of land use information provided to SANDAG by the City and used by the SDCWA in their supply projection analysis methodology. The OWD 2010 UWMP, 2008 WRMP Update (revised November 2010) and the SDCWA 2010 UWMP all include the demands of the Proposed Project, as well as other anticipated projects within the Otay Ranch GDP area. Consistent with the 2010 Questionnaire, the water resource planning documents outlined above state that adequate

water supply is available to meet the needs of the Proposed Project land uses. To assure such adequacy, OWD will be required to certify the sufficiency of a reliable water supply primarily through the water assessment and verification process (SB-610 certification process). For example, the OWD recently approved the Water Supply Assessment and Verification (WSA&V) Reports for Otay Ranch Villages 8 West and Village 9. The WSA&V Reports for Villages 8 West and 9 identify and describe the processes by which increased water demand projections for the projects would be included in the future water planning documents of the OWD, SDCWA, and MWD. Overall, these WSA&V Reports demonstrate and document that sufficient water supplies are planned for and are intended to be available over a 20-year planning horizon, under normal, single dry, and multiple dry conditions, to meet the demands of the Proposed Project. To assure the sufficiency of water supply, project proponents are required to participate in the development of alternative water supply projects, which may include payment of the New Water Supply Fee adopted by the OWD in May 2010.

As discussed above, the land uses planned for these Villages are included in the SDCWA 2010 UWMP, which concluded that adequate water supply exists or is projected to exist within the SDCWA service area through the Year 2035.

All future projects would be required to comply with GP Objectives, and large projects would have to conform to the requirements of SB 610 and SB 221 to demonstrate adequate water availability. Future SPA plans are required to prepare water conservation plans to document compliance with City ordinance specifically identifying water use reduction measures incorporated into the design and planning of the individual projects. Notwithstanding these statutory assurances, long-term water supply is not assured and contracts do not currently exist to serve the City through buildout of the Proposed Project. Therefore, at this level of analysis, impacts associated with water supply would be significant.

THRESHOLD 3: INCONSISTENCY WITH UWMP

Threshold 3 states that the Proposed Project would result in a significant impact if it would result in the Proposed Project being inconsistent with the UWMP prepared by the SDCWA.

The SDCWA approved and published its 2010 UWMP in June 2011. Based on SANDAG's 2050 Regional Growth Forecast the 2010 UWMP includes population growth anticipated by

the City's 2005 GPA, as well as the current GPA application. Therefore, impacts associated with inconsistency with the UWMP would be less than significant.

5.8.1.5 Level of Significance Prior to Mitigation

Threshold 1: New Water Facilities

The Proposed Project's increased demand for water would require corresponding improvements to treatment and distribution facilities. Significant impacts could occur as a result of the construction of these projects; however, at this level of planning, the extent of those effects is speculative because the nature and location of those improvements have not been determined. Therefore, impacts associated with the potential need for new water facilities would be significant.

Threshold 2: Need for New or Expanded Supplies

Although, GP Objectives require adequate water supply, and larger projects would require conformance to SB 610 and SB 221, at this time it is not possible to state conclusively that sufficient water supplies would be available for future projects within the Project Area. As illustrated by the approved WS&V Reports for Otay Ranch Villages 8 West and 9, sufficient water supplies are planned for and are intended to be available; however, because contracts for water do not currently exist for the Proposed Project's demands, the potential lack of an adequate water supply would be a significant impact.

Threshold 3: Inconsistency with UWMP

The SDCWA released its 2010 UWMP which does account for the increase in water demand due to the Proposed Project. Therefore, impacts are less than significant.

5.8.1.6 Mitigation Measures

With respect to the need for new or expanded water supplies, the following mitigation measures are identified in the 2005 GPU/GDP EIR, and would apply to future development within the Project Area:

5.8.1.6-1 For any residential subdivision with 500 or more units or any commercial project of over 500,000 square feet, any CEQA compliance review shall include demonstration of compliance with the requirements of SB 610.

5.8.1.6-2 For any residential subdivision with 500 or more units, any CEQA compliance review shall include demonstration of compliance with the requirements of SB 221.

5.8.1.7 Level of Significance After Mitigation

THRESHOLD 1: NEED FOR CONSTRUCTION OR EXPANSION OF FACILITIES

Implementation of the Proposed Project would require the expansion of treatment and distribution facilities, the location and extent of which remain speculative at this time. Therefore, impacts would remain significant and unmitigable until subsequent SPA level documents are able to analyze potential impacts with more certainty.

THRESHOLD 2: NEED FOR NEW OR EXPANDED SUPPLIES

Compliance with the policies associated with Objectives PFS 1, 2 and 3 and implementation of the mitigation measures identified above would reduce the impact to water supply; however, because there is no assurance that water supply will be available to adequately serve the projected increase in population resulting from the Proposed Project, the impact remains significant and unmitigated.

THRESHOLD 3: INCONSISTENCY WITH UWMP

Because the CWA's 2010 UWMP includes forecasted water use associated with the Proposed Project, impacts are less than significant.

5.8.1.8 Change in the Results of the 2005 GPU/GDP EIR Impact Analysis

Implementation of the Proposed Project would increase water demands, but would not change the conclusions reached by the analysis contained in the 2005 GPU/GDP EIR. The mitigation presented in the 2005 GPU/GDP EIR would be required to be adopted along with the Proposed Project; however, like the 2005 GPU/GDP EIR, impacts with respect to thresholds one and two would remain significant and unmitigated.

5.8.2 Wastewater

This section presents a supplement to the analysis contained in the 2005 GPU/GDP EIR with respect to wastewater treatment facilities. The facilities, which accommodate the

Proposed Project, include the Salt Creek Gravity Sewer Interceptor and the San Diego Metro System. This section is based on the report entitled Salt Creek Interceptor Technical Sewer Study for Village 8 West and Village 9, prepared by PBS&J (2010). This report is included as Appendix F.

5.8.2.1 Regulatory Plans and Policies

City Growth Management Ordinance and Threshold Standard

One purpose of the City's Growth Management Ordinance is to prevent growth unless adequate public facilities and improvements are provided in a phased and logical fashion (City Municipal Code Section 19.09.010(A)(6)). The threshold Standard Policy for wastewater facilities states:

1. Sewage flows and volumes shall not exceed City Engineering Standards.
2. The City shall annually provide the San Diego Metro with a 12-to 18-month development forecast and request confirmation that the projection is within the City's purchased capacity rights and an evaluation of their ability to accommodate the forecast and continuing growth, or the City Engineering Department staff shall gather the necessary data. The information provided to the GMOC shall include the following:
    a. Amount of current capacity now used or committed
    b. Ability of affected facilities to absorb forecast growth
    c. Evaluation of funding and site availability for projected new facilities
    d. Other relevant information

City of Chula Vista General Plan

The PFS and GM Elements of the GP contain objectives and associated policies that address wastewater services and facilities:

Objective PFS 1

Ensure adequate and reliable water, sewer and drainage service and facilities.

Policies

PFS 1.2 Plan for adequate systems and facilities to manage the city's wastewater generation, treatment, and disposal.

PFS 1.7 Identify ways to obtain timely funding for public facility and service needs. Upon request by community representatives, facilitate the possible formation of assessment districts to finance public infrastructure, upgrades and maintenance.

Objective PFS 2

Increase efficiencies in water use, wastewater generation and its re-use, and handling of stormwater runoff throughout the city through use of alternative technologies.

Policy

PFS 2.3 In designing water, wastewater, and drainage facilities, limit the disruption of natural landforms and water bodies. Encourage the use of natural channels that simulate natural drainage ways while protecting property.

Objective GM 1

Assure public facilities and services are available to residents and visitors of the City in a timely manner as development occurs.

Policies

GM 1.1 Maintain a set of quantitative level-of-service measures (Growth Management Threshold Standards) as a tool to assess the relative impact of new facility and service demands created by growth, and apply those standards, as appropriate, to approval of discretionary projects.

GM 1.5 As part of the Growth Management Program, conduct an ongoing Development Monitoring Program focused on new development activity and related infrastructure and public facility construction to determine compliance with Threshold Standards and other City policies and programs.

GM 1.9 Require that all major development projects prepare a PFFP that articulates infrastructure and public facilities requirements and costs and funding mechanisms.

GM 1.11 Establish the authority to withhold discretionary approvals and subsequent building permits from projects demonstrated to be out of compliance with applicable Threshold Standards.

Otay Ranch General Development Plan

Part II, Chapter 5 establishes goals, objectives and policies relating to public facilities. Specifically, Section C2 addresses the overall goal of providing a healthful and sanitary sewerage collection and disposal system for the residents of Otay Ranch and the Region.

Objective: The ongoing planning, management and development of sewerage conveyance, treatment and disposal facilities to adequately meet future demands.

Policies

- Land use planning will be coordinated with sewerage system planning, which is the responsibility of facility providers.
- Ensure that the Otay Ranch Project will not use all available regional facility capacity, such as sewer, water and roads, and thus compromise the ability of other South County and East County parcels to develop as planned.
- The placement of new septic systems will be controlled to ensure the health and safety of the public.

City of Chula Vista Wastewater Master Plan

In May 2005, the City adopted its Wastewater Master Plan to address “issues relating to the City’s long-range land use plan as determined through the GPU process” (City of Chula Vista 2005, page 519). The Wastewater Master Plan is also intended to identify facility improvements necessary to support the City’s growth.

While the adopted 2005 GPU land uses were refined after the completion of the Wastewater Master Plan, the report did include an evaluation of the general impacts of each GPU

scenario on the City's wastewater collection system. This analysis was then included in the 2005 GPU/GDP EIR.

5.8.2.2 Existing Conditions

Sanitary sewer service for the Proposed Project will be provided by the City. The City operates and maintains its own sanitary collection system that ultimately connects to the City of San Diego Metropolitan Wastewater (METRO) system. All wastewater generated within the Proposed Project will eventually be conveyed to the METRO system via the Salt Creek Interceptor.

Salt Creek Interceptor

The Project Area is within the Salt Creek Basin and will be served by the Salt Creek Gravity Sewer Interceptor. The Salt Creek Interceptor was planned, designed, and constructed to convey projected development flows in the eastern portions of the City and future areas in the County that might otherwise be difficult to sewer. The Salt Creek Interceptor was designed based on the City of Chula Vista Salt Creek Interceptor Sewer Hydraulic Basis of Design Report (2002 Design Report). The 2002 Design Report estimated wastewater flows based on then-current land planning for the Salt Creek sewer basin and the unit generation rates and peaking factors presented in the City's Subdivision Manual. The Salt Creek Interceptor was placed into service around 2005 and conveys wastewater flows from new development in the Salt Creek, Poggi Canyon, and Wolf Canyon Basins. The capacity of the Salt Creek Interceptor was further analyzed in the 2005 Chula Vista Wastewater Master Plan (2005 Master Plan) based on the land uses in existence at that time. During the 2005 master planning process, the City was concurrently preparing its GPU. The Master Plan scope was, therefore, expanded to include an evaluation of the impacts of four alternative land use plans being considered in the 2005 GPU/GDP EIR. However, the 2005 Master Plan was completed prior to the adoption of the 2005 GPU/GDP EIR, and the final adopted 2005 GPU land uses were not refined until after completion of the Master Plan. In order to establish a more accurate basis for the analysis of potential wastewater impacts, Table 5.8-9 provides an update to the land uses as adopted in December 2005 and presented in the 2005 Master Plan to reflect the GPU Preferred Plan land uses. Table 5.8-6 summarizes the basis of analysis from which impacts related to the Proposed Project are examined.

TABLE 5.8-9
SALT CREEK SEWER LAND USES UPDATE

Intensity of Land Uses	Single-family Residential	Multi-family Residential	Residential Total (units)	Commercial (acres)	Industrial (acres)	Schools (acres)	Park (acres)
City (Existing)	5,026	1,808	6,834	22.4	0.0	322.8	95.6
City (Buildout under 2005 GPU)	2,673	9,607	12,280	102.6	452.9	636.3	311.9
City Subtotal	*7,699*	*11,415*	*19,114*	*124.9*	*452.9*	*959.2*	*407.5*
County[1]	3,112	1,558	4,670	255.0	0.0	39.4	30.9
Total	**10,811**	**12,973**	**23,784**	**379.9**	**452.9**	**998.6**	**438.4**

SOURCE: Table 2, Salt Creek Interceptor Technical Sewer Study for South Otay Ranch, PBS&J 2010
[1]County land uses have been included for those areas that would logically sewer to the Salt Creek Interceptor.

The determination of impacts is, therefore, based on the increased demand on the Salt Creek Interceptor System beyond the totals identified in Table 5.8-9 resulting from implementation of the Proposed Project.

Wastewater Generation

As shown in Table 5.8-10, the 2002 Subdivision Manual's unit generation criterion for new development is 265 gallons per day per equivalent dwelling unit (gpd/EDU). The City uses 265 gpd/EDU to estimate the future sewer flows in accordance with the Subdivision Manual requirements. However, wastewater flows were estimated in the 2005 Master Plan, and therefore, in the 2005 GPU/GDP EIR based on calibrated unit generation rates of 215 gpd/EDU since actual flows for large sewer basins have not been as high as the estimated flows. Trends toward water conservancy have shown that actual generation rates in large basins are nearer to 215 gpd. In designing sewer systems the marginal cost of installing a larger line is extremely small compared to the additional risk associated with an under designed system. Therefore, in designing new sewerage systems, when a sewer basin includes both existing and proposed flows, the City allows existing development to be modeled with a generation rate of 215 gpd/EDU but requires all proposed development to be modeled at 265 gpd/EDU. These total flows are then multiplied by a peaking factor as sewer systems are designed for the peak, not average demands. Finally, once the peak flow is determined, the Subdivision Manual requirements for large sewer lines, those lines greater than 12 inches in diameter, are that the pipe cannot exceed 75% of its capacity based on the slope, size, and roughness of the pipe. The Subdivision Manual requires that

small lines, those sewer lines with a diameter of 12 inches or less cannot exceed 50 percent of their capacity.

TABLE 5.8-10
UNIT SEWER GENERATION RATES

Item	2005 Master Plan Criteria for the Salt Creek Basin	2002 Subdivision Manual
Residential Sewage Generation	215 gpd/EDU SF: 1 DU = 1 EDU MF: 1 DU = 0.75 EDU	265 gpd/EDU SF: 1 DU = 1 EDU MF: 1 DU = 0.75 EDU
Commercial, Industrial, & Institutional Sewage Generation	1,500 gpd/ac	2,500 gpd/ac
Park Sewage Generation	500 gpd/ac	500 gpd/ac

SOURCE: Table 3, Salt Creek Interceptor Technical Sewer Study for South Otay Ranch, PBS&J 2010.
ac = acre
gpd = gallon per day
EDU = equivelent dwelling unit
DU = dwelling unit
SF = single-family
MF = multi-family

As shown in Table 5.8-11, existing estimated wastewater generation for the purposes of this analysis would be 9,576,589 gpd.

City of San Diego's Metropolitan Sewerage System (METRO) Capacity

The wastewater generated by the Proposed Project will be treated by the City of San Diego at the Point Loma Wastewater Treatment Facility. METRO provides wastewater conveyance, treatment, and disposal services for the City and 14 other participating agencies in accordance with the terms of a multi-agency agreement (METRO Agreement).

The City collects a capacity fee from new developments to fund the purchase of METRO capacity. Developers typically pay the sewer capacity fee at building permit issuance. Development cannot occur without adequate sewer capacity as determined by the City Engineer. Building permits will not be issued if the City Engineer has determined that adequate sewer capacity does not exist.

The City currently has capacity rights in the METRO system (comprised of conveyance, treatment, and disposal facilities) equal to 20.864 mgd based on the recent capacity allocation of 1.021 mgd from the South Bay Water Reclamation Facility.

TABLE 5.8-11
ESTIMATED WASTEWATER GENERATION

Land Uses	Units/ Acres	Generation Rate	Estimated Wastewater Generation (gpd)
2005 Master Plan			
Single-family Residential	5,026	215 gpd/EDU[1]	1,080,590
Multi-family Residential	1,808	215 gpd/EDU	291,540
Commercial	22.4	1,500 gpd/ac	33,600
Industrial	0.0	1,500 gpd/ac	0.0
Schools	322.8	1,500 gpd/ac	484,200
Park	95.6	500 gpd/ac	47,800
Total			**1,937,730**
2005 GPU			
Single-family Residential	2,673	265 gpd/EDU	708,345
Multi-family Residential	9,607	265 gpd/EDU	1,909,391
Commercial	102.6	2,500 gpd/ac	256,375
Industrial	452.9	2,500 gpd/ac	1,132,250
Schools	636.3	2,500 gpd/ac	1,590,775
Park	311.9	500 gpd/ac	155,940
Total			**5,753,076**
County Land Uses[1] (Villages 14 and 16)			
Single-family Residential	3,112	265 gpd/EDU	824,680
Multi-family Residential	1,558	265 gpd/EDU	309,653
Commercial	255	2,500 gpd/ac	637,500
Industrial	0.0	2,500 gpd/ac	0.0
Schools	39.4	2,500 gpd/ac	98,500
Park	30.9	2,500 gpd/ac	15,450
Total			**1,885,783**
TOTAL			**9,576,589**

SOURCE: Table 5, Salt Creek Interceptor Technical Sewer Study for the South Otay Ranch (Oct 2010)
gpd: gallons per day
1 SF: 1 DU = 1 EDU MF: 1 DU = 0.75 EDU
[1]Additional wastewater generation is included for County land use areas reasonably served by the Salt Creek Interceptor System.

5.8.2.3 Thresholds of Significance

The Proposed Project would result in a significant wastewater impact if it would:

1. Result in a determination by the wastewater treatment provider which serves or may serve the project that it does not have adequate planned capacity to serve projected demand in addition to the provider's existing commitments.

5.8.2.4 Impacts

2005 GPU/GDP EIR Conclusion

THRESHOLD 1: INADEQUATE CAPACITY TO SERVE DEMAND

The 2005 GPU/GDP EIR analyzed whether the GPU would result in a determination by the wastewater treatment provider that it does not have adequate planned capacity to serve projected demands in addition to the provider's existing commitments. The 2005 GPU/GDP EIR found that although buildout of the GPU would cause an increased demand for wastewater treatment and the need for improvements to the wastewater collection system, the level of impacts would be less than significant. This conclusion is based on future project's conformance with GP policies requiring that major development projects prepare a public facilities financing plan to assure that facilities are available at the time of need. These policies also provide authority to withhold approval and subsequent permits that are out of compliance with threshold standards established by the City.

Analysis of Proposed Project

Threshold 1 states that the impacts to wastewater facilities would be significant if the Proposed Project would result in a determination by the wastewater treatment provider which serves or may serve the project that it does not have adequate planned capacity to serve projected demand in addition to the provider's existing commitments.

SALT CREEK INTERCEPTOR CAPACITY ANALYSIS

Buildout of the Proposed Project would place increased demands on the sewer system, compared to the basis of analysis, identified above. The estimated average daily wastewater flows (as identified in the City's Master Plan 2005 and updated to reflect the 2005 GPU) equals 9,576,589 gpd (see Table 5.8-11).

Implementation of the Proposed Project would increase single-family and multi-family residential uses by an additional 247 and 633 dwelling units, respectively. The Proposed Project would also add 14.7 acres of commercial, 85 acres of industrial, and 5.1 acres of park uses above the existing basis of analysis. As shown in Table 5.8-12, the Proposed Project would result in an approximate additional 459,925 gpd in wastewater flow.

TABLE 5.8-12
PROPOSED PROJECT INCREASE IN WASTEWATER FLOWS

Land Use Classification	Proposed Land Uses (amount above 2005 GPU)	Unit Wastewater Generation Rate[1]	Increased Wastewater Flow
Residential	247 Single-family= 247 EDU[1] 633 Multi-family= 478 EDU	265 gpd/EDU	65,455 gpd (single-family) 126,670 gpd (multi-family)
Commercial/ Industrial/ Institutional	14.7 ac (commercial) 85 ac (industrial) 6.4 ac (schools)	2,500 gpd/ac	36,750 gpd 212,500 gpd 16,000 gpd
Park	5.1 acres	500 gpd/ac	2,550
TOTAL:			**459,925 gpd**

[1]Rates based on the 2002 Subdivision Manual, See Table 5.8-10.

The 2005 GPU/GDP EIR identified that the Preferred Plan would require improvements to the City's collection system due to deficient sewer lines. As identified in the Salt Creek Interceptor Technical Sewer Study for the South Otay Ranch (PBS&J 2010) these deficiencies are located upstream from the Proposed Project and would not be the result of increased wastewater generated by the Proposed Project. The incremental increase in wastewater generation resulting from implementation of the Proposed Project would not result in any additional deficiencies. Therefore, the Proposed Project would not result in any significant impacts on the Salt Creek Interceptor.

METRO CAPACITY

As stated above, current METRO capacity is 20.864 MGD. As shown in Table 5.8-11, the Proposed Project would generate an additional 459,925 gpd. This translates to an approximate total required METRO capacity of 21.45 MGD. The City purchases or provides sewer treatment capacity on an as needed basis. If flows exceed METRO capacity the City will not issue building permits.

Currently, the City is studying alternatives to resolve their treatment capacity deficiency, which includes ongoing negotiations with METRO to purchase additional capacity and an evaluation of a City owned wastewater treatment plant. The City of San Diego has indicated that there is available METRO capacity in the regional system that could be purchased by the City.

Future projects will be required to conform to GP Objectives GM 1, PFS 1 and GDP objectives relating to planning and management of sewer services to accommodate future

projects. Overall, compliance with relevant policies would be self mitigating, ensuring the availability of adequate sewer facilities. Therefore, impacts due to increase wastewater generation would be less than significant.

5.8.2.5 Level of Significance Prior to Mitigation

Salt Creek Interceptor

The incremental increase in wastewater generation from implementation of the Proposed Project would not result in any additional deficiencies other than those upstream of the project site identified in the 2005 GPU/GDP EIR. The Proposed Project would not result in any significant impacts to the existing Salt Creek Interceptor.

METRO Capacity

Projected increases in wastewater flows generated by the Proposed Project may exceed the City's current capacity in the METRO system. Although the City is in the process of acquiring additional capacity from METRO, that acquisition has not yet been finalized. Policies in the GP and GDP require that the Proposed Project provide a public facilities financing plan that articulates needed facilities and identifies funding mechanisms, as well as the authority of the City to withhold discretionary approvals and subsequent building permits from projects that are out of compliance with threshold standards. Therefore, through GP and GDP compliance, impacts associated with METRO capacity would be less than significant.

5.8.2.6 Mitigation Measures

No mitigation is required, because impacts would be less than significant.

5.8.2.7 Level of Significance After Mitigation

Impacts would be less than significant.

5.8.2.8 Change in the Results of the 2005 GPU/GDP EIR Impact Analysis

Implementation of the Proposed Project would increase wastewater generation above that contemplated in the 2005 GPU/GDP EIR for the Preferred Plan; however, implementation of the Proposed Project would not change the conclusions reached by the analysis contained in the 2005 GPU/GDP EIR. No impacts to the Salt Creek Interceptor system, beyond the

upstream deficiencies identified in the 2005 GPU/GDP EIR would occur. Additionally, like those discussed in the 2005 GPU/GDP EIR, METRO capacity impacts would be self-mitigating through GP and GDP compliance. No new impacts and no new mitigation have been identified.

5.8.3 Integrated Waste Management

5.8.3.1 Regulatory Plans and Policies

California Integrated Waste Management Act

Enacted by Assembly Bill 939 and signed into law in 1990, the California Integrated Waste Management Act (IWMA) established an integrated system of solid waste management in the state whereby each city and county was required to develop and implement plans consistent with the mandated diversion rates of 25 percent by 1995 and 50 percent by 2000. Under IWMA, the County prepared a Countywide Siting Element and Summary Plan describing areas to be developed as disposal or waste management facilities. The Act further requires each city to prepare and implement the following solid waste management elements:

- Source Reduction and Recycling Element (SRRE) to:
  - Identify the constituents of solid waste by volume, type of material and source;
  - Describe the methods, including recycling and composting, by which the city will reduce the amount of solid waste being generated;
  - Identify and describe projected costs, revenues, and revenue sources necessary to implement the element; and
  - Describe existing handling and disposal practices for special wastes such as asbestos and sewage sludge.
- Household Hazardous Waste Element to identify a program for the safe collection, treatment, and disposal of hazardous wastes generated by residences that should be separated from the rest of the solid waste stream.
- Non-Disposal Facility Element (NDFE) to describe any new solid waste facilities and expansions of existing solid waste facilities needed to implement the jurisdiction's source

reduction and recycling element. Facilities that will recover or recycle at least 5 percent of the total volume of materials they receive need not be included in the element.

San Diego County Solid Waste Division of the Department of Public Works

The County Solid Waste Division of the Department of Public Works administers regional planning and management for the County's solid wastes. This agency is responsible for revising and updating the "Regional Solid Waste Management Plan" (RSWMP), which reviews current solid waste collection and disposal practices, predicts future waste generation trends, and reviews the possible means for accommodating future collection and disposal needs. This document is the major planning tool for the County and includes solid waste planning for the cities within the County.

City of Chula Vista General Plan

The Public Facilities and Services Element and Environmental Element contain two objectives and associated policies that address solid waste disposal in the City:

Objective PFS 25

Efficiently handle solid waste disposal throughout the city.

Policies:

PFS 22.1 Plan for adequate systems and facilities to manage the city's solid waste generation, treatment, and disposal.

Objective E 8

Minimize the amount of solid waste generated within the General Plan area that requires landfill disposal.

Policies:

E 8.1 Promote efforts to reduce waste, minimize the need for additional landfills, and provide economically and environmentally sound resource recovery, management, and disposal facilities.

E 8.3: Implement source reduction strategies, including curbside recycling, use of small collection facilities for recycling, and composting.

E 8.6: Permit recycling operations and businesses that utilize recyclable materials within industrial zones in close proximity to Otay Landfill, subject to conformance with applicable SPA Plan-level policies and zoning regulations.

5.8.3.2 Existing Conditions

Existing solid waste disposal facilities in the area include the Otay Landfill and several recycling facilities in proximity to the landfill. The Otay Landfill accepts approximately 98 percent of the non-hazardous municipal waste collected in the City. The Otay Landfill is expected to be in operation until 2028 based upon current waste generation rates.

5.8.3.3 Thresholds of Significance

The Proposed Project would result in significant impacts to integrated waste management if it would:

1. Be served by landfills with insufficient permitted capacity to accommodate the project's solid waste disposal needs.

5.8.3.4 Impacts

2005 GPU/GDP EIR Conclusion

The 2005 GPU/GDP EIR concluded that since there is sufficient capacity within the Otay Landfill to accommodate the projected population of the GPU, there would be no significant impacts to solid waste disposal.

Analysis of Proposed Project

Threshold 1 states that impacts to integrated waste management would be significant if the Proposed Project would be served by landfills with insufficient permitted capacity to accommodate the project's solid waste disposal needs.

The 2005 GPU/GDP EIR identified the Otay Landfill having a permitted remaining capacity of 31,336,166 tons. The Preferred Plan analyzed in the 2005 GPU/GDP EIR, was estimated

to generate a solid waste disposal quantity of 274,063 tons, after which there would be 26,211,147 tons of remaining landfill capacity.

Table 5.8-13 calculates solid waste generation associated with the Proposed Project, which is the increase in solid waste above that analyzed in the 2005 GPU.

TABLE 5.8-13
PROPOSED PROJECT INCREASE IN SOLID WASTE GENERATION

Land Use	Solid Waste Generation Rate	Annual Increased Solid Waste
Residential: 247 Single-family	4,161 lbs/single-family unit/yr	1,027,767 lbs (513.9 tons[2])
633 Multi-family	3,139 lbs/Multi-family unit/yr	1,986,987 lbs (993.5 tons[2])
Commercial: 500,000 sf	16.79 lbs/sf/yr	8,395,000 lbs (4,197.5 tons[2])
Industrial: 2,221,560 sf	16.79 lbs/sf/yr	37,299,992 lbs (18,650 tons[2])
School: 6.4 acres (278,784 sf)[1]	.0013 tons/sf/yr	362.4 tons
Community Purpose Facility: -9.3 acres (405,108 sf)[1]	.0057 ton/sf/yr	-2,309 tons
Park: 5.1 acres	4.76 tons/ac/yr	24.28 tons
TOTAL		**22,433 tons**

SOURCE: CALRecycle/CalEEMod (2011)
lbs = pounds
yr = year
sf = square feet
ac= acre
[1]sf is calculated by multiplying acres by 43,560
[2] tons are calculated by multiplying lbs by 0.0005

As shown, the Proposed Project would generate an additional 22,433 tons. The Otay Landfill has sufficient capacity to accommodate the increased waste disposal.

Additionally, as discussed in the Public Services section of this SEIR, GP Objective GM 1 and associated policies assure public facilities and services are available in a timely manner as development occurs. The PFS and E Elements of the GP and the GDP contain objectives intended to encourage the reduction of waste generation and ensure the efficient handling of wastes. Since there is sufficient capacity to accommodate projected development of the

Proposed Project impacts associated with insufficient permitted capacity to accommodate the Proposed Project's solid waste disposal impacts would be less than significant.

The landfill is scheduled to close in 2028 for the City per the current franchise agreement. Within the franchise agreement is the following clause, "6.2.15 Disposal of Solid Waste: Pacific (now Allied) shall dispose of solid waste (which has not been source separated for the purposes of recycling or composting), at its expense, at the Otay Landfill or the Sycamore Landfill, both being City authorized Landfills, in accordance with all applicable law, or such other landfill mutually agreed upon by Pacific, City, Otay Landfill, Inc. and Sycamore Canyon, Inc." In accordance with these terms, waste will be permitted to be transferred to the Sycamore Canyon Landfill upon the closing of the Otay Landfill. There would be no interruption of service and impacts would be less than significant.

5.8.3.5 Level of Significance Prior to Mitigation

The Otay Landfill has sufficient capacity to accommodate the projected increase in waste disposal needs. Additionally upon its scheduled closing in 2028, waste would be transferred to the Sycamore Canyon Landfill. Therefore, impacts associated with insufficient permitted capacity to accommodate the Proposed Project's solid waste disposal needs would be less than significant.

5.8.3.6 Mitigation Measures

No mitigation is required because impacts would be less than significant.

5.8.3.7 Level of Significance After Mitigation

Impacts would be less than significant.

5.8.3.8 Change in the Results of the 2005 GPU/GDP EIR Impact Analysis

Implementation of the Proposed Project would increase waste disposal needs, but would not increase the severity of impacts nor change the conclusions reached by the analysis contained in the 2005 GPU/GDP EIR. The Otay Landfill would be able to accommodate the increased disposal quantities generated by the Proposed Project. This is consistent with the conclusions reached in the 2005 GPU/GDP EIR.

5.9 Housing and Population

This section provides a supplement to the 2005 GPU/GDP EIR with respect to the analysis of potential effects on housing and population. The 2005 GPU/GDP EIR examined population and housing issues primarily from a citywide view, with a broad view of the East Planning Area. This SEIR focuses on the Project Area, identifying potential impacts associated with increased housing units within the proposed Land Use Change Area from that analyzed in the 2005 GPU/GDP EIR. The 2005 GPU/GDP EIR, along with population and housing data from the City's Housing Element, the SANDAG RCP, and regional growth forecasts are incorporated by reference and discussed below.

5.9.1 Existing Conditions

5.9.1.1 Regulatory Plans and Policies

SANDAG is the agency responsible for preparing regional population, housing, and employment projections for jurisdictions within the County. SANDAG provides regional growth forecasts used as principal planning tools for regional land use, transportation, and natural resources planning.

SANDAG's Regional Comprehensive Plan

As previously discussed in Chapter 5.1, SANDAG's RCP provides a growth management strategy for the region. In accordance with smart-growth principles, the overall goal of the RCP is to strengthen the integration of local and regional land use, transportation, and natural resource planning. As stated in the RCP's Regional Housing Element, new housing should be located within already urbanized communities close to jobs and transit in order "to help conserve open space and rural areas, reinvigorate existing neighborhoods, and lessen long commutes" (SANDAG 2004b).

In addition to stating the need for applying smart-growth strategies in the location and development of new housing, the RCP's Regional Housing Element also includes the goal to provide more housing choices in all price ranges. The RCP states that homes need to be affordable to persons of all income levels and accessible to persons of all ages and abilities.

SANDAG's Forecasts

SANDAG's regional population growth forecasts are derived from population projections based on planned land uses allowed in member governments' land use and development plans (i.e., general and community plans). SANDAG's latest forecast projected that in 2030 there would be a regional housing capacity shortage, with 288,700 additional homes needed (SANDAG 2003b).

City of Chula Vista General Plan Housing Element

The California State Legislature has identified the attainment of a decent home and suitable living environment for every Californian as the State's main housing goal. Recognizing the important part that local planning programs play in pursuit of this goal, the Legislature has mandated that all cities and counties prepare a housing element as part of their comprehensive general plans. The Housing Element of the GP identifies the existing and projected housing needs of the City and recommends ways to meet these needs while balancing other community objectives and resources.

The City's population is expected to increase by 82.28 percent between 1995 and 2020, an increase of approximately 124,362 people. The primary goal of the City is to ensure that decent, safe housing is available at an affordable cost. Additional goals address a number of important housing-related issues, as follows:

- Goal 1: Conserve existing affordable housing opportunities.
- Goal 2: Maintain and enhance the quality of residential neighborhoods in Chula Vista.
- Goal 3: Ensure that an adequate and diverse housing supply is available to meet the City's existing and future needs.
- Goal 4: Increase home ownership opportunities for low- and moderate-income households.
- Goal 5: Enable homeless individuals and families to find permanent housing.
- Goal 6: Encourage energy and waste conservation as an integral part of homes.

- Goal 7: Promote equal opportunity for all residents to reside in housing of their choice.

- Goal 8: Reduction and/or removal to the greatest extent possible of identified constraints to the development, maintenance, and improvement of housing.

The Housing Element also includes the Affordable Housing Program (AHP), which requires new projects involving 50 or more units to set aside a minimum of 10 percent of the project's units as affordable to low- and moderate-income households. The AHP, through its Implementation Guidelines, offers flexibility in meeting affordable housing goals by considering alternatives to actual developer built-in production. These alternatives include land set-asides, off-site projects, and in-lieu contributions.

Otay Ranch General Development Plan

The Otay Ranch GDP established a five-year objective that requires each village to proportionately assist the City to meet or exceed Otay Ranch's share of the five-year regional allocation as provided by the City's Housing Element. The Otay Ranch GDP requires that prior to or concurrent with the approval of a SPA plan, a housing plan shall be approved that addresses the type and location of housing to be provided pursuant to the regional share allocation. Relevant policies associated with this objective include the following:

Policies:

- Encourage each "Urban Village" to offer a variety of housing types, densities and prices which will enable affordability within each income group under Regional Share.

- Encourage housing opportunities for very low, low and moderate-income households, and the dispersal of such housing among Otay Ranch villages to promote a balanced community.

- Support the exploration and use of innovative and alternate building technologies and materials which reduce costs, increase affordability, and address environmental issues such as energy and water conservation, air quality improvements and recycling.

5.9.1.2 Existing On-Site Conditions

The Project Area is currently undeveloped with no residential occupancy. Under the Preferred Plan analyzed in the 2005 GPU/GDP EIR, buildout of the Project Area would result in 5,170 dwelling units, supporting a total population of 16,042 people.

5.9.2 Thresholds of Significance

The Proposed Project would result in a significant impact to housing and population if it:

1. Displaced substantial numbers of existing housing, necessitating the construction or replacement of housing elsewhere.

2. Displaced substantial numbers of people, necessitating the construction or replacement of housing elsewhere.

Appendix G of the CEQA Guidelines also states that impacts to housing and population would be significant, if the Proposed Project induced substantial population growth in an area, either directly or indirectly. Growth inducement is discussed in Chapter 7.0 of this SEIR.

5.9.3 Impacts

5.9.3.1 2005 GPU/GDP EIR Conclusion

Thresholds 1 and 2: Displacement of Housing/Displacement of People

The 2005 GPU/GDP EIR concluded that impacts associated with the displacement of homes or people as a result of the 2005 GPU Preferred Plan would be less than significant. This conclusion is based on the overall intention of the plan, which is to provide housing for the forecasted increase in the population throughout the City.

5.9.3.1 Analysis of Proposed Project

Threshold 1: Displacement of Existing Housing

Threshold 1 states that impacts to housing and population would be significant, if the Proposed Project displaced substantial numbers of existing housing necessitating the construction or replacement of housing elsewhere.

Since the Project Area is currently undeveloped, there would be no adverse impacts associated with displacement of homes as a result of implementation of the Proposed Project.

While SANDAG projects that regional housing stock will increase by the Year 2030, the region will continue to lack affordable housing because construction is not keeping up with housing demands, causing the cost of owning and renting homes to be unaffordable to many people. As a result, many will seek residences in less expensive outlying areas, which leads to long commutes and contributes to traffic congestion and poor air quality.

The smart-growth principles of the RCP and the goals of the City's Housing Element focus on assuring adequate housing while placing housing in proximity to transit to encourage alternative modes of transportation and conserve energy and waste. The Proposed Project would result in an increase of 880 housing units over the 2005 GPU Preferred Plan. This increase in residences would allow a greater number of people to live in proximity to jobs and services within the City. Therefore, the Proposed Project would accommodate the projected regional increase in population growth to a greater extent than that analyzed in the 2005 GPU/GDP EIR. The total need for housing provided by the Proposed Project would increase the allotment and variety of housing types. Impact to the displacement of existing houses would be less than significant.

Threshold 2: Displacement of People

Threshold 2 states that impacts to housing and population would be significant, if the Proposed Project displaced substantial numbers of people, necessitating the construction or replacement of housing elsewhere.

Implementation of the Proposed Project would result in an increase in housing units over the 2005 GPU Preferred Plan. Thus, the Proposed Project would accommodate the citywide and regionally projected increase in population to a greater extent than that analyzed in the 2005 GPU/GDP EIR. Since the Project Area is currently undeveloped; displacement of people associated with future construction projects would be less than significant.

5.9.4 Level of Significance Prior to Mitigation

Threshold 1: Displacement of Existing Housing

The Proposed Project would not only accommodate projected increases in population and meet regional housing needs, but would do so in a manner that meets the City's Housing Element goals and RCP smart-growth principles. Because the Project Area is undeveloped, implementation of the Proposed Project would not result in the displacement of existing housing. Therefore, impact would be less than significant.

Threshold 2: Displacement of People

The Proposed Project would increase the number of housing units available within the Project Area. Because the Project Area is currently undeveloped, future development would not result in the displacement of people already residing on-site. Therefore, impact would be less than significant.

5.9.5 Mitigation Measures

Since impact would be less than significant, no mitigation measures are required.

5.9.6 Level of Significance After Mitigation

Impact would be less than significant.

5.9.7 Change in the Results of the 2005 GPU/GDP EIR Impact Analysis.

Implementation of the Proposed Project would not increase the severity of impacts nor change the conclusions reached by the analysis contained in the 2005 GPU/GDP EIR with respect to population and housing. Impact would be less than significant and no mitigation is required.

5.10 Global Climate Change

The 2005 GPU/GDP EIR did not provide an analysis of Greenhouse Gases (GHGs), nor an assessment of the GPU's impact on Global Climate Change (GCC). Therefore, unlike the other issue areas in this SEIR that supplement analysis contained in the 2005 GPU/GDP EIR, this analysis does not rely upon the prior environmental document with regard to GCC. A GCC Analysis for the Proposed Project was prepared by RECON and is included as Appendix H. The relevant contents of that analysis are summarized below.

5.10.1 Existing Conditions

5.10.1.1 Understanding Global Climate Change

GCC is a change in the average weather of the earth, which can be measured by wind patterns, storms, precipitation, and temperature. The earth's climate is in a state of constant flux with periodic warming and cooling cycles. For most of the earth's geologic history, these periods of warming and cooling have been the result of many complicated, interacting natural factors. However, since the beginning of the Industrial Revolution around 1750, the average temperature of the earth has been increasing at a rate that is faster than can be explained by natural climate cycles alone.

With the Industrial Revolution came an increase in the combustion of carbon-based fuels such as wood, coal, oil, natural gas, and biomass. Industrial processes have also created emissions of substances that are not found in nature. This in turn has led to a marked increase in the emissions of gases that have been shown to influence the world's climate. These gases, termed GHGs, influence the amount of heat that is trapped in the earth's atmosphere. Since recently observed increased concentrations of GHGs in the atmosphere are related to increased emissions resulting from human activity, the current cycle of "global warming" is generally believed to be largely due to human activity. Because climate change is caused by the collective of human actions taking place throughout the world, it is quintessentially a cumulative issue.

There are numerous GHGs, both naturally occurring and artificial: carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_20) are produced by both natural and anthropogenic (human) sources. Other gases such as (hydrofluorocarbons [HFCs; such as HFC-23], perfluorocarbons [PFCs; such as CF_4], and sulfur hexafluoride [SF_6]) are the result of human processes. CO_2, CH_4 and N_20 are the GHGs of primary concern in this analysis. Carbon

dioxide would be emitted by uses allowed under the Proposed Project during the combustion of fossil fuels in vehicles, from electricity generation and natural gas consumption, and from solid waste disposal. Smaller amounts of methane and nitrous oxide would be emitted from the same operations.

The potential of a gas to trap heat and warm the atmosphere is measured by its "global warming potential" or GWP. The potential of a gas to contribute to global warming is limited by the time it is in the atmosphere, its "atmospheric lifetime." Because of its relative abundance in the atmosphere and its relatively long atmospheric lifetime, carbon dioxide has been designated the reference gas for comparing GWPs. Thus, the 100-year GWP of CO_2 is equal to 1.

5.10.1.3 Consequences of Global Climate Change

CARB projects a future statewide GHG emissions increase of over 23 percent (from 2004) by 2020 given current trends (CARB 2008c). The 2008 EPIC study predicts a countywide increase of roughly 20 percent (from 2006) by 2020, given a BAU trajectory. Global GHG emissions forecasts also predict similar substantial increases, given a BAU trajectory.

The Climate Scenarios report, published in 2006 by the California Climate Change Center, uses a range of emissions scenarios to project a series of potential warming ranges (low, medium or high temperature increases) that may occur in California during the 21st century. Throughout the state and the region, global climate and local microclimate changes could cause an increase in extreme heat days; higher concentrations, frequency and duration of air pollutants; an increase in wildfires; more intense coastal storms; sea level rise; impacts to water supply and water quality through reduced snowpack and saltwater influx; public health impacts; impacts to near-shore marine ecosystems; reduced quantity and quality of agricultural products; pest population increases; and altered natural ecosystems and biodiversity.

5.10.1.2 Regulatory Plans and Policies

In response to rising concern associated with increasing GHG emissions and global climate change impacts, numerous plans, policies and regulations have been adopted at the international, national, state and local levels with the aim of reducing GHG emissions. Some

of the most important of these are summarized below. Please see Appendix H for a complete history and description of all regulations, plans and policies.

International Regulations

MONTREAL PROTOCOL ON SUBSTANCES THAT DEPLETE THE OZONE LAYER

The Montreal Protocol was adopted on September 16, 1987 and was enacted on January 1, 1989 and most recently revised in 1999. This treaty is considered one of the most successful international treaties on environmental protection in the world, with ratification by 191 countries including the United States. By the end of 2006, the 191 parties to the treaty had phased out over 95 percent of ozone depleting substances (United Nations Environment Programme [UNEP] 2007).

INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE

The Intergovernmental Panel on Climate Change (IPCC) was formed in 1988 to assess the scientific, technical, and socioeconomic information relevant to understanding the scientific basis for human-induced climate change, its potential impacts, and options for adaptation and mitigation.

UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE

In 1994, the Unites States joined a number of other nations in signing an international treaty known as the United Nations Framework Convention on Climate Change (UNFCCC). The UNFCCC recognized that global climate is a shared resource that can be affected by industrial and other emissions of greenhouses gases, and set an overall framework for intergovernmental efforts to tackle the challenges posed by global climate change.

KYOTO PROTOCOL TO THE UNFCCC

The Kyoto Protocol, adopted in December 1997 (UNFCCC 2007) shared the UNFCCC's objectives, committed signatories to individual, legally binding targets to limit or reduce their GHG emissions. By March 1999, 84 countries, including the United States, had signed the Kyoto Protocol (UNFCCC 2009). Although a signer to the Kyoto Protocol, to date, the U.S. has not ratified the Kyoto Protocol, because it does not mandate emissions reductions from all countries, including several developing countries whose GHG emissions are expected to exceed emissions of developed countries within the next 25 years (U.S. EPA 2007).

National Regulations

CLIMATE CHANGE ACTION PLAN

Adopted in 1993, the U.S. Climate Change Action Plan (CCAP) consists of voluntary actions to reduce all significant GHGs from all economic sectors. Backed by federal funding, the CCAP supports cooperative partnerships between the government and the private sector in establishing flexible and cost-effective ways to reduce GHG emissions.

GHG EMISSIONS INTENSITY REDUCTION PROGRAMS

The GHG Emissions Intensity is the ratio of GHG emissions to economic output. In February 2002, the U.S. set a goal to reduce the GHG Emissions Intensity by 18 percent by 2012 through various reduction programs. A number of ongoing voluntary programs have thus been instituted to reduce nationwide GHG emissions.

CORPORATE AVERAGE FUEL ECONOMY STANDARDS

The federal Corporate Average Fuel Economy (CAFE) standards determine the fuel efficiency of certain vehicle classes in the U.S. While the standards had not changed since 1990, in 2007, the CAFE standards were increased for new light-duty vehicles to 35 miles per gallon (mpg) by 2020. In May 2009, President Obama announced further plans to increase CAFE standards to require light duty vehicles to meet an average fuel economy of 35.5 mpg by 2016.

State Regulations

EO S-3-05 – STATEWIDE GHG EMISSION TARGETS

This executive order (EO) signed by Governor Schwarzenegger on June 1, 2005, established the following GHG emission reduction targets for the state of California:

- By 2010, reduce GHG emissions to 2000 levels;
- By 2020 reduce GHG emissions to 1990 levels; and
- By 2050 reduce GHG emissions to 80 percent below 1990 levels.

AB 32 – California Global Warming Solutions Act

In response to Executive Order S-3-05, the California legislature passed Assembly Bill (AB) 32 (Nuñez), the "California Global Warming Solutions Act of 2006", which was signed by the governor on September 27, 2006. It requires the CARB to adopt rules and regulations that would reduce GHG emissions to 1990 levels by 2020. The CARB is also required to publish a list of discrete GHG emission reduction measures.

Some of the key requirements of AB 32, the California Global Warming Solutions Act of 2006, requires CARB to (State of California 2006):

- Establish a statewide GHG emissions cap for 2020, based on 1990 emissions by January 1, 2008.
  - ✓ In December 2007, CARB approved a 2020 emission limit of 427 million metric tons of CO_2 equivalent.
- Adopt mandatory reporting rules for significant sources of GHGs by January 1, 2009.
  - ✓ In December 2007, CARB adopted regulations requiring the largest industrial sources to report and verify their GHG emissions.
- Adopt a plan by January 1, 2009 indicating how emission reductions will be achieved from significant GHG sources via regulations, market mechanisms and other actions.
  - ✓ A Climate Change Scoping Plan (Scoping Plan) was approved on December 12, 2008.

Climate Change Scoping Plan

As directed by AB 32, the Climate Change Scoping Plan prepared by CARB in December 2008 includes measures to reduce statewide GHG emissions to 1990 levels by 2020. CARB identified these reductions as necessary to reduce forecasted business-as-usual (BAU) 2020 emissions by approximately 174 million metric tons of CO_2 element ($MMTCO_2E$). CARB will update the Scoping Plan at least once every five years to allow evaluation of progress made and to correct the Plan's course where necessary.

Appendix H contains a table (Table 4) of the reductions strategies. The majority of the reductions are to come from the two sectors that generate the most GHG emissions statewide—transportation and electricity generation. The majority of the reductions in

transportation-related and energy-related GHG emissions are to be achieved through statewide regulatory mandates affecting vehicle and fuel manufacture, public transit, and public energy utilities. The remaining reductions are to be achieved through direct regulation and price incentive measures affecting oil and gas extraction industries, forestry practices (including increased tree planting programs), landfill methane capture, and restrictions on high GWP gases (used in select industries).

The three measures within the City's control most applicable to land use planning and development include the Regional Transportation-related GHG Targets, the Million Solar Roofs, and the Energy Efficiency measures. CARB estimates that implementation of these three measures would reduce statewide emissions by 33.4 $MMTCO_2E$, or nearly 20 percent of the total year 2020 reductions needed.

To address emissions from vehicles, CARB is proposing a comprehensive three-prong strategy: reducing GHG emissions from vehicles, reducing the carbon content of the fuel these vehicles burn, and reducing the miles these vehicles travel.

AB 1493 – PAVLEY GREENHOUSE GAS VEHICLE STANDARDS

AB 1493 (Pavley) enacted July 2002, directed CARB to adopt vehicle standards that lowered GHG emissions from passenger vehicles and light duty trucks to the maximum extent technologically feasible, beginning with the 2009 model year. CARB planned to adopt a second, more stringent, phase of the Pavley regulations, termed Pavley II, sometime in late 2010; however, to date this has not occurred. CARB estimates that implementation of Pavley I and II would reduce 2020 statewide emissions by 31.7 $MMTCO_2E$ or nearly 18% of the total reductions needed.

EO S-01-07 – LOW CARBON FUEL STANDARD

This executive order signed by Governor Schwarzenegger in January 2007, directed that a statewide goal be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020 through a Low Carbon Fuel Standard (LCFS). CARB adopted the LCFS as a discrete early action measure pursuant to AB 32 in April 2009 and includes it as a reduction measure in its Scoping Plan.

REGIONAL TRANSPORTATION-RELATED GHG TARGETS

The Regional Transportation-Related GHG Targets measure included in the Scoping Plan identifies policies to reduce transportation emissions through changes in future land use patterns and community design, as well as through improvements in public transportation, that reduce vehicle miles traveled (VMT) in order to reduce vehicle emissions.

SB 375 – REGIONAL EMISSIONS TARGETS

SB 375 was signed in September 2008 and requires CARB to set regional targets for reducing passenger vehicle GHG emissions in accordance with the Scoping Plan measure described above. Its purpose is to align regional transportation planning efforts, regional GHG reduction targets, and land use and housing allocation to reduce GHG emissions by promoting high-density, mixed-use developments around mass transit hubs. To help achieve the goals of AB 32, SB 375 requires MPOs in California to update their Regional Transportation Plans to adopt a SCS or Alternative Planning Strategy (APS) that prescribes land use allocations which promote smart-growth development. Enhanced public transit service combined with incentives for land use development that provide a better market for public transit will play an important role in the SCS.

SANDAG is the San Diego region's MPO. In September 2010, CARB released an approved a staff report on the proposed reduction target for San Diego County. As identified in this report, the San Diego region will be required to reduce greenhouse gas emissions from cars and light trucks 7 percent per capita by 2020 and 13 percent by 2035 (SANDAG 2010a). SANDAG has completed work on its 2050 Regional Transportation Plan, the first such plan in the state that includes an SCS (CARB 2010a; SANDAG 2010a).

MILLION SOLAR ROOFS PROGRAM

The Million Solar Roofs Program requires publicly owned utilities to adopt, implement and finance solar incentive programs to lower the cost of solar systems and help achieve the goal of installing 3,000 MW of new solar capacity by 2020.

TITLE 24, PART 6 - CALIFORNIA ENERGY CODE

The California Code of Regulations, Title 24, Part 6 is the California Energy Code. This code, establishes energy efficiency standards for residential and non-residential buildings in

order to reduce California's energy consumption. The most recent amendments to the Code, known as Title 24 2008, or the 2008 Energy Code, became effective January 1, 2010. Title 24 2008 requires energy savings of 15–35 percent above the former Title 24 2005 energy code. At a minimum, residential buildings must achieve a 15 percent reduction in their combined space heating, cooling and water heating energy compared to the Title 24 2005 standards. Incentives in the form of rebates and tax breaks are provided on a sliding scale for buildings achieving energy efficiency above the minimum 15 percent reduction over Title 24 2005.

TITLE 24, PART 11 – CALIFORNIA GREEN BUILDING STANDARDS

A voluntary version of the California Green Building Standards Code, referred to as CALGreen, was added to Title 24 as Part 11 in 2009. An updated 2010 version of CALGreen took effect January 2011 and instituted mandatory minimum environmental performance standards for all new ground-up non-residential and low-rise residential occupancies. Voluntary standards to achieve Tier I and Tier II increased environmental performance are also included in CALGreen. It requires:

- 20 percent mandatory reduction in indoor water use, with voluntary Tier I and II goals for 30 percent and over reductions;
- Mandatory water submetering;
- Mandatory diversion of 50 percent waste from landfills, with voluntary reductions of 65 percent for Tier I and 75 percent for Tier II;
- Mandatory inspections of energy systems to ensure optimal working efficiency, with voluntary increased energy efficiency by 15 percent for Tier I and 30 percent for Tier II; and
- Requirements for low-pollutant emitting exterior and interior finish materials such as paints, carpets, vinyl flooring, and particle boards.

Local jurisdictions must enforce the minimum mandatory requirements and may also adopt the Green Building Standards with amendments for stricter requirements. As outlined below under Local Regulations, Green Building and Increased Energy Efficiency standards, the City has adopted CALGreen with amendments that apply the ordinance to all residential and nonresidential construction and that require improved energy efficiency performance.

SB 97 – CEQA GHG AMENDMENTS

SB 97 required the Office of Planning and Research (OPR) on or before July 1, 2009, to prepare, develop, and transmit to the Resources Agency amendments to the CEQA Guidelines to assist public agencies in the mitigation of GHGs or the effects of GHGs as required under CEQA and required the Resources Agency to certify and adopt those guidelines by January 1, 2010. Proposed amendments to the CEQA Guidelines for GHG emissions were adopted on December 30, 2009, and became effective on March 18, 2010.

Section 15064.4 of the amended CEQA Guidelines require calculation of a project's contribution, but they clearly do not establish a standard by which to judge a significant effect or a means to establish such a standard.

Local Regulations

REGIONAL CLIMATE ACTION PLAN

The SANDAG Regional Climate Action Plan (RCAP) is a long-range policy (year 2030) that focuses on transportation, electricity and natural gas sectors. It complements the Regional Energy Strategy 2030 Update and feeds into the SANDAG Regional Transportation Plan and RCP. It is currently in process of being prepared and no regional GHG emissions caps or reduction targets have been identified.

Since the early 1990s, the City has been engaged in multiple climate change forums including the UNFCCC, the International Cities for Climate Protection campaign and the U.S. Conference of Mayor's Climate Protection Agreement. The key plans and ordinances that the City has adopted and implemented to achieve citywide GHG emissions reductions are summarized below.

SANDAG SUSTAINABLE COMMUNITIES STRATEGY

As stated above along with the 2050 Regional Transportation Plan includes, SANDAG adopted the SCS. The SCS details how the region will reduce greenhouse gas emissions to state-mandated levels over time. The inclusion of the SCS is required by SB 375, and the San Diego region is the first in California to produce a Regional Transportation Plan with an SCS.

The SCS seek to guide the San Diego region toward a more sustainable future by integrating land use, housing, and transportation planning to create communities that are more sustainable, walkable, transit-oriented, and compact. Planning for future patterns of density, how people get around, and how land is used is really driven by one goal: creating great places to live, work, and play. The path toward living more sustainably is clear: focus housing and job growth in urbanized areas where there is existing and planned transportation infrastructure, protect sensitive habitat and open space, invest in a transportation network that provides residents and workers with transportation options that reduce greenhouse gas emissions, and implement a plan through incentives and collaboration. (www.sandag.org: providing a comprehensive overview of the SCS).

ICLEI Cities for Climate Protection

In 1992, the City participated in a program aimed at developing municipal action plans for the reduction of GHGs. This program—the Cities for Climate Protection Program—was sponsored by the International Council of Environmental Initiatives (ICLEI) and the UNEP in response to the UNFCCC. It was developed in recognition that all local planning and development have direct consequences on energy consumption and cities exercise key powers over urban infrastructure, including neighborhood design and over transportation infrastructure such as roads, streets, pedestrian areas, bicycle lanes and public transport.

Chula Vista CO_2 Reduction Plan

Each participant in the ICLEI program was to create local policy measures to ensure multiple benefits to the city and at the same time identify a carbon reduction goal through the implementation of those measures. In its CO_2 Reduction Plan developed in 1996 and officially adopted in 2000, Chula Vista committed to lowering its CO_2 emissions by diversifying its transportation system and using energy more efficiently in all sectors. To focus efforts in this direction, the City adopted the international CO_2 reduction goal of returning to pre-1990 levels (i.e., 20 percent below) by 2010. In order to achieve this goal, eight actions were identified, which when fully implemented, were anticipated to save 100,000 tons of CO_2 each year.

As a result of the 2005 GHG Emissions Inventory Report, in May 2007, staff reported to City Council that citywide greenhouse gas emissions had increased by 35 percent (mainly due to residential growth) from 1990 to 2005, while emissions on a per capita basis and from

municipal operations decreased by 17 percent and 18 percent, respectively. As a result, the City Council directed staff to convene a Climate Change Working Group (CCWG) to develop recommendations to reduce the community's GHGs in order to meet the City's 2010 GHG emissions reduction targets.

CLIMATE CHANGE WORKING GROUP

The CCWG, which is composed of residents, businesses, and community organization representatives, helps the City in developing climate-related programs and policies. In 2008, the CCWG reviewed over 90 carbon reduction measures and ultimately chose seven measures to recommend to City Council, which the Council subsequently adopted. The measures were designed to reduce or mitigate climate change impacts by reducing GHG emissions within Chula Vista to 20 percent below 1990 levels in keeping with its CO_2 Reduction Plan and UNFCCC goals, but the horizon date was delayed until 2012 instead of 2010.

In October 2009, the City Council directed the CCWG to evaluate how the City could "adapt" to potential climate change impacts. The group will be meeting throughout 2010 to develop recommendations based on the City's vulnerabilities and risks to climate change.

CHULA VISTA CLIMATE PROTECTION MEASURES

On July 10, 2008, the City Council adopted implementation plans for seven climate protection measures to reduce GHG emissions to 20 percent below 1990 levels by 2012. Since the adoption of these measures, the CARB published its BAU 2020 forecast and Scoping Plan, which established statewide reduction measures necessary to achieve the AB 32 goal of reducing GHG emissions to 1990 levels by 2020. This goal is reflected in the City's adopted GHG significance thresholds for project-specific analysis under CEQA.

The implementation plans outline the detailed strategy for initiating, funding, and tracking the following measures (City of Chula Vista 2008a):

1. *Clean Vehicle Replacement Policy for City Fleet:* When City fleet vehicles are retired, they are replaced through the purchase or lease of alternative fuel or hybrid substitutes. In addition, the City has begun installing new fuel tanks to allow heavy-duty vehicles to convert to biodiesel fuel immediately.

2. *Clean Vehicle Replacement Policy for City-Contracted Fleets:* As contracts for City-contracted fleet services (such as transit buses, trash haulers and street sweeper trucks) are renewed, the City encourages contractors to replace their vehicles with alternative fuel or hybrid substitutes through the contract bid process. In addition, the City is currently implementing one of two hydrogen vehicle demonstration projects and will pursue implementing the second in the next fiscal year

3. *Business Energy Assessments:* Although not mandatory, businesses are encouraged to participate in a no cost energy assessment of their facilities to help identify opportunities for them to reduce monthly energy costs. The business assessments are integrated into the existing business licensing process and codified through a new municipal ordinance.

4. *Green Building Standard:* This strategy stated that Chula Vista would implement a citywide, mandatory green building standard for new construction and major renovations. The new standard was to have three main components: (1) a minimum energy efficiency (carbon equivalent) requirement of 15 percent above the 2005 Title 24; (2) the early adoption of the new California Green Building Codes for all residential and commercial projects; and (3) a Carbon Offset Fee available for projects not meeting the 15 percent above Title 24 threshold. As identified in the following paragraphs, in November 2009 the City adopted a Green Building Standards ordinance (Ordinance 3140) and in January 2010, an Increase Energy Efficiency Standards ordinance (Ordinance 3149). Together, these two ordinances implement the City's Green Building strategy identified in 2008.

5. *Solar and Energy Efficiency Conversion Program:* In accordance with this strategy, the City has created a community program to provide residents and businesses a streamlined, cost-effective opportunity to implement energy efficiency improvements and to install solar/renewable energy systems on their properties. As part of this program, the City will develop a funding mechanism to allow program participants to voluntarily choose to place the improvement costs on their property's tax rolls, thereby avoiding large upfront capital costs. In addition, the program will promote vocational training, local manufacturing, and retail sales opportunities for environmental products and services. To help stimulate the private-sector renewable market and lower the cost for installing renewable energy systems on new homes,

the City requires all new residential buildings to include pre-wiring and pre-plumbing for solar photovoltaic and solar hot water systems, respectively.

6. *Smart-Growth around Trolley Stations:* The City has continued to implement smart-growth design principles, which promote mixed-use and walkable and transit-friendly development, particularly in and around the E, H, and Palomar trolley stations. These principles were emphasized in the revised Chula Vista General Plan and the Urban Core Specific Plan. In addition, the City has initiated site planning, design studies and Specific Area Plan development to further support smart-growth development that complements greenhouse gas reductions.

7. *Turf Lawn Conversion Program:* The City has created a community program to provide residents and businesses a streamlined, cost-effective opportunity to replace their turf lawns with water-saving landscaping and irrigation systems. Some municipal turf lawn areas (such as medians, fire stations and non-recreational park areas) have been and will continue to be converted to act as public demonstration sites and to reduce monthly water costs. The City has also established the model for water-wise landscaping for new development through an update of its Municipal Landscape Ordinance and Water Conservation Plan Guidelines.

An Implementation Progress Report, published in February 2010, reports the implementation status and milestones for each measure. Most measures are meeting milestones outlined in their original implementation plans (City of Chula Vista 2010). In addition, the City has initiated new climate action initiatives such as a climate adaptation planning process and California Climate Action Registry (CCAR) participation. As part of climate adaptation planning, the CCWG has met regularly throughout 2010 to evaluate how the City can adapt to the consequences of climate change impacts and to develop recommendations based on the City's vulnerabilities and risks. In July 2010, a draft Climate Mitigation Adaptation Plan (CMAP) was developed and will continue to be refined throughout 2010 before being finalized sometime in early 2011.

CHULA VISTA GREEN BUILDING STANDARDS

The City Council adopted the Green Building Standards ordinance (Ordinance No. 3140) on October 6, 2009, and they became effective November 5, 2009. This represented early adoption of the then-pending California Green Building Standards. Permit applications for all

new/remodel residential and non-residential projects submitted on or after November 5, 2009 are required to comply with the GBS ordinance. Through adherence to the GBS ordinance, new residential and non-residential construction, additions, remodels and improvements will benefit from enhanced energy efficiency, pollutant controls, interior moisture control, improved indoor air quality and exhaust, indoor water conservation, storm water management, and construction waste reduction and recycling.

CHULA VISTA INCREASED ENERGY EFFICIENCY STANDARDS

On January 26, 2010, the City Council adopted the Increased Energy Efficiency Standards ordinance (Ordinance No. 3149). This ordinance became effective February 26, 2010. This ordinance requires permit applications to comply with increased energy efficiency standards that achieve 15 to 20 percent greater efficiency than the requirements of the 2008 California Energy Code, Building Energy Efficiency Standards (Title 24, Part 6), depending on climate zone.

Most of the City (including the Proposed Project) is within climate zone 7. For climate zone 7, the Code requires:

- All new low-rise residential building or additions, remodels or alterations to existing low-rise residential buildings where the additions, remodels or alterations are greater than 1,000 square feet of conditional floor area, shall use at least 15 percent less energy than the 2008 Title 24 Building Energy Efficiency Standards allow; and

- All new non-residential, high-rise residential or hotel/motel buildings, or additions, remodels or alterations to existing non-residential, high-rise residential or hotel/motel buildings where the additions, remodels or alterations are greater than 10,000 square feet of conditioned floor area, shall use at least 15 percent less energy than the 2008 Title 24 Building Energy Efficiency Standards.

5.10.1.4 Existing GHG Emissions

State and Regional GHG Inventories

CALIFORNIA GHG INVENTORY

The CARB performed statewide inventories every four years for the years 1990 to 2008 (Table 5.10-1). The inventory is divided into nine broad sectors of economic activity:

agriculture, commercial, electricity generation, forestry, high GWP emitters, industrial, recycling and waste, residential, and transportation. Emissions are quantified in $MMTCO_2E$.

TABLE 5.10-1
CALIFORNIA GHG EMISSIONS BY SECTOR IN 1990, 2000, 2004 AND 2008

Sector/Source	1990 Emissions in $MMTCO_2E$ (% total)[1]	2000 Emissions in $MMTCO_2E$ (% total)[1]	2004 Emissions in $MMTCO_2E$ (% total)[1]	2008 Emissions in $MMTCO_2E$ (% total)[1]
Agriculture	23.4 (5%)	25.44 (6%)	28.82 (6%)	28.06 (6%)
Commercial	14.4 (3%)	12.80 (3%)	13.20 (3%)	14.68 (3%)
Electricity Generation	110.6 (26%)	103.92 (23%)	119.96 (25%)	116.35 (24%)
Forestry (excluding sinks)	0.2 (<1%)	0.19 (<1%)	0.19 (<1%)	0.19 (<1%)
High GWP	--	10.95 (2%)	13.57 (3%)	15.65 (3%)
Industrial	103.0 (24%)	97.27 (21%)	90.87 (19%)	92.66 (19%)
Recycling and Waste	--	6.20 (1%)	6.23 (1%)	6.71 (1%)
Residential	29.7 (7%)	30.13 (7%)	29.34 (6%)	28.45 (6%)
Transportation	150.7 (35%)	171.13 (37%)	181.71 (38%)	174.99 (37%)
Unspecified Remaining[2]	1.3 (<1%)	--	--	--
TOTAL	**433.3**	**458.03**	**483.89**	**477.74**

SOURCE: CARB 2007, 2010b.
[1]Percents may not total 100 due to rounding.
[2]The remaining are from unspecified fuel combustion and ozone depleting substance (ODS) substitute use which could not be attributed to an individual sector.

As shown in Table 5.10-1, statewide GHG emissions totaled 433 $MMTCO_2E$ in 1990, 458 $MMTCO_2E$ in 2000, 484 $MMTCO_2E$ in 2004, and 478 $MMTCO_2E$ in 2008. Transportation-related emissions consistently contributed the most, followed by electricity generation and industrial emissions. The forestry sector is unique because it not only includes emissions associated with harvest, fire, and land use conversion, but also includes removals of atmospheric CO_2 by photosynthesis, which is then bound (sequestered) in plant tissues. In the years inventoried, this sector removed more CO_2 from the atmosphere statewide than it emitted. As a result, it was a net sink, removing for example, 6.7 $MMTCO_2E$ from the atmosphere in 1990 and 4.7 $MMTCO_2E$ in 2004.

SAN DIEGO COUNTY GHG INVENTORY

A San Diego County regional emissions inventory was prepared by the University of San Diego that took into account the unique characteristics of the region. The 2006 emissions inventory for San Diego County is shown in Table 5.10-2. The sectors included in this inventory are somewhat different than those in the statewide inventory.

TABLE 5.10-2
SAN DIEGO COUNTY GHG EMISSIONS BY SECTOR IN 2006

Sector	2006 Emissions in $MMTCO_2E$ (% total) [1]
Agriculture/Forestry/Land Use	0.7 (2%)
Waste	0.7 (2%)
Electricity	9 (25%)
Natural Gas Consumption	3 (8%)
Industrial Processes & Products	1.6 (5%)
On-Road Transportation	16 (45%)
Off-Road Equipment & Vehicles	1.3 (4%)
Civil Aviation	1.7 (5%)
Rail	0.3 (<1%)
Water-Borne Navigation	0.127 (<0.5%)
Other Fuels/Other	1.1 (3%)
Total	35.5

SOURCE: San Diego County Greenhouse Gas Inventory: An Analysis of Regional Emissions and Strategies to Achieve AB 32 Targets. Prepared by the University of San Diego School of Law, Energy Policy Initiative Center (EPIC), and available online at http://www.sandiego.edu/ epic/ghginventory/.
[1]Percents may not total 100 due to rounding.

Similar to the statewide emissions, transportation-related GHG emissions contributed the most countywide, followed by emissions associated with energy use.

CITY OF CHULA VISTA GHG INVENTORY

As part of monitoring its progress in attaining the goals of its CO_2 Reduction Plan, the City of Chula Vista inventoried citywide GHG emissions in 2005 and 2008 (City of Chula Vista 2005a, 2008b).

The *2008 GHG Emissions Inventory* separates emissions into two major categories, community and municipal. The community analysis represents the quantity of GHG emissions produced throughout the entire City in both public and private sectors. The municipal analysis represents emissions only from City facilities and operations. In 2008, community transportation and mobile sources accounted for approximately 44 percent of this total. This is 29 percent higher than 1990 levels and 17 percent higher than 2005 levels citywide and is attributed to population growth.

In 2008, municipal transportation and mobiles sources accounted for approximately 46 percent of this total. Emissions from municipal buildings and the municipal vehicle fleet increased from 1990 levels but decreased 17 percent from the 2005 levels.

Consequences of Global Climate Change

CARB projects a future statewide GHG emissions increase of over 23 percent (from 2004) by 2020 given current trends (CARB 2008c). The 2008 EPIC study predicts a countywide increase of roughly 20 percent (from 2006) by 2020, given a BAU trajectory. Global GHG emissions forecasts also predict similar substantial increases, given a BAU trajectory.

The Climate Scenarios report, published in 2006 by the California Climate Change Center, uses a range of emissions scenarios to project a series of potential warming ranges (low, medium or high temperature increases) that may occur in California during the 21st century. Throughout the state and the region, global climate and local microclimate changes could cause an increase in extreme heat days; higher concentrations, frequency and duration of air pollutants; an increase in wildfires; more intense coastal storms; sea level rise; impacts to water supply and water quality through reduced snowpack and saltwater influx; public health impacts; impacts to near-shore marine ecosystems; reduced quantity and quality of agricultural products; pest population increases; and altered natural ecosystems and biodiversity.

Project Site GHG Emissions

The project site is currently vacant of development and is thus not a source of anthropogenic GHGs. Disturbed and undisturbed natural vegetation and soils on the project site temporarily store and release carbon as part of the terrestrial carbon cycle. The emissions of carbon dioxide from the project site are not readily quantifiable, but are likely small from a regional perspective. Negligible emissions of methane and nitrous oxides may also be occurring due to on-site decomposition of wood, or any vegetative matter or waste, or to residue oxidation.

5.10.2 Thresholds of Significance

To date, there have been no regional, state, or federal regulations establishing a threshold of significance to determine project-specific impacts of GHG emissions. As allowed by the CEQA Guidelines, after considering the thresholds of significance adopted or recommended by other public agencies and experts, including those adopted by the Bay Area and San Joaquin Air Quality Management Districts and the various options reviewed by the CARB, the City has developed its own significance thresholds. The City's thresholds are grounded in statute (AB 32) and executive order (EO S-3-05) and offer a way to achieve the 2020 goal of AB 32. They are supported by substantial evidence in the CARB's BAU 2020 Forecast

and Climate Change Scoping Plan. The 2020 goal of AB 32 is to return statewide GHG emissions to 1990 levels by 2020. The City's threshold was established based on this goal of AB 32 and the reduction measures within the City's control needed to achieve it, as identified in the CARB Scoping Plan and as shaped by the assumptions of the BAU 2020 statewide forecast. As identified in the Section 5.10.1.2 discussion of the CARB Scoping Plan, three Scoping Plan measures are within the City's control applicable to land use planning and development. These three measures (Regional Transportation-Related GHG Targets, Million Solar Roofs, and the Energy Efficiency measures) are estimated by CARB to reduce 2020 BAU GHG emissions by 20 percent. To conform to the Scoping Plan, a project would have to provide the same proportional reduction relative to BAU.

The Proposed Project would result in a significant impact associated with global climate change if it would:

1. Conflict with or obstruct the achievement of the Scoping Plan reduction measures by not reducing its GHG emissions by at least 20 percent over that which would have been expected to occur in the BAU condition.

2. Conflict with any other applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs.

These thresholds are consistent with the amended CEQA Guidelines which state that cumulative impacts may be measured relative to a cumulative baseline that includes a

> …summary of projections contained in an adopted local, regional, or statewide plan, or related planning document, that describes or evaluates conditions contributing to the cumulative effect. Such plans may include: a general plan, regional transportation plan, or plans for the reduction of GHG emissions.

5.10.3 Impacts

5.10.3.1 2005 GPU/GDP EIR Conclusion

The 2005 GPU/GDP EIR was prepared in 2005, prior to the approval of AB 32. Therefore it did not contain an analysis of GCC.

5.10.3.2 Analysis of Proposed Project

Methodology and Assumptions

Emission estimates were calculated for the three GHGs of primary concern (CO_2, CH_4, and N_2O) that would be emitted from the Proposed Project's construction and five sources of operational emissions: on-road vehicular traffic, electricity generation, natural gas consumption, water usage, and solid waste disposal. The method of quantifying GHG emissions in this analysis was based on methodologies recommended and used by several California air quality management districts (AQMD), including the South Coast and Bay Area AQMDs; as well as by the CARB.

To evaluate the Proposed Project relative to the BAU 2020 forecast, emissions of construction and each of the five operational sources of GHGs were estimated first for a project-equivalent under BAU conditions, assuming building energy efficiency in accordance with Title 24, Year 2005, water conservation in accordance with the current plumbing code, and solid waste disposal quantities in accordance with current statewide legislation. A 20 percent reduction of this amount was then calculated in order to identify the targeted cap in GHG emissions attributable to the Proposed Project. Lastly, emissions of construction and each of the five operational sources of GHGs were estimated for the Proposed Project assuming building energy and water efficiencies required in City ordinances and GP policy. This methodology allows for a comparison between the Proposed Project and BAU 2020 relative to the identified significance determination thresholds. The methodologies for projecting each of the five emission sources are detailed in the GCC Analysis (Appendix H of the SEIR).

Emissions calculations started with the following land use assumptions (Table 5.10-3). Unlike previous sections of the SEIR, these land use assumptions reflect the full buildout potential of the Land Use Change Area (Villages 8 West, 9 and RTP), as opposed to the comparative increase in buildout potential from the 2005 GPU/GDP EIR.

TABLE 5.10-3
FUTURE (YEAR 2020) MODELED LAND USES

Land Use	Quantity
Residential	6,050 dwelling units
Commercial	1,800,000 square feet
Industrial	2,221,560 square feet
School	51.4 acres
Community Purpose Facility	10.8 acres
Park	55.4 acres
University	50.0 acres

To calculate the Proposed Project's GHG emissions, estimated quantities of the Proposed Project's vehicle fuel and energy consumption were multiplied by the GHG emission factors in Table 5.10-4.

TABLE 5.10-4
GHG EMISSION FACTORS

Gas	Vehicle Emission Factors (pounds/gallon gas)[1]	Electricity Generation Emission Factors (pounds/MWh)[2, 3]	Natural Gas Combustion Emission Factors (pound/million ft^3)[4]
Carbon Dioxide	19.564	1,340	120,000
Methane	0.00055	0.0111	2.3
Nitrous Oxide	0.0002	0.0192	2.2

[1]SOURCE: BAAQMD 2006.
[2]SOURCE: U.S. DOE 2002.
[3]Emissions associated with water use are calculated from the embodied energy in a gallon of water multiplied by the same emissions factors for electricity generation. Waste emissions were similarly calculated using the U.S. EPA WasteReduction model (WARM) emission factors specific to each waste type (e.g., glass, metal, plastic).
[4]SOURCE: U.S. EPA 1998.

Emissions estimated for each of the five emission sources are summed and expressed in terms of total metric tons carbon dioxide equivalent or metric tons of CO_2 equivalent ($MTCO_2E$). Detailed calculations for expressing GHG emissions in terms of $MTCO_2E$ are included in the technical report. .

Threshold 1: Conflict with Scoping Plan (20 percent reduction from BAU)

Threshold 1 states that impacts associated with GCC would be significant if the Proposed Project would conflict with or obstruct the achievement of the Scoping Plan reduction measures by not reducing its GHG emissions by at least 20 percent over that which would have been expected to occur in the BAU condition.

To evaluate the significance of the Proposed Project's contribution of GHG emissions relative to BAU emissions, GHG emissions were estimated for transportation, electricity, natural gas, water consumption, solid waste disposal, and construction for both the BAU and Proposed Project conditions.

BAU EMISSIONS

TRANSPORTATION RELATED EMISSIONS

Transportation-related GHG emissions comprise the largest contributor to existing and forecast GHG emissions, accounting for 38 percent of the total statewide forecasted BAU 2020 emissions (CARB 2008c). On-road vehicles alone account for 35 percent of the total forecasted BAU 2020 emissions.

The traffic study projects that the proposed buildout of the Land Use Change Area would generate 113,073 ADT (LLG 2011). Based on the regional average trip length of 5.8 miles (SANDAG 2009), and an average fuel economy of 18.80 mpg for 2020 (Caltrans 2009), a total of 655,823 vehicle miles would be traveled each day and 34,844 gallons of vehicle fuel would be consumed each day under BAU conditions. By multiplying this value by the vehicle emission factors contained in Table 5.10-4, the combustion of vehicle fuel is estimated to result in the emission of 113,416.15 $MTCO_2E$ each year assuming BAU.

ELECTRICITY EMISSIONS

Electric power generation accounted for the second largest sector contributing to existing and projected statewide GHG emissions, comprising 24 percent of the total statewide BAU 2020 emissions (CARB 2008c). Buildings use electricity for lighting, heating and cooling. Electricity generation entails the combustion of fossil fuels, including natural gas and coal, which are then stored and transported to end users. A building's electricity use is thus associated with the off-site or indirect emission of GHGs at the source of electricity generation (i.e. the power plant).

As shown in Table 5.10-5, buildout under BAU assumptions would annually consume 159 MWh of electricity.

TABLE 5.10-5
ANNUAL BAU ELECTRICITY CONSUMPTION

Land Use Type	BAU Electricity Rate	Annual Consumption
Residential: 887 single-family units 5,163 multi-family units	 7,090.56.0 kWh/single-family unit 4,324.68 kWh/multi-family unit	 6,289,327 kWh 22,328,322 kWh
Commercial: 1,800,000 sf	14.10 kWh/sf	25,380,000 kWh
Industrial: 2,221,560 sf	17.6 kWh/sf	39,099,456 kWh
Schools[1]: 2,238,984 sf	6.35 kWh/sf	14,217,548 kWh
Community Purpose Facility[1]: 470,448 sf	 9.38 kWh/sf	 4,412,802 kWh
Parks[1]: 2,413,224 sf	9.38 kWh/ sf	22,636,041 kWh
University[1]: 2,178,000 sf	11.32 kWh/sf	24,654,960 kWh
Total		**159 MWh**

SOURCE: URBEMIS 2007 and 2011 CalEEMod air emissions models (California Energy Commission [CEC]; 2004 and 2006)
cf = cubic feet; sf = square feet; yr = year
kWh = kilowatt per hour
Annual consumption is rounded to nearest whole number.
[1]sf is calculated by multiplying acres by 43,560.

This quantity of electricity consumption in BAU conditions equates to the emission of 17,474.49 $MTCO_2E$ each year from residential uses,15,497.51 $MTCO_2E$ each year from commercial uses, 23,874.88 $MTCO_2E$ each year from industrial uses, 8,681.51 $MTCO_2E$ each year from schools, 2,694.54 $MTCO_2E$ each year from community purpose uses, 13,822 $MTCO_2E$ each year from active park uses, and 15,055 $MTCO_2E$ totaling 97,099.72 $MTCO_2E$ each year.

NATURAL GAS EMISSIONS

GHG emissions associated with natural gas combustion are estimated by multiplying average natural gas consumption rates by land use type and then by their respective GHG emissions factors.

As shown in Table 5.10-6, buildout under BAU assumptions would annually consume 583.48 million cubic feet of natural gas.

TABLE 5.10-6
ANNUAL BAU NATURAL GAS CONSUMPTION

Land Use Type	BAU Natural Gas Rate	Annual Consumption
Residential: 887 single-family units 5,163 multi-family units	 62,384.40 cf/single-family unit 37,547.64 cf/multi-family unit	 55,334,962 cf 193,855,161 cf
Commercial: 1,800,000 sf	34.8 cf/sf	62,640,000 cf
Industrial: 2,221,560 sf	2,899,332 cf/consumer	123,220,000 cf
Schools[1]: 2,238,984 sf	15.50 cf/sf	34,707,252 cf
Community Purpose Facility[1]: 470,448 sf	 33.2 cf/sf	 15,618,973 cf
Parks[1]: 2,413,224 sf	3.0 cf/sf	7,239,672 cf
University[1]: 2,178,000 sf	3.48 cf/sf	90,862,777cf
TOTAL		**583.48 million cf**

SOURCE: URBEMIS 2007 and 2011 CalEEMod air emissions models (CEC; 2004 and 2006)
[1]2,221,560 total square feet of industrial land divided by minimum lot size of 2 acres = 42.5 industrial consumers.
[2]sf is calculated by multiplying acres by 43,560.
cf = cubic feet; sf = square feet; yr = year
Annual consumption is rounded to nearest whole number.

This equates to the emission of 13,646.41 $MTCO_2E$ GHG emissions each year from residential uses, 3,430.31 $MTCO_2E$ each year from commercial uses, 6,747.90 $MTCO_2E$ each year from industrial uses, 1.900.49 $MTCO_2E$ each year from schools, 855.33 $MTCO_2E$ each year from community purpose facility uses, 396.46 $MTCO_2E$ each year from parks and 4,975.86 $MTCO_2E$ from university uses, totaling 31,952.76 $MTCO_2E$ GHG emissions each year.

WATER USE EMISSIONS

The provision of potable water consumes large amounts of energy associated with source and conveyance, treatment, distribution, end use, and wastewater treatment. This type of energy use is known as embodied energy. Water delivered to the site would have an embodied energy of 2,779 kWh/acre foot or 0.0085 kWh/gallon.

BAU water use was estimated by multiplying the water demand rates identified in the 2008 WRMP Update (revised November 2010) by the proposed quantities of residential and nonresidential land uses. As shown in Table 5.8-7, these rates are as follows: 500 gpd per single family residential unit; 255 gpd per multi-family residential unit; 0.14 gpd per square foot of commercial space; 0.07 gpd per square foot of industrial space; 1,785 gpd per school (including university uses) acre; 3893 gpd per community purpose acre; and 2,155 gpd per

park acre. As shown in Table 5.10-7, annual BAU water consumption for the Proposed Project is calculated to be approximately 904 million gallons per year.

TABLE 5.10-7
ANNUAL BAU WATER CONSUMPTION

Land Use Type	BAU Water Usage Rate	Daily Consumption
Residential: 887 single-family units 5,163 multi-family units	 500 gpd/single-family unit 255 gpd/multi-family unit	 443,500 gpd 1,316,565 gpd
Commercial: 1,800,000 sf	0.14 gpd/sf	252,000 gpd
Industrial: 2,221,560 sf	0.07 gpd/sf	155,509 gpd
Schools: 51.4 ac	1,785 gpd/ac	91,749 gpd
Community Purpose Facility: 10.8 ac	893 gpd/ac	9,644 gpd
Parks: 55.4 ac	2,155 gpd/ac	119,387 gpd
University: 50 ac	1,785 gpd/ac	
Total		**2,477,604.60 gpd** **ANNUAL[1]: 904 million g/yr**

SOURCE: 2008 WRMP Update (revised November 2010) including details and footnotes as shown in Table 5.8-7 of this SEIR.
sf = square feet; ac = acre
gpd = gallons per day; g/yr = gallons per year
[1]Annual rates are included in Global Climate Change Analysis for the Otay Ranch Project (RECON 2012).

The embodied energy demand associated with this total water use would equate to 7,686.77 MWh per year. Multiplying this value by the electricity emission factors for the three primary GHGs of yields an estimated annual emission associated with BAU water use of 4,693.69 $MTCO_2E$.

SOLID WASTE EMISSIONS

The disposal of solid waste produces GHG emissions from anaerobic decomposition in landfills, incineration, and from the combustion of transportation fuel in the haul trucks that transport waste. As shown in Table 5.10-8, buildout under BAU assumptions would annually generate approximately 52,397 tons of solid waste each year.

TABLE 5.10-8
ANNUAL BAU SOLID WASTE GENERATION

Land Use Type	BAU Solid Waste Generation Rate	Annual Generation
Residential: 887 single-family units 5,163 multi-family units	 4,161 lbs/single-family unit/yr 3,139 lbs/multi-family unit/yr	 3,690,807 lbs (1,845 tons[2]) 16,206,657 lbs (8,103 tons[2])
Commercial: 1,800,000 sf	16.79 lbs/sf/yr	30,222,000 lbs (15,111 tons[2])
Industrial[1]: 2,221,560 sf	16.79 lbs/sf/yr	37,299,992 lbs (18,650 tons[2])
Schools[1]: 51.4 ac (2,238,984 sf)	.0013 tons/sf/yr	2,911 tons
Community Purpose Facility: 10.8 ac (470,448 sf)	 .0057 ton/sf/yr	 2,682 tons
Parks: 55.4 ac	 4.76 tons/ac/yr	 264 tons
University: 50 ac (2,178,000 sf)	.0013 tons/sf/yr	2,831 tons
Total		**52,397 tons**

SOURCE: CALRecycle/CalEEMod (2011). See details in Table 5.8-12 of this SEIR.
sf = square feet; ac = acre
gpd = gallons per day; g/yr = gallons per year
[1]sf is calculated by multiplying acres by 43,560
[2]tons are calculated by multiplying lbs by .0005

GHG emissions associated with the disposal or diversion of this waste would equal approximately 8,370.33 $MTCO_2E$ per year.

CONSTRUCTION EMISSIONS

Based on estimates of construction-related emissions for typical residential and non-residential projects, approximate annual emission rates of 0.077 $MTCO_2E$ per dwelling unit and 0.006 $MTCO_2E$ per non-residential square foot were determined. Multiplying these values by the total land uses that would be allowed within the Land Use Change Area results in annual construction emissions of 51,545.36 $MTCO_2E$.

Proposed Project Emissions

PROPOSED PROJECT AVERAGE TRIP LENGTH RELATIVE TO REGIONAL VMT

In order to fully evaluate the significance of the Proposed Project on achieving implementation of AB 32 and the CARB Scoping Plan's vehicle emission reductions, it is necessary to look at the Proposed Project in terms of its average trip length and effect on regional VMT.

If a plan or project were to increase local trip lengths to such a degree that the regional average trip length was increased, regional and potentially statewide VMT could be increased. The associated BAU vehicle emission forecast and related Scoping Plan vehicle emissions reduction measures would also be affected. If a project's local average trip length were large enough to increase the regional average trip length, it would thus be considered to generate vehicle GHG emissions in excess of those accounted for in the BAU 2020 Emissions Forecast. By extension, it would also be considered to generate vehicle emissions beyond those accounted for in the Scoping Plan reduction measures.

Patterns of development can increase, decrease, or have no effect at all on travel choices, depending on their location and design. For example, through provision of public transit, carpooling, and walking and biking amenities, and by bringing more people closer to more destinations, on-road VMT can be decreased. These are the types of strategies identified in the Scoping Plan's Regional Transportation-related GHG Targets measure.

The Proposed Project is surrounded by existing or planned residential and mixed-use development to the north and west, with some neighborhood-serving commercial uses in the vicinity. Within the Proposed Project area, a mix of residential, commercial, and recreational uses would be provided. These proximities would encourage walking and biking and relatively short local vehicle trips. As determined by SANDAG based on the Proposed Project's land use and circulation patterns, the average daily trip length for the Proposed Project would be less than the regional average trip length of 5.8 miles. The average daily trip length for Village 8 West would be 4.62 miles, and the average daily trip length for Village 9 would be 5.08 miles. Because the Proposed Project would not increase the regional trip length, its projected vehicle-emissions would be consistent with forecasted vehicle emissions, and its cumulative contribution to statewide vehicle emissions would be less than significant.

TRANSPORTATION RELATED EMISSIONS

The traffic study projects that the proposed buildout of the Land Use Change Area would generate 113,073 ADT (LLG 2011). As determined by SANDAG, based on projected land use patterns and ADT, the average daily trip length for the Proposed Project would be less than the regional average trip length of 5.8 miles. The average daily trip length for Village 8 West would be 4.62 miles, and the average daily trip length for Village 9 would be 5.08 miles. The RTP was not included in the SANDAG trip length modeling, therefore, the

SANDAG regional average trip length of 5.8 miles was used to estimate VMT for the RTP. Multiplying these trip lengths by the respective ADT for each village (43,564 ADT for Village 8 West, 56,123 ADT for Village 9, and 13,386 ADT for the RTP) yields a total of 564,010 miles traveled each day (compared to the BAU 655,823 vehicle miles that would be traveled each day). Multiplying this value by the average fuel economy of 18.80 mpg for 2020 yields a total of 30,000.50 gallons of vehicle fuel would be consumed daily by the Proposed Project (compared to the 34,884.22 gallons of vehicle fuel that would be consumed daily under BAU).

As described in Section 5.10.1.2, Regulatory Plans and Policies, there are several plans and regulations aimed at reducing transportation-related GHG emissions nationally and statewide by 2020; key among these are the Pavley I and II GHG Vehicle Emissions Standards which set increasingly stringent emissions limits on vehicles, and the state LCFS which reduces the carbon content of vehicle fuels. These actions have been approved by the state legislature and CARB estimates that implementation of them would reduce statewide vehicle emissions by approximately 28 percent. A third CARB action, the Vehicle Efficiency Measure, would add another 2.5 percent to the total statewide reductions in vehicle emissions.

It can thus be assumed that newer vehicles associated with future residents in the Project Area would benefit from these regulations, and estimated vehicle emissions would accordingly decrease. By accounting for the Scoping Plan measures already adopted, the estimated vehicle emissions associated with the Proposed Project would decrease by nearly 30 percent. By factoring in the Proposed Project's shorter-than-average vehicle trip length and the state's vehicle and fuel regulations, the Proposed Project is estimated to result in the annual vehicle use emission of 68,276.67 $MTCO_2E$. This amounts to a 40 percent reduction in the 113,416.15 $MTCO_2E$ of vehicle emissions estimated for the BAU condition.

ELECTRICITY EMISSIONS

Buildout of the Proposed Project would be subject to the Chula Vista Green Building and Increased Energy Efficiency ordinances of the City's Municipal Code. These two ordinances are described in Section 5.10.1.2 and would achieve a 30 percent reduction in building energy (electricity and natural gas) use compared to BAU assumptions and a 20 percent reduction in potable water consumption (and associated embodied energy) compared to BAU assumptions.

Based on the energy savings required in the City's Increased Energy Efficiency ordinance, buildout of the Land Use Change Area would annually consume 111,312.92 MWh of electricity. The residential uses would consume approximately 28,617.65 MWh, the commercial uses would consume approximately 17,766 MWh, the school uses would consume approximately 9,952 MWh, the university use would consume approximately 17,258 MWh, the community purpose space would consume 3,089 MWh, active park uses would consume approximately maximum of 15,845 MWh, and the industrial uses would consume approximately 19,124 MWh each year. This equates to the emission of 12,232.14 $MTCO_2E$ each year from residential uses,10,848.26 $MTCO_2E$ each year from commercial uses, 6,077.06 $MTCO_2E$ each year from school uses, 10,538.35 $MTCO_2E$ each year from university use, 9,675.40 $MTCO_2E$ each year from active park uses, 1,886.18 $MTCO_2E$ each year from community purpose facilities, and 16,712.41 $MTCO_2E$ each year from industrial uses; totaling 67,969.80 $MTCO_2E$ each year. The CARB Scoping Plan includes a Renewables Portfolio Standard that requires public utilities to acquire an increasing proportion of their energy supply from renewable energies. By 2020, 33 percent of all statewide electricity generation is to come from renewable energies. This would result in a statewide emissions reduction of 26.3 $MMTCO_2E$ and is a reduction that is counted toward the total 2020 emissions reduction target. As a result of implementation of the Renewables Portfolio Standard, GHG emissions from electricity generation needed to supply the Project would likely decline as energy supply shifts from fossil-fuel based energies to renewable energy. Renewable energies have zero to little carbon content and their use in electricity generation emits fewer GHGs.

NATURAL GAS EMISSIONS

Buildout of the Proposed Project would be subject to the Increased Energy Efficiency ordinance of the City's Municipal Code. This ordinance is described in Section 5.10.1.2 and would achieve a 15 percent reduction in building energy use compared to the existing energy code (Title 24, Year 2008), which equates to a 30 percent reduction in building energy and natural gas use compared to BAU assumptions.

Based on the energy savings required in the City's Increased Energy Efficiency ordinance, the proposed land uses would annually consume 344.83 million cubic feet of natural gas. The residential uses would consume approximately 174.44 million cubic feet, the commercial uses would consume approximately 43.85 million cubic feet, the community purpose facility would consume approximately 10.93 million cubic feet, the schools would

consume approximately 24.29 million cubic feet, the university use would consume approximately 63.60 million cubic feet, the park uses would consume approximately 5.07 million cubic feet, and the industrial uses would consume 86.25 million cubic feet each year. This equates to the emission of 9,552.49 $MTCO_2E$ of GHGs each year from residential uses, 2,401.22 $MTCO_2E$ each year from commercial uses, 598.73 $MTCO_2E$ each year from community purpose facilities, 1,330.34 $MTCO_2E$ each year from schools, 3,483.10 $MTCO_2E$ each year from university use, 277.52 $MTCO_2E$ each year from park uses, and 4,723.53 $MTCO_2E$ each year from industrial uses; totaling 22,366.93 $MTCO_2E$ of GHG emissions each year.

WATER USE EMISSIONS

Buildout of the Proposed Project would be subject to the Green Building Standards in the City's Municipal Code. This ordinance is described in Section 5.10.1.2 and would achieve a 20 percent reduction in water use compared to the existing plumbing code (year 2006) and BAU assumptions. Adjustments to the WRMP daily water demand rates identified above for BAU were thus made to account for the City's more stringent water conservation design requirements. The WRMP rates were reduced 20 percent, resulting in daily water demand rates as detailed in Table 5.8-8: 400 gallons per single-family residential unit, 204 gallons per multi-family unit, 0.11 gallons per commercial square foot, and 0.06 gallons per industrial square foot, 1,428 gallons per school acre (including university use), 1,724 gallons per park acre, and 714.4 gallons per community purpose acre, yields a total daily combined water demand of 1,982,084 gallons for the Proposed Project. Annual Project water demand would total approximately 723,460,543 gallons. Of this annual total, approximately 513,938,980 gallons would be associated with residential uses, 26,790,708 gallons would be associated with school uses, 26,061,000 gallons would be associated with university use, 34,861,004 gallons with park uses, 2,816,165 gallons would be associated with community purpose uses, 73,584,000 gallons with commercial uses, and 45,408,686 gallons would be associated with industrial uses. This water usage amounts to approximately 20 percent less than the current plumbing code. The embodied energy demand associated with the Proposed Project's total water use would equate to 6,149.41 MWh per year. Multiplying this value by the electricity emission factors for the three primary GHGs of concern yields an estimated annual emission associated with water use of 3,754.95 $MTCO_2E$.

The CARB Scoping Plan includes other reduction strategies not counted toward the 2020 target reduction of 174 $MMTCO_2E$ statewide. CARB estimates that their recommended

water sector measures would reduce an additional 4.8 $MMTCO_2E$ by 2020. These are measures required of water suppliers that would improve energy and other efficiencies associated with water supply. Thus, it is possible that the embodied energy and resulting GHG emissions associated with supplying potable water to the Proposed Project would decrease somewhat by 2020.

SOLID WASTE EMISSIONS

While the Proposed Project would implement lumber and other materials conservation in accordance with the City's Green Building Standards (see Section 5.10.1.2) and likely generate less landfill waste than average BAU, these savings cannot be estimated at this time. Therefore, for purposes of this estimation, the Proposed Project is considered to generate the same amount of waste and associated GHG emissions as that under BAU: 52,397.07 tons of solid waste each year, resulting in 8,370.33 $MTCO_2E$ of GHG emissions each year.

Future development in accordance with the Proposed Project would be required to implement lumber and other materials conservation in conformance with the Green Building Standards in effect at the time of project submittal that would likely exceed average or BAU practice. The importance of this action is revealed in CalRecycle's annual Statewide Waste Characterization Study (2008), which noted that inerts and other materials accounted for nearly one-third (29 percent) of the statewide waste stream, with lumber representing nearly 15 percent. The largest change in the overall waste stream was an increase, from 22 percent to 29 percent, in this materials class, largely due to an increase in lumber.

The CARB Scoping Plan includes Recycling and Waste measures that would reduce statewide emissions by roughly 1.0 $MMTCO_2E$ by 2020. This is to be achieved through improved landfill methane capture. The CARB Scoping Plan includes other waste sector reduction strategies not counted toward the statewide 2020 emissions reduction target. CARB estimates that these additional waste and recycling sector measures would provide up to an additional 10 $MMTCO_2E$ reduction by 2020. Thus, it is possible that the embodied energy and emissions resulting from disposing of the Proposed Project's solid waste may decrease somewhat by 2020 due to these measures.

CONSTRUCTION EMISSIONS

The Proposed Project would generate the same approximate amount of construction emissions as BAU, 51,545.36 $MTCO_2E$ per year.

The Scoping Plan does not identify any measures specific to reducing GHG emissions from construction activities. However, the reduction measure affecting heavy-duty vehicle emissions would potentially encompass off-road construction equipment and reduce emissions through improved engine technology and conversion to non-diesel, low carbon fuels. Thus, as with the majority of the Scoping Plan's transportation-related reduction measures, reductions in construction emissions would have to come from emissions limits on construction equipment, redesign of construction equipment technology, and/or conversion to low carbon fuels. These measures are outside the control of the City or project features.

PROPOSED PROJECT GHG REDUCTIONS RELATIVE TO BAU 2020

The total GHG emissions attributed to building occupancies for BAU and the Proposed Project are summarized below in Table 5.10-9. The Proposed Project is estimated to generate a total of 222,284.04 $MTCO_2E$ GHG emissions (68,276.67 from vehicle use and 154,007.38 $MTCO_2E$ from non-transportation-related sources) each year above existing conditions. BAU is estimated to generate a total of 307,078.01 $MTCO_2E$ of GHG emissions each year above existing conditions (113,416.15 $MTCO_2E$ from vehicle use and 193,661.86 $MTCO_2E$ from non-transportation-related sources). This Proposed Project total reduction of 84,793.96 $MTCO_2E$ equates to a 28 percent reduction in BAU emissions, and results from the Proposed Project's incorporation of smart-growth vehicle circulation patterns, lower-emitting vehicles given state regulations, and advanced energy efficiency and water conservation design that would reduce GHG emissions associated with energy (electricity and natural gas) and water use. Of the total Proposed Project reduction, a 39,654.48 $MTCO_2E$, or 20 percent reduction in non-vehicular BAU would result from the advanced energy efficiency and water conservation design alone. Other Proposed Project features that may reduce GHG emissions, such as landscaping, heat island reduction, lumber conservation, and other actions required in the City's Green Building Standards were not readily quantifiable and are not included in the Proposed Project's emissions estimate.

TABLE 5.10-9
SUMMARY OF ESTIMATED GHG EMISSIONS AND PROJECT REDUCTIONS RELATIVE TO BAU
($MTCO_2E$)

Emission Source	BAU Project-Equivalent	Target Emissions (20% reduction in BAU)	Proposed Project	Percent Reduction
Vehicles Use	113,416.15	--	68,276.67	40
Electricity Use	97,099.72	--	67,969.80	30
Natural Gas Use	31,952.76	--	22,366.93	30
Water Consumption	4,693.69	--	3,754.95	20
Solid Waste Disposal	8,370.33	--	8,370.33	0
Construction	51,545.36	--	51,545.36	0
TOTAL	**307,078.01**	**245,662.41**	**222,284.04**	28

$MTCO_2E$ = metric tons of CO_2 equivalent

As shown in Table 5.10-5, a 20 percent reduction in BAU GHG emissions would equal 245,662.41 $MTCO_2E$ per year. The Proposed Project would generate an estimated 222,284.04 $MTCO_2E$ per year. Based only on increased energy and water savings afforded by the proposed GP Policy 7.8 and existing City ordinances, the Proposed Project would reduce non-transportation-related BAU emissions by 20 percent. Factoring in vehicle emissions reductions, the Proposed Project would reduce overall BAU emissions by 28 percent, thereby exceeding the City's significance threshold of a 20 percent reduction in GHG emissions relative to BAU 2020. Impact associated with the Proposed Project's contribution of GHGs to cumulative statewide emissions would therefore be less than significant.

PROPOSED PROJECT- GENERAL PLAN AMENDMENT

As part of the GPA, proposed text revisions to the GP's EE Element, Objective EE 7 would include the following new Policy EE 7.8:

Objective EE 7

Promote energy conservation through the efficient use of energy and through the development of local, non-fossil fuel-based renewable sources of energy.

Policy

EE 7.8: Ensure that residential and non-residential construction complies with all applicable City of Chula Vista energy efficiency measures that are in effect at the time of discretionary permit review and approval or building permit issuance, whichever is applicable.

This new policy would ensure that all subsequent projects comply with, at a minimum, the existing GBS ordinance and Increased Energy Efficiency Standards ordinance. These two City ordinances are included as Attachment 2 to Appendix B [of the GPA]. As described in Section 5.10.1.2, these two ordinances require all new development and redevelopment or remodels over a threshold size to incorporate design that achieves at least 20 percent greater water conservation than the current plumbing code and 15 percent greater energy efficiency than the current 2008 Title 24 energy code (i.e., 30 percent greater energy efficiency than the 2005 Title 24 energy code).

As required in the ordinances, building permits for subsequent development in accordance with the Proposed Project would be thoroughly reviewed by the Building Official for compliance with the ordinances prior to approval. As part of the building permit application, project construction plans and specifications are required to indicate the energy and GBS standards, product specifications, and method of construction, in the general notes or individual drawings Inspections may be conducted as needed to ensure compliance and if at any stage of construction the Building Official determines that the project is not being constructed in accordance with the permitted plans and documents, a stop order may be issued that will remain in effect until the Building Official allows. The ordinance also requires that the Building Official review all relevant information to determine whether the project has been built in accordance with the permit before a certificate of occupancy may be issued. If the Building Official determines that a project applicant has failed to construct the project in accordance with the ordinance, then the final building approval and certificate of occupancy may be withheld.

Threshold 2: Conflict with Plans, Policies or Regulations

Threshold 2 states that impacts associated with GCC would be significant if the Proposed Project would conflict with any other applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs.

The regulatory plans and policies discussed in Section 5.10.1.2 above aim to reduce national, state, and local GHG emissions by primarily targeting the largest emitters of GHGs: the transportation and energy sectors. Plan goals and regulatory standards are thus largely focused on the automobile industry and public utilities. For the transportation sector, the reduction strategy is generally three pronged: to reduce GHG emissions from vehicles by improving engine design; to reduce the carbon content of transportation fuels through research, funding and incentives to fuel suppliers; and to reduce the miles these vehicles travel through land use change and infrastructure investments.

For the energy sector, the reduction strategies aim to: reduce energy demand; impose emission caps on energy providers; establish minimum building energy and green building standards; transition to renewable non-fossil fuels; incentivize homeowners and builders; fully recover landfill gas for energy; expand research and development; and so forth.

State Plans

EO S-3-05 established GHG emission reduction targets for the state, and AB 32 launched the Climate Change Scoping Plan that outlined the reduction measures needed to reach these targets. The Project's consistency with the state reduction targets for transportation, energy, and other emissions associated with land use and development is demonstrated in Section 5.10.3 2 above. In short, the Proposed Project was shown to provide a 21 percent reduction in non-transportation-related BAU emissions, consistent with the percent reduction targeted in the Scoping Plan for land development-related emissions. In addition, the Proposed Project would create land use patterns such that daily vehicle trip lengths would be shorter than the regional average. The Proposed Project would thus not increase regional VMT, and is therefore consistent with recommendations in the Scoping Plan and assumptions in the BAU 2020 forecast pertaining to transportation-related emissions. The Proposed Project is also consistent with state goals regarding climate change adaptation and the Scoping Plan's recommendation to expand the use of green building practices in order to reduce the carbon footprint of new buildings and better adapt them to climate change.

Local Plans

As discussed above in Section 5.10.3.2, the Proposed Project would achieve substantial GHG reductions through green building design that includes increase energy efficiency and

improved water conservation, sustainable materials use, waste reduction, lumber conservation, indoor air quality, and heat island reduction. These GHG-reducing design features would be incorporated into subsequent projects as required in the City's Green Building Standards and the Increased Energy Efficiency Standards adopted by ordinance into the Municipal Code. Verification and commissioning of these features would occur through independent third party inspection and diagnostics as part of development permit review and approval. The Proposed Project would thus be consistent with the City's Climate Protection Action Plan and Climate Protection Measures relevant to private land use and development.

5.10.4 Level of Significance prior to Mitigation

Threshold 1: Conflict with Scoping Plan (20% reduction from BAU)

Based on the calculated BAU project-equivalent emissions and the goal of a 20 percent reduction in BAU 2020 emissions, an emissions cap for the Proposed Project was determined to be 245,662.41 $MTCO_2E$ each year. Therefore, the Proposed Project is consistent with the City's threshold and would also be consistent with the Scoping Plan and AB 32 Year 2020 goals since it would emit total annual emissions of 222,284.04 $MTCO_2E$. This quantity represents a 28 percent reduction in the total annual 307,078.01 $MTCO_2E$ projected for BAU, and is due to advanced energy- and water-saving design requirements and a smart-growth vehicle circulation pattern that results in a lower-than-average vehicle trip length.

Threshold 2: Conflict with Plans, Policies or Regulations

The Proposed Project is consistent with the goals and strategies of local and state plans, policies, and regulations aimed at reducing GHG emissions from land use and development. Impacts would be less than significant.

5.10.5 Mitigation Measures

Since impacts associated with GCC would be less than significant, no mitigation measures are required.

5.10.6 Level of Significance after Mitigation

GCC impacts would be less than significant.

5.10.7 Change in the Results of the 2005 GPU/GDP EIR Impact Analysis

The 2005 GPU/GDP EIR did not contain an analysis of GCC.

6.0 CUMULATIVE IMPACTS

The State CEQA Guidelines (Section 15355) define a cumulative impact as “an impact which is created as a result of the combination of the project evaluated in the environmental impact report together with other projects causing related impacts.”

Section 15130(a) of the State CEQA Guidelines requires a discussion of cumulative impacts of a project “when the project’s incremental effect is cumulatively considerable.” Cumulatively considerable, as defined in CEQA Section 15065(c), “means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probably future projects.”

The evaluation of cumulative impacts as required by CEQA Section 15130(b)(1), is to be based on either (A) “a list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those impacts outside the control of the agency,” or (B) “a summary of projections contained in an adopted plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or area wide conditions contributing to the cumulative impact.”

Probable Future Projects

This chapter provides a cumulative analysis based on probable future projects (foreseeable) projects within the Project Area. As depicted in Figure 2-1, the Project Area encompasses the project site (proposed Villages 8 West and 9, and the RTP), as well as Village 8 East and a portion of the Planning Area 10/University site. The Project Area is so defined because these areas are subject to the policy revisions included in the GPA and GDPA.

Village 8 East and Planning Area 10/University site represents the projects included in this analysis. These areas are still in planning stages and considered “foreseeable” projects. Specifically, the City’s LOA entered into with property owner, JPB, provide specific allowable densities for these planning areas. Throughout this section the term “cumulative projects” means the JPB LOA densities for Village 8 East and Planning Area 10/University. These two cumulative projects plus the Proposed Project comprise what is

referred to as the "cumulative area" and are described in Table 6-1, below. For those subject areas affected by traffic patterns and intensity, a quantitative analysis of the potential cumulative impacts is provided. This analysis is based on the ratio of ADTs attributed to the foreseeable projects compared to ADTs from the Proposed Project. The cumulative ADTs were calculated by LLG based on the JPB/City LOA land uses. Specifically, total project generated ADTS (113,073) were divided into total ADT for the cumulative study area (174,700) resulting in a coefficient of 1.5. This factor was then applied to other areas of impacts including air quality, and GHG to represent the overall increase used in the cumulative analysis.

Table 6-1 shows the land uses upon which this cumulative analysis is based.

TABLE 6-1
LAND USES WITHIN CUMULATIVE AREA

Land Use Type	Proposed Project (Change from 2005 GPU Preferred Plan)	JPB/City LOA (Village 8 East, Planning Area 10/ University Site)	Total Cumulative Project Area
Single-family Residential	247 du	0	247 du
Multi-family Residential	633 du	5,756 du	6,389 du
Commercial	550,000 sf	0	550,000 sf
Industrial/RTP	85.0 acres	0	85 acres
Community Purpose Facility	-9.3 acres	8.0 acres	-1.3 acres
School	6.4 acres	20.0 acres	26.4 acres
Park	5.1 acres	45.1 acres	50.2 acres
Future University	50.0 acres	210.0 acres	260.0 acres

SOURCE: City of Chula Vista 2012.

Adopted Plans

From a regional approach, the cumulative analysis relies on the RCP and the City's 2005 GPU, along with other regional planning documents, including the MSCP subarea plan and RAQS in accordance with CEQA Section 15130(b)(1)(B). The 2005 GPU reflected the goals of the RCP, including a focus on creating a high quality of life for current and future generations, and the creation of a City that has resolved a potential housing shortage, avoided transportation problems, and prepared for energy issues to provide a healthy, desirable environment for people and nature. The 2005 GPU Preferred Plan analyzed in the 2005 GPU/GDP EIR included land uses within the Proposed Project's defined Land Use Change Area. As previously discussed throughout the SEIR, while the action on the land uses for this area was deferred, the certified 2005

GPU/GDP EIR analyzed the impacts, including cumulative impacts, associated with the proposed land uses within the Deferral Areas.

This cumulative analysis discusses the cumulative impacts identified in the 2005 GPU/GDP EIR and examines whether the incremental increase attributed to the Proposed Project plus foreseeable projects would change the 2005 GPU/GDP EIR conclusions.

6.1 Land Use

The 2005 GPU/GDP EIR evaluated anticipated growth in its cumulative analysis. The 2005 GPU/GDP EIR concluded that any proposed changes would cause an increase over existing conditions and have potential to cause impacts on community character. However, application of the 2005 GPU's objectives and policies would result in the retention and preservation of character. Therefore, on a cumulative basis impacts would not be considerable.

Like the 2005 GPU/GDP EIR, the cumulative assessment of the Proposed Project's cumulative land use impacts relies on the RCP and the City's GPU (which incorporated planning principles outlined in the RCP). Implementation of the Proposed Project would result in increased density and intensity of land uses within the Land Use Change Area compared to that addressed in the 2005 GPU/GDP EIR. This intensification is consistent with the goals and objectives of the RCP and the GPU. Through conformance with the GP, the Proposed Project will promote mobility, increase jobs/housing balance, transit-oriented development, increased density and mixed-use development serving as an implementing document to realize SANDAG's vision.

Like the Proposed Project, the cumulative projects within the Project Area will also include mixed-use development. As shown in Table 6-1, Village 8 East and Planning Area 10/University Site include multi-family residential, park, school, and university-related land uses. These proposals will accommodate the needs of the City and the region. Therefore, the Proposed Project, combined with the other cumulative projects, would accommodate the envisioned goals and policies of the RCP and the GPU.

As concluded in the 2005 GPU/GDP EIR, because of its adherence to the smart-growth principles in the RCP, and through conformance with the policies and objectives of the

City's GP, cumulative land use impacts associated with the Proposed Project would be less than significant.

6.2 Landform Alteration/Visual Resources

Generally, the cumulative study area associated with aesthetics impacts is the geographic area from which a project is likely to be seen, based on topography and land use patterns. The cumulative projects included herein are physically located adjacent to the Proposed Project and within the Project Area. They represent the totality of the visual conditions surrounding the Proposed Project. The cumulative study area consists of significant landscape features and landforms. The 2005 GPU/GDP EIR concluded that that the permanent alteration to the open, rolling hills of the East Planning Area due to development of open areas would be a significant cumulative visual quality impact. In addition to the Proposed Project, the development of the cumulative projects would cumulatively contribute to the diminishment of the open space. This intensification of development throughout the cumulative area would result in cumulatively significant impacts to landforms and visual quality. Cumulative visual impacts would exceed those addressed in the 2005 GPU/GDP EIR due to the greater intensity of development. The conclusion in the GPU/GDP EIR would remain unchanged. Cumulative visual impacts would be significant and unmitigated.

6.3 Energy Resources

The 2005 GPU/GDP EIR concluded that impacts associated with energy use were significant. While mitigation was presented to lessen the extent of potential impacts, potential impacts would remain significant and unmitigated due to the lack of assurance at the time of the GPU that resources would be available to adequately serve the projected increase in population.

As discussed in Chapter 5.3, implementation of the Proposed Project would result in significant impacts due to increased consumption of electricity and natural gas above that contemplated in the 2005 GPU Preferred Plan. Tables 5.3-2a and 5.3-2b provide the projected increase in energy demands (electricity and natural gas) associated with the Proposed Project compared to the 2005 GPU/GDP EIR. Likewise, as shown in Tables 6-2a and 6-2b, below, the additional energy consumption anticipated for the

cumulative projects, along with the Proposed Project would cumulatively contribute to increased energy consumption.

Using the electricity rates found in Table 5.3-2a, Table 6-2a identifies the projected total electricity demands of the cumulative area.

TABLE 6-2a
PROJECTED ANNUAL ELECTRICITY DEMANDS
OF CUMULATIVE AREA

Land Use Type	Total Cumulative Project Area	Annual Electricity Consumption Rates[1]	Total Annual Demand
Single-family Residential	247 single-family units	2,127.17 kWh/single-family unit	525,411 kWh
Multi-family Residential	6,389 multi-family units	1,297.40 kWh/multi-family unit	8,289,089 kWh
Commercial	550,000 sf	4.23 kWh/ sf	2,326,500 kWh
Industrial (RTP)	2.2 million sf	5.28 kWh/sf	11,616,000 kWh
Parks	2,186,712 sf	2.81 kWh/ sf	6,144,660 kWh
Schools	1,149,984 sf	1.91 kWh/ sf	2,196,469 kWh
Community Purpose Facility	- 56,628 sf	2.81 kWh/ sf	-159,125 kWh
TOTAL			**30,939,004 kWh**

[1]See Table 5.3-2a for rates (CARB's 2011 CalEEMod 9- adjusted to reflect reduced usage due to energy efficiency standards and requirements)
sf = square feet (calculated by multiplying acres by 43,560)
yr = year
Total demand is rounded to nearest whole number.

Using the natural gas rates found in Table 5.3-2b, Table 6-2b identifies the projected total natural gas demands of the cumulative area.

TABLE 6-2b
PROJECTED ANNUAL NATURAL GAS DEMANDS
OF CUMULATIVE AREA

Land Use Type	Total Cumulative Project Area	Annual Natural Gas Consumption Rates[1]	Total Annual Demand
Single-family Residential	247 single-family units	18,715.32 cf/single-family unit	4,622,684 cf
Multi-family Residential	6,389 multi-family units	11,264.29 cf/multi-family unit	71,967,548 cf
Commercial	550,000 sf	10.44 cf/sf	5,742,000 cf
Industrial (RTP)	2.2 million sf	869,799.60cf/consumer[2]	36,966,483 cf
Parks	2,186,712 sf	.09 cf/ sf	196,804 cf
Schools	1,149,984 sf	4.65 cf/ sf	5,347,426 cf
Community Purpose Facility	- 56,628 sf	.09 cf/ sf	-5,096 cf
TOTAL			**124,837,849 cf**

[1]See Table 5.3-2a for rates (CARB's 2011 CalEEMod 9- adjusted to reflect reduced usage due to energy efficiency standards and requirements) SF= Single family/ MF= Multi-family
[2]2,221,560 total square feet of industrial land divided by minimum lot size of 2 acres = 42.5 industrial consumers.
sf = square feet (calculated by multiplying acres by 43,560)
yr = year
Total demand is rounded to nearest whole number.

As detailed in Chapter 5.3, the Proposed Project would result in an increase in electricity demand by approximately 15.3 million kWh annually and natural gas demand by approximately 55.6 million cubic feet annually above the land uses analyzed in the 2005 GPU/GDP EIR. The total annual demand for electricity and natural gas for the cumulative area would increase approximately 15.6 million kWh, and approximately 69.2 cf, above that anticipated for the Proposed Project. This increase, along with regional increases in energy demand projected to result from population growth, would result in a cumulatively considerable increased demand on energy supply. While individual projects may be able to reduce their energy consumption through energy conservation measures, as required by the GP, there remains no assurance that an adequate energy supply will be available.

Mitigation measure 5.3.5-1 would lessen the extent of cumulative energy impacts through implementation of the Energy Strategy and Action Plan and CO_2 Reduction Plan. Likewise application of the City's Energy Code will play a critical role in reducing the Proposed Project's overall energy impacts. Specifically, as discussed in Chapter 5.3 of the SEIR, the City's Energy Code requires the application of increased energy

efficiency standards to most new development. Notwithstanding policy and regulatory compliance, the increased intensity of land uses associated with the cumulative Project Area, as well as regional growth projections would add an incremental increase to an existing significant demand on energy use representing a significant and unmitigated cumulative impact.

6.4 Transportation

Chapter 5.4 provides a detailed analysis of cumulative traffic impacts, which includes the cumulative projects defined above; however, a brief summary of those conclusions is provided discussed below. As discussed in Section 5.4.3.5, significant cumulative impacts were identified along the following road segments:

City of Chula Vista

- Otay Valley Road between SR-125 and Street “A”

City of San Diego

- Heritage Road between the City Boundary and Avenida de las Vistas
- Heritage Road between Avenida de las Vistas and Datsun Street/Otay Valley Road
- Heritage Road between Datsun Street/Otay Valley Road and Otay Mesa Road

Additional cumulative impacts were identified along a number of freeway segments including:

Interstate 805

- AM Northbound: Olympic Parkway/Orange Avenue to Main Street/Auto Park Dr
- PM Southbound: Olympic Parkway/Orange Avenue to Main Street/Auto Park Dr
- PM Southbound: Main Street/Auto Park Drive to Palm Avenue
- PM Southbound: Palm Avenue to SR-905

State Route 125

- AM Northbound: Otay Valley Road to Lonestar Road
- PM Southbound: Otay Valley Road to Lonestar Road
- PM Southbound: Lonestar Road to Otay Mesa Road

State Route 905

- AM Eastbound: I-805 to Ocean View Hills Parkway
- PM Westbound: I-805 to Ocean View Hills Parkway
- AM Eastbound: Ocean View Hills Parkway to Heritage Road
- PM Westbound: Ocean View Hills Parkway to Heritage Road
- AM Eastbound: Heritage Road to Britannia Boulevard
- PM Westbound: Heritage Road to Britannia Boulevard
- AM Eastbound: Britannia Boulevard to La Media Road
- PM Westbound: Britannia Boulevard to La Media Road
- PM Westbound: La Media Road to SR-125

As discussed in Section 5.4.5.2, the following mitigation measure is required to reduce cumulative impacts along Otay Valley Road between SR-125 and Street “A,”:

5.4.5.2-1 To mitigate for the significant cumulative impact along Otay Valley Road between SR-125 and Street “A,” the applicant shall increase the capacity of this segment to a 5-Lane Major with three lanes traveling in the westbound direction with the number three lane serving as an auxiliary lane onto the SR-125 NB Ramp on-ramp and two lanes traveling in the eastbound direction, resulting in LOS D operations.

The improvements required to mitigate the impacts along Heritage Road fall within the jurisdiction of the City of San Diego and are not within the authority of the City. Therefore, such mitigation measures are considered infeasible.

Implementation of the following would reduce cumulative freeway impacts:

5.4.5.1-1 The City of Chula Vista shall collect the appropriate RTCIP funds from the Proposed Project

The implementation of mitigation measures would reduce cumulative impacts to freeway segments; however, despite feasible mitigation measures, street segments within the City of San Diego that are anticipated to fail as a result of cumulative traffic would remain significant and unmitigable.

6.5 Air Quality

The 2005 GPU/GDP EIR concludes that cumulative air quality impacts would be significant and unmitigated stemming from inconsistency with the RAQS and the non-attainment status of the region with respect to PM_{10}.

Because the proposed land uses included as part of the Proposed Project would be inconsistent with the adopted GP upon which the RAQS was based, the Proposed Project would not conform to the current RAQS. Additionally, the proposed land uses anticipated for the cumulative projects, along with the Proposed Project, would cumulatively contribute to increased air quality impacts resulting in cumulatively significant impacts associated with plan consistency. These impacts would remain unmitigable until these projects are included in updated RAQs.

Threshold 3 in Chapter 5.5 addresses whether the Proposed Project would result in a cumulatively considerable net increase of any criteria pollutant for which the region is non-attainment under an applicable federal or state ambient air quality standard. The San Diego region is classified as a nonattainment area for PM_{10}. As discussed in Chapter 5.5, implementation of the Proposed Project would result in significant impacts due to increased potential for development within the Land Use Change Area, beyond that contemplated by the 2005 GPU/GDP EIR.

Using the coefficient of 1.5, representing the cumulative increase in ADT cumulative impacts associated with air emissions would be considerable. Table 6-3 shows the breakdown of air emissions after applying the coefficient of 1.5.

TABLE 6-3
CUMULATIVE INCREASE IN AIR EMISSIONS FOR THE CUMULATIVE AREA

Season/Pollutant	Air Emissions for Proposed Project (Table 5.5-6)[1]		Total Increase[2] in Air Emissions within the Cumulative Project Area
Summer		Application of Cumulative Factor of 1.5	
ROG	140		210
NO_x	92		138
CO	792		1,188
SO_x[2]	2		3
PM_{10}	382		573
$PM_{2.5}$	74		111
Winter			
ROG	269		404
NO_x	114		171
CO	980		1,470
SO_x[2]	2		3
PM_{10}	401		602
$PM_{2.5}$	92		138

[1]SOURCE: URBEMIS2007
[2]Totals may differ due to rounding.

Development within the cumulative area would result in a cumulatively considerable increase in emissions greater than what was addressed in the 2005 GPU/GDP EIR. Consistent with the 2005 GPU/GDP EIR conclusion, the increased contribution to the existing cumulative air quality impact would be significant and unmitigated.

6.6 Noise

The 2005 GPU/GDP EIR cites significant unmitigated cumulative noise impacts due to increase in traffic volumes resulting in an increase in noise level greater than 3 decibels to existing sensitive receivers adjacent to circulation element roadways. Lessening the noise levels in these areas would require a lot-by-lot review of potential exterior use areas and an evaluation of the acoustical performance of each building exposed to the increase. Since this level of analysis is infeasible at this programmatic stage, direct and cumulative impacts remain significant and not mitigated.

In order to determine the extent of this noise impact within the cumulative Project Area, the Noise Analysis (Appendix E) contains an assessment of future noise levels based on cumulative traffic volumes (Alternative 7). As shown in Table 5.6-4, buildout of the

Proposed Project would result in the following road segments experiencing an increase in traffic sufficient enough to increase the noise level by 3 decibels or greater than analyzed in the 2005 GPU/GDP EIR:

- Otay Valley Road from La Media Road to SR-125
- Otay Valley Road from SR-125 to Otay Villa Road
- Otay Valley Road from Otay Villa Road to Eastlake Parkway
- Heritage Road from Main Street to Avenida de las Vistas
- Heritage Road from Avenidas de las Vistas to City Boundary
- La Media Road from Main Street to Otay Valley Road

The noise contour maps included in Chapter 5.6 of this SEIR are based on this cumulative condition.

Future residential developments constructed adjacent to these segments may be subjected to noise impacts associated with use of these roads. Therefore, like the conclusion in the 2005 GPU/GDP EIR, the additional cumulative traffic will result in significant unmitigated cumulative noise impacts.

6.7 Public Services

The cumulative impact analysis for public services is based on the City GP and Threshold Standards. Development of the cumulative area would increase the overall population growth of the City beyond that contemplated in the 2005 GPU/GDP EIR resulting in increased demands for fire/emergency services, police services, schools, libraries, and parks. The increased demands, however, will be accommodated through the maintenance of Threshold Standards prior to discretionary project approval. Specifically, Objective GM 1 assures public facilities and services are available to residents and visitors of the City in a timely manner as development occurs. Compliance with the GP would allow individual development projects to avoid adding a cumulatively considerable drain on City resources. Therefore, cumulative impacts associated with public services would be less than significant.

6.8 Public Utilities

6.8.1 Water

Water supply forecasts are based on regional growth projections conducted by SANDAG and shared with the SDCWA. The cumulative effects of water supply are addressed in the 2005 GPU/GDP EIR. The 2005 GPU/GDP EIR concludes that because the demand for water is expected to increase along with the increase in population, and because a long-term water supply is not assured, the supply of water is considered a cumulatively significant issue. Table 6-4 shows the cumulative increase in water demands resulting from development of the cumulative Project Area. These numbers assume 20 percent reductions in usage rates as required by City ordinance. Section 5.8.1.4 of this SEIR provides specific details relating to the calculation of water usage rates.

TABLE 6-4
PROJECTED WATER DEMANDS OF CUMULATIVE AREA

Land Use Type	Total Cumulative Project Area	Water Consumption Rates[1]	Total Demand (gpd)
Single-family Residential	247 du	400 gpd/unit[1]	98,800
Multi-family Residential	6,389 du	205 gpd/unit[2]	1,309,745
Commercial	550,000 sf	0.11 gpd/sf[3]	60,500
Industrial (RTP)	2.2 million sf	0.06 gpd/sf[1]	132,000
Schools	26.4 ac	1,428 gpd/ac	37,699
Parks	50.2 ac	1,725 gpd/ac	86,595
Community Purpose Facility	-1.3 ac	714.4 gpd/ac	-928
TOTAL			**1,724,411**

gpd=gallons per day
sf= square feet
ac= acre
[1]See SEIR Table 5.8-8 for details of usage calculations.

As shown in Table 6-4, the demand for water within the cumulative area is approximately 1.7 million gpd, which is approximately 1.3 million gpd more than the Proposed Project. In addition to the 2008 WRMP Update (Revised November 2010) including the cumulative Project Area in their list of major development plans, these projects are also included in the CWA 2010 UWMP and the OWD 2010 UWMP. Therefore, while future projects are accounted for in long-term water supply documents they would be required to comply with the requirements of SB 610 and SB 221, the application of GP and GDP objectives, and the implementation of mitigation measures, to assure that water supply

would be specifically available to adequately serve the projects. At this level of analysis, cumulative water supply impact would remain significant and unmitigated.

6.8.2 Wastewater

As discussed in Section 5.8.2.2, the Salt Creek Interceptor Technical Sewer Study for the South Otay Ranch (PBS&J 2010) provides an update to the City's Wastewater Master Plan to identify wastewater flow consistent with the approved 2005 GPU.

Based on the probable future projects Table 6-5 shows the cumulative increase in sewer demands resulting from development within the cumulative area.

TABLE 6-5
PROJECTED WASTEWATER FLOW OF CUMULATIVE AREA

Land Use Type	Total Cumulative Project Area	Waste Water Usage Rates[2]	Total Projected Flow (gpd)
Single-family Residential	247 du = 247 EDU	265 gpd/EDU	65,455
Multi-family Residential	6,389 du = 4,791.75 EDU[1]	265 gpd/EDU	1,269,814
Commercial	14.7 ac	2,500 gpd/ac	36,750
Industrial (RTP)	85 sf	2,500 gpd/ac	212,500
Schools	26.4 ac	2,500 gpd/ac	660,000
Parks	50.2 ac	500 gpd/ac	25,100
TOTAL			**2,269,619**

[1]The cumulative projects' 6,389 multi-family dwelling units equates to 4,791 EDU (Pursuant to 2002 Subdivision Manual, See Table 5.8-10.)
[2]See Table 5.8-12
Total Projected Flow rounded up to nearest whole number.

As shown in Table 6-5 , the anticipated wastewater flow for the cumulative area would be approximately 2.3 million gallons per day, which is approximately 1.8 million gpd greater than the Proposed Project's wastewater flow. While flow projections would result in a cumulative increase in demands on the Salt Creek Interceptor, no additional deficiencies beyond those identified in Chapter 5.8.2 would occur. As discussed in Chapter 5.8.2, these deficiencies are located upstream from the Proposed Project and are not the result of increased wastewater generated by the Proposed Project. Therefore, cumulative impacts to wastewater would be less than significant.

The City currently has capacity rights in the METRO system of 20.864 mgd. Buildout under the cumulative condition (which includes the Bayfront Redevelopment Project and

County land uses) will result in a total Citywide estimated wastewater generation of 9.9 MGP. The City will need to acquire additional capacity in the METRO system and/or construct a new wastewater treatment plant to meet the needs of all cumulative projects. Policies in the GP and GDP require that the Proposed Project provide a public facilities financing plan that articulates needed facilities and identifies funding mechanisms, as well as the authority to withhold discretionary approvals and subsequent building permits from projects that are out of compliance with threshold standards. Implementation of these policies would be self mitigating. As such, cumulative impacts to wastewater would be less than significant, as concluded in the 2005 GPU/GDP EIR.

6.8.3 Integrated Waste Management

Development within the cumulative area would result in an increased demand for solid waste disposal compared to that analyzed in the 2005 GPU/GDP EIR.

Based on the probable future projects, Table 6-6 shows the cumulative increase in solid waste generation resulting from development within the cumulative Project Area.

TABLE 6-6
PROJECTED SOLID WASTE GENERATION OF CUMULATIVE AREA

Land Use Type	Total Cumulative Project Area	Solid Waste Generation Rates[1]	Total Projected Solid Waste (tons[2])
Single-family Residential	247 du	4,161 lbs/ unit/yr	514
Multi-family Residential	6,389 du	3,139 lbs/ unit/yr	10,028
Commercial	500,000 sf	16.79 lbs/sf/yr	4,198
Industrial (RTP)	2,221,560 sf	16.79 lbs/sf/yr	18,650
Schools	1,149,984 sf	.0013 tons/sf/yr	1,495
Parks	50.2 ac	4.76 tons/ac/yr	239
Community Facility	-56,628 sf	.0057 ton/sf/yr	323
TOTAL			**35,447**

[1]See Table 5.8-13.
[2]tons are calculated by multiplying lbs by .0005
sf is calculated by multiplying acres by 43,560
Total projected flow rounded up to nearest whole number.

As shown in Table 6-5, the anticipated solid waste generation for the cumulative area would be approximately 35,447 tons per year, which is approximately 18,886 tons greater than the Proposed Project's solid waste generation. General Plan Objective GM 1 and associated policies would assure public facilities and services are available in a timely manner as development occurs. Likewise, the PFS and EE Elements of the

General Plan contain objectives intended to encourage the reduction of waste generation and ensure the efficient handling of wastes. Therefore, the Proposed Project would not result in a cumulatively considerable effect on the City's solid waste disposal services.

6.9 Housing and Population

The 2005 GPU/GDP EIR found no feasible mitigation to reduce impacts (such as traffic, air quality, noise, etc.) associated with population and housing increases from the adoption of the GPU Preferred Plan. This is because while residential density limits were increasing, there was no guarantee at the time of the 2005 GPU that homes would actually be built. Therefore, the 2005 GPU/GDP EIR found that cumulative impacts would remain significant and unmitigated.

Buildout within the cumulative area would result in 6,636 new dwelling units resulting in an increase in population of approximately 17,306 new residents. Because this increase in population is due to the homes, and the homes will accommodate the growth, cumulative impacts associated with housing and population growth would be less than significant.

6.10 Global Climate Change

Global climate change is, by its nature, a cumulative issue. This section accounts for cumulative GHG emissions, by multiplying the GHG emissions calculated for the Proposed Project by the coefficient of 1.5, discussed above as representing the overall increase in impacts applied to the cumulative area.

The Cumulative Projects annual GHG emissions would total approximately 333,426.06 $MTCO_2E$ per year. Under BAU, annual GHG emissions would approximate 460,617.01 $MTCO_2E$ per year. These quantities were derived by multiplying the estimates derived through the above BAU and Proposed Project emissions calculations by a factor of 1.5 to reflect the proportionally greater intensity of development allowed through buildout of projects within the cumulative project area.

Table 6-7 shows the estimated annual cumulative increase in GHG emissions utilizing the Proposed Project's reduction in BAU as detailed in Chapter 5.10 of the SEIR, and

assuming future development apply efficiency requirements and standard BAU reductions.

TABLE 6-7
PROJECTED INCREASE IN GHG EMISSIONS OFCUMULATIVE AREA ($MTCO_2E$)

GHG Emission Source	Emissions Projected for the Proposed Project (per year)[1]		Emissions Projected for Cumulative Project Area (per year)[2]
Transportation	68,276.67	Application of cumulative factor of 1.5	102,415.00
Electricity	67,969.80		101,954.71
Natural Gas	22,366.93		33,550.40
Water Use	3,754.95		5,632.43
Solid Waste	8,370.33		12,555.50
Construction	51,545.36		77,318.04
TOTAL	**222,284.04**		**333,426.06**

[1]Takes into account the required reduction in BAU as detailed in Chapter 5.10 of the SEIR
[2]Assumes future projects apply efficiency requirements and standard BAU reductions

Cumulative GHG emissions would approximate 295,830 $MTCO_2E$ per year, an increase of 98,610 $MTCO_2E$ per year over the Proposed Project. A detailed discussion of the cumulative effect of each GHG emission factor is provided in the Global Climate Change Analysis, included as Appendix H to the SEIR. These calculations provide an estimate of the magnitude of GHG emissions that would occur under cumulative conditions. Given that individual projects (within the cumulative area) would be subject to the City's existing Green Building Standards and Increased Energy Efficiency Standards ordinances, and the proposed GPA new policy E.7.8, future emissions from these projects would be ensured to be at least 20 percent below BAU GHG emissions.

The Proposed Project's contribution to these cumulative GHG emissions would not be cumulatively considerable; and cumulative climate change impacts associated is anticipated to be less than significant.

7.0 GROWTH INDUCEMENT

State CEQA Guidelines Section 15126(d), requires that an EIR discuss whether or not a project may be growth inducing. Growth inducement includes, "ways in which the Proposed Project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment." This includes a discussion of whether the project would remove obstacles to population growth. CEQA Guidelines Section 15126.2(d) further states that "it must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment."

This section of the SEIR discusses growth inducement as it relates to (1) increases in land use and population density/intensity; (2) economic growth; (3) construction of additional housing units; and (4) removal of obstacles to population growth.

7.1 Growth Inducement due to Population Growth

As previously discussed, SANDAG is the agency responsible for forecasting regional growth. Specifically, pursuant to SANDAG's Distribution of Population Growth (RCP Figure 7.7, Map 1) approximately 87 percent of population growth over the next decade will occur in the North County coastal areas, in central San Diego, and in the South County areas around the City (RCP July 2004 page 327). Through the RCP, SANDAG provides a broad context in which local and regional decisions can be made to effectively and sustainably handle foreseeable regional population growth. The RCP focuses on the integration of local land use and transportation decisions though implementation of smart-growth principles. Generally, smart-growth refers to the placement of higher-density residential development in areas in and around transit and commercial corridors.

The Proposed Project would accommodate more of the forecasted increase in population in comparison to the 2005 GPU/GDP EIR Preferred Plan. While including residential dwelling units and intensities of land uses greater than that analyzed in the 2005 GPU/GDP EIR, the Proposed Project would result in a more inclusive community, maintain a greater balance between housing and employment, and allow population to grow adjacent to existing urban areas and in proximity to public transit.

As illustrated in Figures 3-5 and 3-7, implementation of the Proposed Project would provide for an increase in the number of residential units within the existing vacant Land Use Change Area. Future SPA Plans will be required to include zoning provisions, development regulations, and design guidelines to ensure that subsequent development is facilitated in a comprehensive and coordinated manner.

In conclusion, as evidenced by one of its objectives, the Proposed Project strives to meet projected population growth and housing needs in accordance with smart-growth principles. To a greater extent than the Preferred Plan analyzed in the 2005 GPU/GDP EIR, the Proposed Project would result in the creation of a higher intensity mixed-use urban environment, through the placement of higher density residential development in areas in and around transit and commercial corridors, while promoting a community that is consistent with surrounding developed neighborhoods. Overall, the Proposed Project would not result in a significant growth impact associated with population growth, because it facilitates a plan to accommodate the City's projected growth.

7.2 Growth Inducement due to Economic Growth

The Proposed Project would provide new residential and employment opportunities within the Otay Ranch GDP area. As people choose to live within the Project Area rather than elsewhere in the San Diego region, a potential for economic growth would evolve. The increased population of the area would further foster economic growth by increasing demand for local retail and stimulating employment opportunities. The economic growth of the Project Area would not be considered growth inducing, because it is tied to the mixed-use facet of a land use plan expected to accommodate such growth. The Proposed Project, itself, provides housing and retail and employment opportunities close to those homes. Therefore, the Proposed Project would not result in significant growth inducement associated with economic growth.

7.3 Growth Inducement due to Construction of Additional Housing

The 2005 GPU/GDP EIR analyzed a Preferred Plan with 5,170 dwelling units in the Land Use Change Area. Buildout of the Proposed Project could result in 880 additional dwelling units, for a total of 6,050 units in the area. The increased number of units would house an additional population of 16,275 residents. Although the Proposed Project would result in additional housing beyond that analyzed in the 2005 GPU/GDP EIR,

implementation of the Proposed Project would accommodate an already projected increase in population (see above Section 7.1).

By adding new residents, the amount of potential consumers would increase, resulting in the need for additional commercial services. As stated above, the Proposed Project is a mixed-use plan, the intention of which is to provide opportunities for both homes and employment. The Proposed Project, in its entirety, is aimed at accommodating population growth projections for the City in an area where growth is already anticipated. Due to the fact that the Proposed Project includes planned commercial growth in the area, it would not be growth inducing with respect to the construction of additional housing.

7.4 Growth Inducement due to Removal of Obstacles to Population Growth

The Proposed Project recognizes that infrastructure capacities would have to be increased to accommodate projected growth. Implementation of the Proposed Project includes public infrastructure improvements that would increase capacity to coincide with future development. However, these improvements would not open up new areas to development, as infrastructure has already been planned.

7.5 Conclusion

While the Proposed Project would result in the development of increased residential and employment capacity compared to that analyzed in the 2005 GPU/GDP EIR, it would not foster unplanned population or economic growth or remove obstacles to additional population growth. Therefore, implementation of the Proposed Project is not considered growth inducing.

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8.0 SIGNIFICANT UNAVOIDABLE ENVIRONMENTAL EFFECTS/IRREVERSIBLE CHANGES

CEQA Guidelines Section 15126.2 (b) and (c) require that the significant, unavoidable impacts of the Proposed Project, as well as any significant irreversible environmental changes that would result from project implementation, be addressed in the EIR.

8.1 Significant Environmental Effects Which Cannot Be Avoided if the Project Is Implemented

In accordance with CEQA Guidelines Section 15126.2 (b), any significant unavoidable impacts of a proposed project, including those impacts that can be mitigated but not reduced to below a level of significance despite the applicant's willingness to implement all feasible mitigation measures, must be identified. The Proposed Project would result in direct and cumulative land use impacts (community character), direct and cumulative landform/visual quality impacts (visual character), direct and cumulative impacts to energy resources (energy supply), cumulative traffic impacts (City of San Diego roadways and freeway mainlines), direct and cumulative air quality impacts (plan consistency, increase in criteria pollutants), direct and cumulative noise impacts (exposure to excessive noise), and direct and cumulative water use (expansion of facilities, additional supplies. These impacts remain significant and unavoidable at this level of review. All other significant impacts identified in Chapters 5.0 and 6.0 of this SEIR are determined to be less than significant or can be reduced to below a level of significance with the mitigation measures identified.

8.2 Irreversible Environmental Changes Which Would Result if the Project Is Implemented

Section 15126.2(c) of the CEQA Guidelines requires that an EIR consider significant irreversible environmental changes that would result from the proposed actions should they be implemented. According to the CEQA Guidelines:

> Uses of nonrenewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary impacts and, particularly, secondary impacts (such as highway improvements which provide access to a previously inaccessible area) generally commit

> future generations to similar uses. Also irreversible damage can result from environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.

Implementation of the Proposed Project would result in the short-term commitment of nonrenewable and/or slowly renewable energy resources and natural resources including lumber and other forest products, sand and gravel, asphalt, steel, copper, lead, other metals, and water due to future construction activities. Both residential and non-residential development would require the long-term commitment of energy resources in the form of natural gas and electricity generated by coal, natural gas, or hydroelectric power. Increased motor vehicle travel would result in the long-term commitment of fossil fuels unless alternative fuel vehicles ultimately replace the internal combustion engine on a broad scale. Other nonrenewable resources that would be affected by future development under the Proposed Project are the conversion of undeveloped land to urban uses. Policies and programs are included in the Proposed Project to mitigate the loss of use of these resources to acceptable levels.

9.0 2005 GPU/GDP EIR SUBJECT AREAS REQUIRING NO CHANGE IN ANALYSIS

Pursuant to CEQA Section 15163, the analysis and conclusions reached in a number of the environmental subject areas contained within the 2005 GPU/GDP EIR do not require supplemental analysis and are not addressed further in this SEIR. This is because the Proposed Project would not result in changes affecting the analysis in the 2005 GPU/GDP EIR, as there were no substantial changes in circumstances nor new information available with respect to each subject area that would trigger a need for supplemental review (CEQA 15162).

These subject areas include:

- Biological Resources
- Cultural resources
- Geology and Soils
- Paleontological Resources
- Agriculture
- Hydrology and Water Quality
- Hazards
- Mineral Resources

Any future environmental review related to these subjects shall be required to refer to the 2005 GPU/GDP EIR.

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10.0 PROJECT ALTERNATIVES

In order to fully evaluate the environmental effects of proposed projects, CEQA mandates that alternatives to a proposed project be analyzed. Section 15126.6 of the State CEQA Guidelines requires the discussion of "a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project" and the evaluation of the comparative merits of the alternatives. The alternatives discussion is intended to "focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project," even if these alternatives impeded to some degree the attainment of the project objectives.

As discussed in Chapters 5.0, Environmental Impact Analysis, and 6.0, Cumulative Impacts, the Proposed Project was evaluated for significant direct and/or cumulative environmental impacts. After analysis of the Proposed Project, significant impacts were identified for land use, landform/visual quality, energy supply, transportation, air quality, noise, and water. Mitigation measures have been identified that would reduce all direct and cumulative impacts to below a level of significance, with the exception of land use (community character), landform/visual quality (visual character-degradation of rolling hills), energy resources (energy supply), transportation (cumulative roadway segments within the City of San Diego), air quality (plan consistency, increase in criteria pollutant), noise (traffic noise to existing receivers), and water (expansion of facilities, additional supplies.

In developing the alternatives to be addressed in this chapter, consideration was given to the ability to meet the basic objectives of the Proposed Project and eliminate or substantially reduce the identified significant environmental impacts.

As identified in Chapter 3.0, the Proposed Project contains the following primary goals:

- Encourage social interaction and a diverse range of services to promote a mix of uses within a village atmosphere.
- Foster the goal of the 2005 GPU to expand the local economy by providing a broad range of business, facilitate provision of services for a University, and provide

employment and housing opportunities that support an excellent standard of living, and improve the ability for residents to live and work locally.

- Create Town Center within newly defined boundaries for Village 8 West and Village 9, as encouraged by the GPU's emphasis on providing a mix of diverse land uses that meets community needs.

- Develop a circulation plan that de-emphasizes the automobile, and places greater reliance on transit and pedestrian circulation.

- Target higher density and higher intensity development into specific focus areas in order to protect stable residential neighborhoods and to create mixed-use urban environments that are oriented to transit and pedestrian activity. This targeted development will be well-designed, compatible with adjacent areas, and contribute to the continued vitality of the City's economy.

- Allow for higher density residential development in order to encourage the development of off-campus student housing within the University Town Center adjacent to the University.

- Provide opportunities for higher density development that accommodates off-site Student and Faculty Housing for the University.

- Provide opportunities for goods and services and other ancillary uses necessary to support the University and RTP to be provided within the University.

- Provide access to, and connections between, the City's open space and trails network and the regional network, in accordance with the Chula Vista MSCP Subarea Plan, Chula Vista Greenbelt Master Plan, and Otay Valley Regional Park Concept Plan.

- Conserve the City's sensitive biological and other valuable natural resources.

While the 2005 GPU/GDP EIR included a number of alternatives, incorporated by reference, four additional alternatives are selected for the SEIR are discussed, and potential impacts detailed below. They include the following:

- No Project–No Build Alternative
- No Project–No Change in Existing Plan Alternative
- Reduced Density Alternative
- La Media Road Alternative

A summary of the buildout potential of each alternative is shown in Table 10-1. Another alternative considered but eliminated from further analysis included the development of the Proposed Project at another location. This was determined to be infeasible because the Project proponent owns the properties in question and the goal is to complete the vision of the Otay Ranch GDP, which can only be accomplished at the current project location.

An analysis of the alternatives to the Proposed Project is presented in Sections 10.1 through 10.4, below. Each subject area included in Chapter 5.0 (Environmental Impact Analysis) has been evaluated under each alternative. It is noted that the subject areas of Biology, Cultural Resources, Geology and Soils, Paleontological Resources, Agriculture, Hydrology and Water Quality, Hazards, and Mineral Resources were determined to not require supplemental analysis based on the Proposed Project (see Chapter 9.0); however, they are included in the analysis of alternatives. A concluding Section 10.5 provides a summary of the comparative assessment.

TABLE 10-1
COMPARISON OF DEVELOPMENT WITHIN THE LAND USE CHANGE AREA

	Proposed Project	No Project–No Build Alternative	No Project–No Change in Existing Plans Alternative (2001 General Plan Land Uses)	Reduced Project Alternative	La Media Road Alternative
Single-family Units	887	0	642	887	6,050
Multi-family Units	5,163	0	656	4,746	
Population	16,275	0	3,830	15,198	16,275
Commercial (ac)	1,800,000 sf	0	15.6	32.3	32.3
Potential Schools	3 Elementary 1 Middle	0	1 Elementary 1 Middle	3 Elementary 1 Middle	3 Elementary 1 Middle
Parks (ac)	55.4	0	3.0	55.4	55.4
Regional Technology Park (ac)	85	0	0	85	85
University	50	0	215	50	50

sf = square feet

As required under Section 15126.6(e)(2) of the CEQA Guidelines, the SEIR must identify the environmentally superior alternative. Pursuant to the CEQA Guidelines, if the No Project Alternative is determined to be the most environmentally superior project, then another alternative among the alternatives evaluated must be identified as the environmentally superior project. Section 10.6 identifies the Environmentally Superior Alternative.

10.1 No Project–No Build Alternative

CEQA Guidelines Section 15126.6(e)(3)(B) states that the No Project–No Build Alternative "means 'no build' wherein the existing environmental setting is maintained." The No Project–No Build Alternative, presents the scenario where the Land Use Change Area would remain in its present vacant condition.

As discussed in Section 10.5.1, below, this alternative would not meet any of the basic objectives of the Proposed Project. Additionally, because land use designations within the Land Use Change Area do exist that allow some development, the City would be required to change these land uses to Open Space if this alternative were to be selected.

10.1.1 Land Use

The No Project-No Build Alternative would have less of an impact to land use compared to the Proposed Project. The No Project–No Build Alternative would avoid land use impacts, including community character and regulatory conflicts because it does not propose construction of any kind. The Land Use Change Area would not be subject to high-density development that could contrast with the existing undeveloped character of surrounding areas.

Implementation of the Proposed Project would require conformance to relevant GP objectives, including the creation of specific future design standards to address potentially significant community character issues. However, impacts associated with the Proposed Project would remain significant and unmitigated until such standards are developed and adopted, generally at the future SPA Plan level.

Since the Land Use Change Area would remain in its undeveloped state, impacts associated with land use compatibility resulting from the No Project–No Build Alternative would be less than significant and less than the Proposed Project.

10.1.2 Landform/Visual Quality

The No Project-No Build Alternative would have no visual impacts compared to the Proposed Project. The existing visual character of the Land Use Change Area is that of vacant lands and rolling hills. The No Project–No Build Alternative would not change the existing aesthetic make up or visual quality of the Land Use Change Area and views into the area would not depict high density development that could contrast with the existing undeveloped nature of the surrounding areas. The No Project-No Build Alternative would avoid visual impacts, including the impairment of visual resources and visual character because it does not change the integrity of the existing site conditions.

Implementation of the Proposed Project would require conformance to relevant GP objectives including the creation of future design standards to address potentially significant visual quality issues. However, impacts associated with the Proposed Project would remain significant and unmitigated until such standards are developed and adopted, generally at the future SPA Plan level.

Impacts associated with landform alteration or visual quality resulting from the No Project–No Build Alternative would be less than significant and less than the Proposed Project.

10.1.3 Energy Resources

The No Project–No Build Alternative would not require any increase in the consumption of electricity, natural gas, or gasoline, because no new uses would be introduced to the Land Use Change Area. Therefore, there would be no impacts to energy resources as a result of this alternative.

Implementation of the Proposed Project would potentially accommodate approximately 880 additional dwelling units to the Land Use Change Area. This would increase demands for electricity and natural gas, as well as gasoline needed to serve additional vehicles within the Land Use Change Area. While future projects would be required to meet the mandatory energy standards of all current regulations, City encouraged LEED

green building practices, and relevant GP objectives, there is no guarantee that resources will be available when needed. Because there is no assurance from SDG&E of a long-term supply of energy in the future, impacts associated with the Proposed Project's projected electricity demands would be significant and unmitigated.

Since there would be no new demands for energy resources, under the No Project–No Build Alternative, the level of impacts would be less than significant and less than the Proposed Project.

10.1.4 Transportation

The majority of the study area roadways are currently operating at LOS D or better. There are nine roadway segments currently operating at LOS D or worse. The No Project–No Build Alternative would not add any additional trips on the existing roadways and these conditions would remain in the near-term. Based on the analysis in the TIA, there would be three City roadways operating at LOS D or worse and four freeway mainline locations operating at LOS E or worse in the 2030 condition under the No Project–No Build Alternative.

Implementation of the Proposed Project would generate 113,073 ADTs, resulting in potentially significant direct traffic impacts along four freeway segments. In the cumulative condition, potentially significant traffic impacts are anticipated along one City road segment, three City of San Diego road segments, and 15 freeway segments. Implementation of proposed mitigation measures would reduce all traffic impacts to less than significant with the exception of those associated with the City of San Diego roadways, which would remain significant and unmitigated.

While under this alternative, no road improvements would occur and area roadways would remain deficient, no additional traffic would contribute to the degrading roadways. Impacts would be addressed pursuant to the GPU, which found that while operational improvements would reduce impacts it may not be to a less than significant level. However, through the TDIF and Traffic Signal Fee programs direct and cumulative impacts associated with planned growth pursuant to the GPU would be mitigated. Therefore, the level of traffic impacts resulting from the No Project–No Build Alternative would be less than significant and less than the Proposed Project.

10.1.5 Air Quality

Under the No Project-No Build Alternative, maintenance of the existing condition of the Land Use Change Area would eliminate short-term emissions associated with grading and construction activities. Long-term operational emissions would also be less under this alternative, as there would be no new residential or additional commercial uses generating additional traffic or stationary source emissions.

Implementation of the Proposed Project would result in significant and unmitigable impacts to air quality plan consistency, because the proposed population would be greater than the population forecasts used in regional air quality plans. Additionally, the Proposed Project could result in significant impacts due to emissions of criteria pollutants. While application of GP objectives and mitigation measures would reduce impacts, it would not be to a less than significant level.

Since the No Project–No Build Alternative would not result in the construction of any uses within the Land Use Change Area, air quality impacts would be less than significant and less than the Proposed Project.

10.1.6 Noise

Under the No Project–No Build Alternative, retention of the existing conditions would eliminate the short-term construction-related noise impacts associated with construction of the Proposed Project and would maintain existing operational noise levels that are largely attributed to existing off-site traffic in the area. There would be no increase in traffic or associated noise, and there would be no new sensitive receptors exposed to increased noise levels.

Implementation of the Proposed Project could result in significant noise impacts due to the placement of residential, school, and park land uses within the 65 CNEL contour for project roadways, and/or mixed-uses that may include office and professional components that are sited within the 70 CNEL contour for project roadways. In addition, interior noise levels for multi-family residential uses located within the 60 CNEL contour for project roadways have the potential to exceed 45 CNEL. New commercial development in proximity to residential uses could also result in noise levels that exceed the City’s Noise Ordinance limits. While compliance with the GP would reduce impacts

associated with noise exposure, in the absence of specific project level noise studies, impacts remain significant and unmitigated.

Because there would be no increase in noise levels or addition of sensitive receptors under the No Project–No Build Alternative, impacts would be less than significant and less than the Proposed Project.

10.1.7 Public Services and Utilities

The No Project–No Build Alternative would not increase the population or land use intensity within the Land Use Change Area and, therefore, there would be no impacts associated with the increased demand for fire and emergency, police services, parks and recreation, schools, or libraries. Likewise, there would be no additional need to increase facilities for water, wastewater or, solid waste.

Implementation of the Proposed Project would not result in any significant impacts associated with public services despite increased demand because conformance with the City's Threshold Standards assures that future development would not be approved unless adequate public services are available. The Proposed Project includes potential sites for three elementary and one middle school, as well as approximately 55.4 acres of parkland to accommodate the population. While the Proposed Project would increase demands on wastewater and solid waste facilities, impacts would be less than significant due to existing capacity within the Salt Creek Interceptor system. GP policies assure that project development would not move forward without adequate funding for additional METRO capacity. Impacts to water demand and facilities would be significant and unmitigated due to the uncertainty of supply.

Because there would be no additional demand for public services or utilities under the No Project–No Build Alternative, impact would be less than the Proposed Project.

10.1.8 Population and Housing

The Land Use Change Area is currently vacant and the No Project–No Build Alternative would not result in the construction of any housing. It would not displace existing housing or people necessitating the construction of replacement housing elsewhere. Therefore, no impacts to population and housing would result under this alternative.

Construction of new residences would not result in the temporary displacement of existing residents, nor result in the need for the construction of replacement housing elsewhere. Additionally, this increase in the amount of homes within the Land Use Change Area conforms to the smart-growth principles of the RCP and the goals of the City's Housing Element.

The No Project–No Build Alternative would not contribute to the provision of necessary housing within a smart-growth area; thus, impacts would be greater than the Proposed Project.

10.1.9 Global Climate Change

Under this alternative, there would be no new residential or additional commercial uses generating traffic or consuming electricity and water (major causes of GHG emissions). On a local basis, the No Project-No Build Alternative would not add any new GHG emissions to the region in excess of the existing baseline condition.

As detailed in Chapter 5.10, implementation of the Proposed Project would generate approximately 222,284.04 $MTCO_2E$ of GHG emissions each year, which is a 28 percent reduction in GHG emissions compared to the BAU condition. This reduction is due primarily to state mandated improvements in vehicle engine and fuel technology and represents a less than significant impact to global warming.

This alternative would not generate any new GHG emissions. Therefore, while the Proposed Project's impacts would be less than significant, impacts associated with this alternative would be less than the Proposed Project.

10.1.10 Biological Resources

As illustrated in Figure 5.3-2 of the 2005 GPU/GDP EIR, the primary vegetation community within the Land Use Change Area is agriculture. The No Project–No Build Alternative would avoid impacts to biological resources, because no development would occur.

The removal of on-site vegetation, as discussed in the 2005 GPU/GDP EIR, could result in significant impacts. Impacts associated with the Proposed Project would be similar and require no supplemental analysis. Based on the 2005 GPU/GDP EIR,

implementation of the Proposed Project requires future projects to conform with the local, state, and federal regulations, as well as the City's MSCP Subarea Plan and GP objectives, assuring that any biological impacts would be reduced to a level that is less than significant.

Because there would be no disturbance to biological resources under the No Project–No Build Alternative, impacts would be avoided and would be less than the Proposed Project's.

10.1.11 Cultural Resources

As illustrated in Figure 5.4-1 of the 2005 GPU/GDP EIR, the Land Use Change Area has a high potential for sensitive cultural resources. The No Project–No Build Alternative would avoid impacts to cultural resources, because no development would occur.

Disturbance of sensitive resources as a result of future development as discussed in the 2005 GPU/GDP EIR could result in significant impacts to cultural resources. Implementation of the Proposed Project requires supplemental analysis because it would result in the same impacts. The mitigation measures identified in the 2005 GPU/GDP EIR would apply to the Proposed Project, assuring that all undeveloped lands are examined for potential cultural resources prior to development and that a conservation program is adopted if necessary. Through implementation of this measure, the level of impacts to cultural resources associated with the Proposed Project would be reduced to less than significant.

Because there would be no disturbance to cultural resources under the No Project–No Build Alternative, impacts would be avoided and their level be less than the Proposed Project's.

10.1.12 Geology and Soils

As illustrated in Figure 5.5-2 of the 2005 GPU/GDP EIR, the Land Use Change Area contains expansive soils and potential landslides. Because no additional development would occur the No Project–No Build Alternative, no impacts would result due to potential geological hazards.

Pursuant to the 2005 GPU/GDP EIR future construction activities have the potential to disturb sensitive soils and result in potentially significant impacts caused by landslide, liquefaction, and/or seismic activity. Implementation of the Proposed Project would result in similar disturbances and require compliance with the Uniform Building Code (UBC), which mandates that future construction include structural design measures to protect against potential seismic activity. Likewise, the Proposed Project would be in conformance with specific GP policies that require detailed geological investigations and soil studies to be completed prior to approval of subsequent development projects. Through GP and regulatory compliance, impacts associated with geological hazards for the Proposed Project would be less than significant.

Because no building would occur under the No Project–No Build Alternative, impacts associated with geology and soils would be avoided and their level be less than the Proposed Project's.

10.1.13 Paleontological Resources

As discussed in Chapter 5.6 of the 2005 GPU/GDP EIR, the Land Use Change Area is located in a highly sensitive area for paleontological resources. The No Project–No Build Alternative avoids potentially significant impacts within the Project Area, because no additional development would occur as a result of this alternative.

Pursuant to the 2005 GPU/GDP EIR future construction activities would have the potential to result in significant impacts to paleontological resources as a result of construction activities. Implementation of the Proposed Project would result in similar disturbance potential. The application of mitigation measures addressed in the 2005 GPU/GDP EIR would assure that specific grading thresholds are used during construction of potentially sensitive lands and that a conservation program is adopted if necessary. Through implementation of these measures, impacts related to the Proposed Project are reduced to less than significant.

Because there would be no disturbance to paleontological resources under the No Project–No Build Alternative, impacts would be avoided and their level reduced to less than the Proposed Project's.

10.1.14 Agriculture

As discussed in Chapter 5.7 of the 2005 GPU/GDP EIR, the City does not contain any lands specifically designated for agricultural uses; however, the Land Use Change Area is composed of previously tilled soils that evidence past agricultural uses. As illustrated in Figure 5.7-2 of the 2005 GPU/GDP EIR, no prime or important farmlands exist within the Land Use Change Area. No land disturbance would occur as a result of the No Project–No Build Alternative, and allowable agricultural uses could occur on both an interim and long-term basis. Therefore, there would be no impacts to agriculture as a result of this alternative.

Implementation of the GPU Preferred Plan as analyzed in the 2005 GPU/GDP EIR would result in a change from the primarily natural condition to additional developed land. However, the 2005 GPU/GDP EIR concluded that because there is no prime or important farmland within the Land Use Change Area that would be converted as a result of the proposed land use changes, no impacts to agricultural resources would occur. This conclusion would be the same for the Proposed Project.

No impacts would occur under both the Proposed Project and the No Project–No Build Alternative. However, because land would remain available for agricultural uses under the No Project–No Build Alternative, the level of impacts related to the latter would be considered less than the Proposed Project's.

10.1.15 Hydrology and Water Quality

The receiving waters for the Project Area, the Pacific Ocean shoreline and San Diego Bay, are identified on the state's current list of impaired waters. The No Project–No Build Alternative would not result in any increase to pollutants that would further impair these waters. Therefore, there would be no impacts to hydrology and water quality associated with this alternative.

As discussed in Chapter 5.9 of the 2005 GPU/GDP EIR, implementation of the 2005 GPU Preferred Plan could result in both short-term hydrology and water quality impacts during construction and long-term impacts after development as a result of increased amounts of impervious surfaces and ornamental landscaping. This could direct increased runoff to drainage basins, municipal storm sewer systems, and eventual drainage to surface waters and/or the ocean. However, future development within the

Land Use Change Area would be required to conform to all municipal permit requirements and GP objectives, including the incorporation of BMPs, which would reduce run-off to a level that would be considered less than significant. Implementation of the Proposed Project would have similar effects and would be required to conform to the same regulations resulting in less than significant impacts.

The level of impacts would be less than significant under both the Proposed Project and the No Project–No Build Alternative. However, because there would be no change in the hydrology or water quality under the alternative, the level of its impacts would be considered less than the Proposed Project's.

10.1.16 Hazards/Risk of Upset

Under the No Project–No Build Alternative, there would be no potential for the release of hazardous materials as a result of transport, use, disposal, or accidental release. Additionally, although the Land Use Change Area is located within a high wildland fire hazard area, no impacts resulting from fire would occur because no new residences would be placed in proximity to wildland fuel.

As discussed in Chapter 5.15 of the 2005 GPU/GDP EIR, implementation of the 2005 GPU Preferred Plan would not result in significant impacts resulting from the routine transport, use, disposal, or accidental release of hazardous materials, because—pursuant to the GP—the Land Use Change Area is located within a "general area" where such activities would be allowed.

Figure 5.15-11 of the 2005 GPU/GDP EIR illustrates a significant impact due to the placement of high-density residential uses adjacent to a high wildland hazard area.

Implementation of the Proposed Project would place similar land uses within this same area. GP compliance, including the adoption of a brush management program for all development within the Land Use Change Area, would be required for the Proposed Project. Through implementation of the brush management program, hazardous impacts associated with the Proposed Project would be less than significant.

Impacts would be less than significant under both the Proposed Project and the No Project–No Build Alternative; however, because there would be no placement of homes

within the high wildland hazard areas under the alternative, the level of impacts would be considered less than the Proposed Project's.

10.1.17 Mineral Resources

As illustrated in Figure 5.16-1 of the 2005 GPU/GDP EIR, the Land Use Change Area is partially located within a MRZ-2 zone, which is considered to be a regionally significant area for aggregate resources. The No Project–No Build Alternative avoids potentially significant impacts to aggregate resources, because no additional development would occur.

The 2005 GPU/GDP EIR concluded that Implementation of the Preferred Plan would result in the construction of a high-density residential and mixed-use community, which would prevent future extraction of aggregate materials from the Project Area. However, impacts are considered less than significant due to the limited area actually included in the MRZ-2 zone. Additionally, the majority of this area is located within designated preserve land and subject to the Subarea Plan with respect to allowable extraction. Because impacts associated with the Proposed Project would be the same as the 2005 GPU Preferred Plan in terms of placement of development within the Land Use Change Area, impacts to mineral resources associated with the Proposed Project are also considered less than significant.

The level of impacts would be less than significant under both the Proposed Project and the No Project–No Build Alternative. However, because there would be no disturbance to mineral resources under the alternative, its level of impacts would be considered less than the Proposed Project's.

10.2 No Project–No Change in Existing Plans Alternative

CEQA Guidelines 15126.6(e)(3)(A) states that when a proposed project is the revision of an existing land use or regulatory plan, policy, or ongoing operation, the "no project" alternative will be the continuation of the existing plan, policy, or operation into the future.

The No Project–No Change in Existing Plans Alternative considers the situation where there are no changes to the City's land use plans and subsequent development projects within the Land Use Change Area would be subject to the existing land use plan

(Figure 10-1). These are the pre-2005 GPU land use designations that remain within the Deferral Area, after the City Council deferred approval of the 2005 GPU land uses in this part of the City.

As shown in Table 10-1, existing land uses within the Land Use Change Area include 1,298 dwelling units and an estimated population of 3,830 residents; two public school sites; 15.6 acres of commercial; and 3.0 acres of parklands.

10.2.1 Land Use

The No Project–No Change in Existing Plans Alternative represents future buildout of the Land Use Change Area in accordance with the existing land use plan. The land uses under this alternative are composed of primarily RLM and MUR residential uses and industrial designations. The land use pattern centers on the MUR area with surrounding uses allowing low- to medium-density residences. The industrial area is located further out from the center and known as the University area. The density and intensity of these land uses is not as consistent with the smart-growth vision of the RCP and GPU as the Proposed Project. While the future adoption of SPA Plans would include design standards, at this level of analysis, community character impacts could remain significant and unmitigated until such standards are developed and adopted, generally at the future SPA plan level.

The Proposed Project proposes a plan that contains higher density and intensity of uses than the No Project–No Change in Existing Plans Alternative. Implementation of the Proposed Project requires conformance to relevant GP objectives including the creation of specific future design standards to address potentially significant community character issues. However, like the No Project–No Change in Existing Plans Alternative, impacts associated with the Proposed Project would remain significant and unmitigated, until such standards are developed and adopted at the time of a future SPA Plan.

While community character would be generally the same as the Proposed Project, overall, impacts associated with the compatibility of existing land use plans would be greater under this alternative.

Map Source: City of Chula Vista

FIGURE 10-1

Existing General Plan Land Uses

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The RCP smart-growth concept map identifies the proposed villages as well as a number of locations in proximity to the Land Use Change Area as planned and/or potential smart-growth areas. In the absence of a land use plan that can accommodate increased population growth, the RCP's smart-growth vision for the Project Area could not be fulfilled. Therefore, impacts associated with compatibility with the RCP would be greater than the Proposed Project.

10.2.2 Landform/Visual Quality

The No Project–No Change in Existing Plans Alternative would result in similar visual impacts compared to the Proposed Project. While the No Project–No Change in Existing Plans Alternative would result in the construction of a less dense and less intense community, any degree of development would result in a change to the existing aesthetic make-up and visual quality of the Land Use Change Area, including the rolling hills. Like the Proposed Project, the No Project–No Change in Existing Plans Alternative would adhere to GP objectives and policies relating to design standards. While the degree of impact would be less as a result of the lessened development potential under this alternative, the loss of the open space and rolling hills would remain significant and unmitigated until such standards are developed in future SPA Plans.

Therefore, while impacts associated with landform alteration or visual quality resulting from the No Project–No Change in Existing Plans Alternative would remain significant, the magnitude of the change would be somewhat less than the Proposed Project's.

10.2.3 Energy Resources

The No Project–No Change in Existing Plans Alternative would accommodate development of 4,752 fewer dwelling units and approximately 16.7 fewer acres of commercial space than the Proposed Project. This translates to a decreased demand for electricity, natural gas, and gasoline needed to serve the residents and businesses. However, as stated in the GPU EIR, there is no assurance from SDG&E of a long-term supply of energy in the future and like the Proposed Project, impacts associated with the any additional electricity demands may be significant and unmitigated. Therefore, impacts associated with energy resources resulting from the No Project–No Change in Existing Plans Alternative would be generally the same as those of the Proposed Project.

10.2.4 Transportation

The No Project–No Change in Existing Plans Alternative would result in approximately 54,900 ADT on roadways, which is approximately 58,173 ADT fewer than the Proposed Project's. Additionally, buildout under the adopted plan would construct the road segment of La Media Road from Otay Valley Road to Lonestar Road. This roadway would cross the Otay River Valley, presumably via a bridge. Buildout under the No Project–No Change in Existing Plans Alternative would place 44,800 ADT on this portion of La Media Road. It can be assumed that this would relieve traffic from other parallel roadways resulting in reduced traffic congestion on those roads.

The Proposed Project would result in cumulative impacts to roadway and freeway segments in the cities of Chula Vista and San Diego; the City of San Diego roadways would remain significant and unmitigated.

Overall, while the No Project–No Change in Existing Plans Alternative would generate less traffic, the impacts would be significant and unmitigated as described in the 2005 GPU/GDP EIR, though to a lesser degree than the Proposed Project's.

10.2.5 Air Quality

The current RAQS are based on the existing plans that comprise the No Project–No Change in Existing Plans Alternative. Therefore, impacts associated with air quality plan consistency would not be significant under this alternative. Buildout of this alternative would increase development, resulting in potentially significant impacts associated with increased air emissions. Operational impacts resulting from particulate emissions for which the region is not in attainment would remain unmitigable under this alternative.

Implementation of the Proposed Project would result in increases to land use intensity and density above that contained in the existing plans and related RAQS. Absent revisions to the RAQS, no mitigation is available and impacts would be significant and unmitigable. Implementation of the Proposed Project would result in an increase in source emissions. Mitigation associated with dust control during construction would reduce these impacts to less than significant; however, despite project design promoting mixed land use patterns and creating walkable neighborhoods as encouraged by the General Plan, operational impacts would be significant and unmitigable.

The No Project-No Change in Existing Plans Alternative would be consistent with the existing RAQS. Therefore, impacts associated with consistency with applicable air quality plans would be less than significant and less than the Proposed Project's. Operational impacts would also be less than the Proposed Project. Overall, buildout of this alternative would result in 4,752 fewer dwelling units and, as stated above, 58,173 fewer ADT counts than the Proposed Project's. With less fuel hearth combustion potential and fewer mobile source emissions, air quality impacts would be less under this alternative.

10.2.6 Noise

Under the No Project–No Change in Existing Plans Alternative, short-term construction noise would occur with any new development activity, but like the Proposed Project, regulations on equipment and hours of operations would ensure that construction noise impacts would be less than significant.

Because this alternative would result in less intense and less dense land uses than the Proposed Project, traffic noise and change in ambient noise would be less because traffic volumes would not increase to the same extent as the Proposed Project. As shown in Figure 10-1, residential land uses under the existing GP would still be located in proximity to noise generating surrounding sources, such as the SR-125. However, it is more likely under this alternative that homes would be spread out away from noise generating uses. Overall noise impacts would be less than those of the Proposed Project.

10.2.7 Public Services and Utilities

Buildout pursuant to the No Project–No Change in Existing Plans Alternative would result in construction of 1,298 residential units. This would translate to less of a demand on public services and utilities compared to the Proposed Project. As such, while there would still be a need for public services and utilities, overall impacts related to the demand on such services would be less than significant and less than the Proposed Project.

10.2.8 Population and Housing

The total population under the No Project–No Change in Existing Plans Alternative would be 3,830. Development under this alternative would result in 1,298 residential units; the Proposed Project would increase that number by an additional 880 units. Like the Proposed Project, the No Project–No Change in Existing Plans Alternative would not result in the displacement of homes or necessitate the construction of homes elsewhere. Therefore, population and housing impacts associated with this alternative would not be significant and the same as the Proposed Project.

Since the number of residential units would be less, buildout under the No Project–No Change in Existing Plans Alternative would not provide the same level of housing opportunities as the Proposed Project. Additionally, this alternative would not promote smart-growth principles as envisioned by the RCP and GPU, including mixed-use village centers, where residential uses would be integrated with employment and commercial uses, and transit opportunities, as in the Proposed Project. Therefore, impacts associated with the No Project–No Change in Existing Plans Alternative would be greater than the Proposed Project.

10.2.9 Global Climate Change

The No Project–No Change in Existing Plans Alternative would involve development of residential and commercial land uses at a reduced scale compared to the Proposed Project. Under this alternative, the total population would be lower and would result in approximately 58,173 fewer ADT counts than the Proposed Project's. These factors combined would reduce the overall emissions resulting in the production of fewer GHG emissions. Through GP and regulatory compliance, both the Proposed Project and the No Project–No Change in Existing Plans Alternative would ultimately require reduction in GHG emissions. Due to the reduced scale and resultant GHG emissions of this alternative, impacts associated with the No Project–No Change in Existing Plans Alternative would be less than the Proposed Project.

10.2.10 Biological Resources

While the No Project–No Change in Existing Plans Alternative would result in a less dense and less intense development, the development footprint (area of disturbance) would be generally the same as that analyzed in the 2005 GPU/GDP EIR for the

Preferred Plan, and therefore, similar to the Proposed Project. Buildout under the No Project–No Change in Existing Plans Alternative would entail the removal of vegetation throughout the Land Use Change Area, except for the small area designated open space and open space preserve. The removal of on-site vegetation could result in significant impacts; however, like the Proposed Project, the No Project–No Change in Existing Plans Alternative would be required to conform with local, state, and federal regulations, and the City's MSCP Subarea Plan and GP objectives, and thus, assure that biological impacts would be reduced to a level that is less than significant.

Therefore, impacts associated with biological resources resulting from the No Project–No Change in Existing Plans Alternative would be generally the same as the Proposed Project's.

10.2.11 Cultural Resources

While the No Project–No Change in Existing Plans Alternative would result in a less dense and less intense development, the development footprint (area of disturbance) would be generally the same as that analyzed in the 2005 GPU/GDP EIR for the Preferred Plan, and therefore, similar to the Proposed Project. Buildout under the No Project–No Change in Existing Plans Alternative could result in the disturbance of sensitive resources. Implementation of this alternative would require adherence to GP objectives and policies and would be required to include mitigation measures as stated in the 2005 GPU/GDP EIR. Specifically, all undeveloped lands shall be examined for potential cultural resources prior to development, and a conservation program shall be adopted if necessary. Through implementation of this measure, the level of impacts to cultural resources is reduced to less than significant.

Because the Proposed Project will also be required to implement the same mitigation measures, impacts associated with cultural resources resulting from the No Project–No Change in Existing Plans Alternative and the Proposed Project would be generally the same.

10.2.12 Geology and Soils

As discussed above, the geologic formations and soils that underlie the Land Use Change Area are susceptible to expansive soils and potential landslides. Because damage can occur to structures, new development is required to conform to GP

objectives and regulations, and engineering designs to maintain structures that can withstand certain seismic events. Development under the No Project–No Change in Existing Plans Alternative would be regulated by these standards, as would the Proposed Project. Therefore, impacts associated with geological risks resulting from the No Project–No Change in Existing Plans Alternative and the Proposed Project would be generally the same.

10.2.13 Paleontological Resources

As discussed above, the City is located in a highly sensitive area for paleontological resources. Similar to the 2005 GPU/GDP EIR conclusions for the Preferred Plan, and therefore, the Proposed Project, buildout under the No Project–No Change in Existing Plans Alternative could disturb sensitive resources in the Land Use Change Area. Implementation of this alternative would require adherence to GP objectives and policies and would be required to implement mitigation measures, as detailed in the 2005 GPU/GDP EIR. These measures would assure that specific grading thresholds are used during construction of potentially sensitive lands and that a conservation program is adopted if necessary. Through implementation of these measures, the level of impacts to paleontological resources would be reduced to less than significant. Because the Proposed Project will also be required to implement the same mitigation measures, impacts associated with Paleontological Resources resulting from the No Project–No Change in Existing Plans Alternative and the Proposed Project would be generally the same.

10.2.14 Agriculture

Buildout under the No Project–No Change in Existing Plans Alternative would result in a change from the existing primarily natural condition to developed land. However, because there are no prime or important farmlands within the Land Use Change Area, no impacts to agricultural resources would occur under either the Proposed Project or No Project–No Change in Existing Plans Alternative. Therefore, impacts to agriculture resulting from the No Project–No Change in Existing Plans Alternative would be generally the same as the Proposed Project’s.

10.2.15 Hydrology and Water Quality

Like the conclusions reached in the 2005 GPU/GDP EIR for the Preferred Plan, and therefore, applicable to the Proposed Project, buildout under the No Project–No Change in Existing Plans Alternative could result in both short-term hydrology and water quality impacts during construction and long-term impacts after development as a result of increased amounts of impervious surfaces and ornamental landscaping. Implementation of this alternative would be required to conform to all municipal permit requirements and GP objectives, including the incorporation of BMPs, which would reduce runoff to a level that would be considered less than significant. Because the Proposed Project would be required to implement the same measures, impacts associated with Hydrology and Water Quality resulting from the No Project–No Change in Existing Plans Alternative and the Proposed Project would be generally the same.

10.2.16 Hazards and Hazardous Materials

As discussed above, the Land Use Change Area is not located within an area of any known contamination. Like the conclusions reached in the 2005 GPU/GDP EIR for the Preferred Plan, and therefore, applicable to the Proposed Project, buildout pursuant to the No Project–No Change in Existing Plans Alternative would not result in significant impacts resulting from the routine transport, use, disposal, or accidental release of hazardous materials.

The No Project–No Change in Existing Plans Alternative could result in a significant impact due to the placement of residential uses adjacent to a high wildland hazard area. Implementation of the No Project–No Change in Existing Plans Alternative will be required to adopt brush management programs for all development. Through implementation of the brush management plans, wildfire hazards would be reduced to less than significant.

Because the Proposed Project would be required to implement the same measures as the No Project–No Change in Existing Plans Alternative, impacts associated with Hazards and Hazardous Materials resulting from the two would be generally the same.

10.2.17 Mineral Resources

As discussed above, the Land Use Change Area is partially located within a MRZ-2 area, which is considered to be a regionally significant area for aggregate resources. Buildout under the No Project–No Change in Existing Plans Alternative would result in the construction of residential, commercial, and public uses. Like the conclusions reached in the 2005 GPU/GDP EIR for the Preferred Plan, and therefore, applicable to the Proposed Project, construction within the Land Use Change Area would prevent future extraction of aggregate materials. The level of impact is considered less than significant, however, due to the limited area actually included in the MRZ-2 area. Additionally, the majority of the MRZ-2 area is located within designated preserve land and subject to the Subarea Plan with respect to allowable extraction. Therefore, impacts associated with mineral resources resulting from the No Project–No Change in Existing Plans Alternative would be generally the same as those of the Proposed Project.

10.3 Reduced Density Alternative

The intention of the Reduced Density Alternative is to remove residential uses within the Land Use Change Area in order to reduce traffic impacts, as well as potential noise and air quality impacts associated with SR-125. It order to create such a plan, dwelling units closest to SR-125 would be eliminated. For this alternative, 417 multi-family residential units located primarily along the western boundary of Village 9, closest to SR-125, would be eliminated. All other land uses would remain the same as the Proposed Project.

Under this alternative, land uses would include 5,633 dwelling units and an estimated population of 15,198 residents; 32.3 acres of commercial space; four public schools and 55.5 acres of parkland.

10.3.1 Land Use

The Reduced Density Alternative represents a reduced project alternative in terms of residential land uses. Under this alternative, the number of residences within the RH, MUR and/or RMH designations would be reduced by 417 units. While the land use pattern would be similar to the Proposed Project, the Reduced Density Alternative would result in a lower density ring surrounding the Town Center than the Proposed Project. Due to the reduction in the number of units associated with this alternative, the benefits

in terms of providing housing within a smart-growth environment as addressed in the RCP and 2005 GPU would not be realized to the same extent as the Proposed Project.

The Reduced Density Alternative would require conformance to relevant GP objectives, including the creation of specific future design standards to address potentially significant community character issues. However, like the Proposed Project, these impacts would remain significant and unmitigated until such standards are developed and adopted, at the time of a future SPA Plan. Overall, impacts associated with land use resulting from the Reduced Density Alternative would be greater than the Proposed Project because it would provide fewer housing opportunities.

10.3.2 Landform/Visual Quality

The Reduced Density Alternative would result in similar visual impacts compared to the Proposed Project. While the Reduced Density Alternative would result in the construction of a less dense community, any degree of development would result in a change to the existing aesthetic make up and visual quality of the Land Use Change Area s Like the Proposed Project, the Reduced Density Alternative would require adherence to GP objectives and policies relating to design standards, the implementation of which would reduce potentially significant visual quality issues. While the degree of impact would be less, as a result of the lessened development potential under this alternative, the loss of the open space and rolling hills would still remain significant unmitigated. Therefore, impacts associated with landform alteration and visual quality resulting from the Reduced Density Alternative would be generally the same as the Proposed Project.

10.3.3 Energy Resources

The Reduced Density Alternative would accommodate development of 417 fewer dwelling units than the Proposed Project. This translates to a slightly decreased demand for electricity, natural gas, and gasoline needed to serve the residents. However, like the Proposed Project, since there is no assurance from SDG&E of a long-term supply of energy in the future, impacts associated with the any additional electricity demands may be significant and unmitigated. Therefore, impacts associated with energy resources resulting from the Reduced Density Alternative would be generally the same as the Proposed Project.

10.3.4 Transportation

The Reduced Density Alternative would result in a reduction of 3,125 ADT on roadways resulting in a reduction of direct and cumulative impacts as compared to the Proposed Project. Although this alternative would not eliminate significant freeway impacts, impacts to traffic resulting from the Reduced Density Alternative would be less than the Proposed Project.

10.3.5 Air Quality

Like the Proposed Project, the Reduced Density Alternative would not conform to the existing RAQS. Impacts associated with air quality plan implementation would be significant and unmitigable. Due to the reduction in dwelling units, emissions of criteria pollutants under this alternative would be reduced compared to the Proposed Project. Therefore, air quality impacts under this alternative would be the less than the Proposed Project.

10.3.6 Noise

While fewer dwelling units would be constructed under the Reduced Density Alternative, short-term construction noise would occur; however, like the Proposed Project, regulations on equipment and hours of operations would ensure that construction noise impacts would be less than significant.

Traffic noise and change in ambient noise would be less than the Proposed Project because traffic volumes would not increase to the level of the Proposed Project. Homes would likely be spread away from noise generating uses. Additionally, because this alternative would remove homes from the noise contour along the SR-125, the number of units affected by traffic noise would be reduced. Therefore, overall, noise impacts would be less than those of the Proposed Project.

10.3.7 Public Services and Utilities

Buildout pursuant to the Reduced Density Alternative would result in construction of 417 residential units fewer than the Proposed Project and a reduction in total estimated population of 1,077. This would translate to less of a demand on public services and utilities compared to the Proposed Project. Although impacts to water resources would

still remain significant and unmitigated, overall impacts associated with public services and utilities would be less.

10.3.8 Population and Housing

As shown in Table 10-1, development under this alternative would result in the construction of 5,633 new residential units with a population of 15,198. Like the Proposed Project, the Reduced Density Alternative would not result in the displacement of homes or necessitate the construction of homes elsewhere. However, this alternative would provide 417 fewer housing units, in an area identified for increased housing. Therefore, population and housing impacts associated with this alternative would be greater than the Proposed Project.

10.3.9 Global Climate Change

The reduced scale of the Reduced Density Alternative would result in fewer GHG emissions. Like the Proposed Project, through GP and regulatory compliance, the Reduced Density Alternative would ultimately require reduction in GHG emissions. Due to the reduced scale and resultant GHG emissions of this alternative, impacts associated with this alternative would be less than the Proposed Project.

10.3.10 Biological Resources

While the Reduced Density Alternative would result in a less dense development, the development footprint would be generally the same and impacts to biological resources would be the same as that analyzed in the 2005 GPU/GDP EIR, and applicable to the Proposed Project. Development within the Land Use Change Area would entail the removal of vegetation that could result in significant impacts. Conformance to local, state and federal regulations, the City's MSCP Subarea Plan and GP objectives, assures that any biological impacts are less than significant.

Therefore, impacts associated with biological resources resulting from Reduced Density Alternative would be generally the same as the Proposed Project.

10.3.11 Cultural Resources

The Reduced Density Alternative would result in the same development footprint, therefore, the area of disturbance would be generally the same as that analyzed in the

2005 GPU/GDP EIR, and applicable to the Proposed Project. Buildout under the Reduced Density Alternative could, therefore, impact sensitive cultural resources. Conformance to GP objectives and policies and implementation of mitigation measures detailed in the 2005 GPU/GDP EIR, assures that all undeveloped lands are examined for potential cultural resources prior to development.

Therefore, impacts associated with cultural resources resulting from the Reduced Density Alternative would be generally the same as the Proposed Project.

10.3.12 Geology and Soils

Buildout of the Reduced Density Alternative would disrupt expansive soils and result in potential landslides. New construction is required to conform to GP objectives and regulations requiring engineering designs to maintain structures that can withstand certain seismic events. Like the Proposed Project, development under the Reduced Density Alternative would be regulated by these standards.

Therefore, impacts associated with geological risks would be generally the same as with the Proposed Project.

10.3.12 Paleontological Resources

Like the Preferred Plan analyzed in the 2005 GPU/GDP EIR, and applicable to the Proposed Project buildout under the Reduced Density Alternative could disturb sensitive paleontological resources. Conformance to GP objectives and policies, along with implementation of mitigation measures detailed in the 2005 GPU/GDP EIR, would assure that specific grading thresholds are used during construction to protect sensitive resources.

Therefore, impacts associated with paleontological resources resulting from the Reduced Density Alternative would be generally the same as those of the Proposed Project.

10.3.13 Agriculture

Buildout under the Reduced Density Alternative would result in a change from the existing primarily natural condition to developed land. Like the Preferred Plan analyzed

in the 2005 GPU/GDP EIR, and applicable to the Proposed Project, no prime or important farmlands would be converted as a result of the proposed land use changes.

Therefore, impacts to agriculture resulting from the Reduced Density Alternative would be generally the same as the Proposed Project's.

10.3.14 Hydrology and Water Quality

Like the Preferred Plan analyzed in the 2005 GPU/GDP EIR, and applicable to the Proposed Project, buildout under the Reduced Density Alternative could result in both short-term hydrology and water-quality impacts during construction and in long-term impacts after development as a result of increased amounts of impervious surfaces and ornamental landscaping. Conformance with all municipal permit requirements and GP objectives would reduce impacts to a level that would be considered less than significant.

Therefore, impacts to hydrology and water quality resulting from the Reduced Density Alternative would be generally the same as the Proposed Project's.

10.3.15 Hazards and Hazardous Materials

Like the Preferred Plan analyzed in the 2005 GPU/GDP EIR, and applicable to the Proposed Project, buildout pursuant to the Reduced Density Alternative would not result in significant impacts resulting from the routine transport, use, disposal, or accidental release of hazardous materials. The No Project–No Change in Existing Plans Alternative could result in a significant impact due to the placement of residential uses adjacent to a high wildland hazard area. However, through implementation of brush management plans the level of wildfire hazards would be less than significant.

Therefore, impacts associated with hazards/risk of upset resulting from the Reduced Density Alternative would be generally the same as the Proposed Project's.

10.3.16 Mineral Resources

Like the Preferred Plan analyzed in the 2005 GPU/GDP EIR, and applicable to the Proposed Project, buildout of the Reduced Density Alternative would prevent future extraction of aggregate materials. However, the MRZ-2 area is limited and primarily located within designated preserve land. Therefore, impacts associated with mineral

resources resulting from the Reduced Density Alternative would be generally the same as the Proposed Project's.

10.4 La Media Road Alternative

As previously discussed, the Proposed Project includes an amendment to the City's Circulation Element that will result in La Media Road terminating at Otay Valley Road, as depicted in Figures 3-3, Proposed Project Circulation Plan. This alternative examines the effect of maintaining La Media Road in accordance with the Circulation Element Plan.

As shown in Figures 3-3 and 10-1, the La Media Road alignment is planned to extend from Olympic Parkway, south through proposed Village 8 West, continuing past Otay Valley Road, through the Otay River Valley, and beyond to points within the City of San Diego. This extension of La Media Road is shown in the City of San Diego's Otay Mesa Community Plan and the County of San Diego's GP.

10.4.1 Land Use

The La Media Road Alternative would comprise the same land use changes within the Land Use Change Area as the Proposed Project.

As with the Proposed Project, implementation of this alternative requires conformance to relevant GP objectives including the creation of specific future design standards to address potentially significant community character issues. However, impacts associated with this alternative would remain significant and unmitigated until such standards are developed and adopted, generally at the future SPA Plan level.

The Proposed Project's removal of La Media Road beyond Otay Valley Road would result in an inconsistency with adjacent jurisdiction's GPs. Although construction of La Media Road, as currently shown, would disrupt the land use pattern of the Otay Ranch area, the County and City of San Diego's GPs both show La Media Road crossing the Otay River Valley. While the La Media Road Alternative would resolve this inconsistency, land use impacts would be greater due to the disruption of land uses, especially through preserve land.

10.4.2 Landform/Visual Quality

The La Media Road Alternative would result in greater visual impacts compared to the Proposed Project. While impacts associated with development within the Land Use Change Area would be generally the same, additional impacts would occur as a result of the disruption of land uses from the road crossing the Otay River Valley. Because the road/bridge is not built at this time, the resultant change to the current open space would be significant. Therefore, impacts to landform alteration and visual quality resulting from this alternative would be greater than the Proposed Project's.

10.4.3 Energy Resources

Because the Proposed Project and the La Media Road Alternative would result in construction of the same number of residential units, demands for electricity and natural gas, as well gasoline needed to serve project related vehicles would be the same. Like the Proposed Project, this alternative would be required to meet the mandatory energy standards of all current regulations, City-encouraged LEED green building practices and relevant GP objectives; however, there is no guarantee that resources will be available when needed.

Construction of the road/bridge across Otay River Valley would result in a short-term increase in energy demand compared to the Proposed Project. Therefore, impacts associated with energy resources resulting from the La Media Road Alternative would be greater than the Proposed Project's.

10.4.4 Transportation

Under the La Media Road Alternative, all land uses would be the same as the Proposed Project. The alternative, however, would maintain the existing GP Circulation Element plan to extend La Media Road across the Otay River Valley. The La Media Road segment specifically affected by this alternative is La Media Road between Otay Valley Road and Lonestar Road. This alternative is identified in the TIA (Appendix C) as "Alternative 2" and "Alternative 6" revealing direct and cumulative impacts, respectively.

As planned, the La Media Road Alternative would serve as a parallel route to I-805 and Heritage Road to the west, and SR-125 to the east. With the deletion of this extension as included as part of the Proposed Project, the projected 65,000 trips expected in the

cumulative condition would be rerouted to the roadways mentioned above. This is reflected in the modeling process. As a result, the La Media Road Alternative would avoid potential impacts, especially along Heritage Road.

On the other hand, this alternative would result in greater direct impacts to La Media Road than the Proposed Project because the extension would allow more vehicles to utilize this roadway as an alternate route to Heritage Road or SR-125. While La Media Road would continue to operate at a LOS C under direct impact conditions, it would operate at a LOS F in the cumulative condition due to the expected increase in traffic along this roadway. Therefore, this alternative would result in cumulative traffic impacts to La Media Road, an impact that would not occur under the Proposed Project.

10.4.5 Air Quality

The La Media Road Alternative would result in greater air quality impacts due to the additional construction activity required to build the bridge. Additionally, the increased traffic could result in pockets of toxic emissions within the Otay River Valley. Therefore, impacts to air quality resulting from the La Media Road Alternative would be greater than for the Proposed Project.

10.4.6 Noise

The La Media Road Alternative would result in greater short-term noise impacts than the Proposed Project as a result of the additional construction activity required to build the continuation of the road/bridge. Additionally, the increase in ADTs along the La Media road segment could increase noise levels for future residents. Therefore, while noise impacts along Heritage Road may decrease due to traffic utilizing the La Media Road extension; overall, noise impacts associated with this alternative would be greater than the Proposed Project's.

10.4.7 Public Services and Utilities

The La Media Road Alternative would result in the same increased need for public services and utilities as the Proposed Project.

10.4.8 Population and Housing

Like the Proposed Project, construction of this alternative would not result in the temporary displacement of existing residents or result in the need for the construction of replacement housing elsewhere because the same number of housing units are being constructed. Impacts associated with population and housing resulting from the La Media Road Alternative would be generally the same as the Proposed Project's.

10.4.9 Global Climate Change

Operational emissions of GHGs within the Land Use Change Area would be the same under the La Media Road Alternative, however, due to the additional construction, there would be a short-term increase in GHG emissions associated with this alternative. Therefore, impacts resulting from GHG emissions and this alternative's contribution to global warming would be greater than the Proposed Project's.

10.4.10 Biological Resources

The La Media Road Bridge Alternative would have similar impacts to biological resources with respect to the Land Use Change Area as analyzed in the 2005 GPU/GDP EIR, and applicable to the Proposed Project. However, this alternative would entail considerable additional impacts to biological resources, including wetlands and jurisdictional waters, due to construction requirements (grading, bridge footings, etc.) within the Otay River Valley. These impacts related to the bridge crossing would not occur under the Proposed Project. Therefore, biological impacts resulting from the La Media Road Bridge Alternative would be greater than those related to the Proposed Project.

10.4.11 Cultural Resources

The La Media Road Bridge Alternative could result in additional impacts to cultural resources beyond those analyzed in the 2005 GPU/GDP EIR, and applicable to the Proposed Project, because the bridge would require additional disturbance to land with potential sensitive resources.

Implementation of the La Media Road Bridge Alternative would require the application of mitigation measures detailed in the 2005 GPU/GDP EIR assuring that all undeveloped lands are examined for potential cultural resources prior to development and that a

conservation program is adopted if necessary. Through implementation of this measure, impacts to cultural resources are reduced to less than significant.

Although the application of mitigation measures would reduce the level of impacts to cultural resources to less than significant; the additional disturbance associated with this alternative would result in greater impacts than those related to the Proposed Project.

10.4.12 Geology and Soils

Within the Land Use Change Area, the La Media Road Bridge Alternative would have similar impacts compared to those analyzed in the 2005 GPU/GDP EIR, and applicable to the Proposed Project. Thus, future construction activities pursuant to this alternative have the potential to disturb sensitive soils resulting in potentially significant impacts caused by landslide, liquefaction, and/or seismic activity. Implementation of the La Media Road Bridge Alternative would necessitate compliance with the UBC, which requires that future construction include structural design measures to protect against potential seismic activity, as well as conformance with specific GP policies that require detailed geological investigations and soil studies to be completed prior to approval of subsequent development projects. Through GP and regulatory compliance, on-site impacts associated with geological hazards would be less than significant.

However, the off-site construction of the La Media Road extension would require specific engineering solutions and would result in greater impacts due to the need for bridge footings and other grading and construction activities associated with the bridge. These activities would result in greater geology and soils impacts compared to the Proposed Project.

Because of the additional impacts resulting from the construction of this alternative, impacts would be greater than those of the Proposed Project's.

10.4.13 Paleontological Resources

As with the Preferred Plan analyzed in the 2005 GPU/GDP EIR, and applicable to the Proposed Project, future construction activities pursuant to this alternative would have the potential to result in significant impacts to paleontological resources. Application of mitigation measures detailed in the 2005 GPU/GDP EIR would assure that specific grading thresholds are used during construction on sensitive lands and that a

conservation program is adopted if necessary. Through implementation of these measures, impacts to paleontological resources would be reduced to less than significant.

However, overall impacts would be greater under the La Media Road Bridge Alternative than those resulting from the Proposed Project, because of the additional disturbance and potential impacts to paleontological resources that would occur as a result of constructing the La Media Road extension.

10.4.14 Agriculture

No impacts to agricultural resources would occur as a result of implementing the La Media Road Bridge Alternative. As with the Preferred Plan analyzed in the 2005 GPU/GDP EIR, and applicable to the Proposed Project, implementation of the La Media Road Bridge Alternative would result in a change from existing primarily natural condition to developed land. Additionally, there are no prime agricultural lands associated with area within the La Media Road alignment. Therefore, no impacts to agricultural resources would occur.

Impacts to agriculture resulting from the La Media Road Bridge Alternative would be generally the same as those of the Proposed Project.

10.4.15 Hydrology and Water Quality

As with the Preferred Plan analyzed in the 2005 GPU/GDP EIR, and applicable to the Proposed Project, implementation of the La Media Road Bridge Alternative could result in both short-term water quality impacts during construction and in long-term impacts after development as a result of increased amounts of impervious surfaces and ornamental landscaping. This could direct increased runoff to drainage basins, municipal storm sewer systems, and eventual drainage to surface waters and/or the ocean. Future development within the Project Area would be required to conform to all municipal permit requirements and GP objectives, including the incorporation of BMPs, which would reduce run-off to a level that would be considered less than significant.

However, the La Media Road Bridge Alternative would result in additional pollutant-related impacts due to construction activities that would occur within the Otay River

Valley. Therefore, impacts to hydrology and water quality resulting from the La Media Road Bridge Alternative would be greater than those of the Proposed Project.

10.4.16 Hazards/Risk of Upset

The land use plan under the La Media Road Bridge Alternative would be the same as under the Proposed Project. Like the Preferred Plan analyzed in the 2005 GPU/GDP EIR, and applicable to the Proposed Project, brush management programs for all development within the project site would be required to assure that impacts due to wildland fires would be less than significant. Therefore, impacts associated with hazards/risk of upset resulting from the La Media Road Bridge Alternative would be generally the same as the Proposed Project's.

10.4.17 Mineral Resources

Impacts associated with mineral resources resulting from the La Media Road Bridge Alternative would be generally the same as the Proposed Project's.

10.5 Conclusion

A summary comparison of the Proposed Project to the alternatives considered is shown in Table 10-2. The following sections, 10.5.1 through 10.5.4 provide a conclusion relating to each of the aforementioned alternatives, including a discussion of whether each alternative would meet project objectives.

TABLE 10-2
COMPARISON OF IMPACTS FOR PROPOSED PROJECT AND ALTERNATIVES

Environmental Issue	Proposed Project	No Project–No Build Alternative	No Project–No Change in Existing Plans Alternative	Reduced Density Alternative	Construct La Media Bridge Alternative
Land Use	SU	Less	Greater	Greater	Greater
Landform/Visual Quality	SU	Less	Less	Same	Greater
Energy Resources	SU	Less	Same	Same	Greater
Hydrology and Water Quality	NS	Less	Same	Same	Greater
Transportation	SU	Less	Less	Less	Greater
Air Quality	SU	Less	Less	Less	Greater
Noise	SU	Less	Less	Less	Greater
Public Services and Utilities	SU	Less	Less	Less	Same
Population and Housing	NS	Greater	Greater	Greater	Same
Global Climate Change	NS	Less	Less	Less	Greater
Biological Resources	NS*	Less	Same	Same	Greater
Cultural Resources	NS*	Less	Same	Same	Greater
Geology and Soils	NS*	Less	Same	Same	Greater
Paleontological Resources	NS*	Less	Same	Same	Greater
Agriculture	NS*	Less	Same	Same	Same
Hydrology and Water Quality	NS*	Less	Same	Same	Greater
Hazards/ Risk of Upset	NS*	Less	Same	Same	Same
Mineral Resources	NS*	Less	Same	Same	Same

SU: Significant and Unmitigated
NS: Not Significant
SM: Significant Mitigated
*As analyzed in the 2005 GPU/GDP EIR)

10.5.1 No Project–No Build Alternative

The No Project–No Build Alternative would continue to reflect the existing conditions of the Land Use Change Area. Because no further development would occur, the level of impacts to all impact areas would be less than those of the Proposed Project.

This alternative would not attain most of the objectives of the Proposed Project. Specifically, this alternative would not promote a mix of uses within a village atmosphere, expand the local economy by providing a broad range of business, employment and housing opportunities, create a Town Center within newly defined boundaries for Village 8 West and Village 9, or target higher-density and higher-intensity development into specific focus areas in order to protect stable residential neighborhoods and to create mixed-use urban environments that are oriented to transit and pedestrian activity.

10.5.2 No Project–No Change in Existing Plans Alternative

The No Project–No Change in Existing Plans Alternative would follow the existing GP resulting in fewer commercial and residential uses. Because development potential would be less under this alternative, the level of impacts to traffic, air quality, noise, public services and utilities, and GCC would be less than under the Proposed Project. Impacts to land use and population and housing would be greater than under the Proposed Project, because this alternative would not meet the regional housing goals to the same degree as the Proposed Project.

While this alternative would promote a pedestrian-friendly land use pattern and some mixed-uses, it would fail to attain many of the Proposed Project's objectives including creating a vibrant and high-density Town Center, as encouraged by the GPU, with an emphasis on providing a mix of diverse land uses that meets community and adjacent university needs. Additionally, this alternative would not target higher-density and higher-intensity development to create mixed-use urban environments that are oriented to transit and pedestrian activity.

10.5.3 Reduced Density Alternative

The Reduced Density Alternative would reduce the number of residential units within the proposed Village 9 primarily along the western boundary of the proposed Village 9, closest to the SR-125. The elimination of development potential from this location would result in less impact to traffic, air quality, noise, public services and utilities, and GCC. Greater impacts would result to land use, and population and housing, because this alternative would not meet the regional housing goals to the same degree as the Proposed Project.

The reduction of residential potential of approximately 417 units would fail to satisfy the most basic of Proposed Project objectives: higher-density and higher-intensity development. While the Reduced Density Alternative would provide cohesiveness through a compact, mixed-use, focused plan, this alternative would provide fewer economic opportunities than the Proposed Project.

10.5.4 La Media Road Alternative

The La Media Road Alternative would result in the same land use plan as the Proposed Project. This alternative, however, would maintain the existing Circulation Element plan to construct La Media Road crossing the Otay River Valley. This alternative would not result in the lessening of any potentially significant impacts. On the contrary, greater impacts would occur to most issue areas.

While all Proposed Project objectives would be met under this alternative, its failure to yield reduced impact renders it an unacceptable alternative.

10.6 Environmentally Superior Alternative

Although the No Project–No Build Alternative and the No Project–No Change in Existing Plans Alternative would result in reduced environmental impacts compared to the Proposed Project, Section 15126.6(e)(2) of the State CEQA Guidelines requires identification of an alternative other than the No Project Alternative as the environmentally superior alternative. As such, the Reduced Density Alternative would be considered the environmentally superior alternative due to its potential for reducing impacts to traffic, air quality, noise, public services and utilities, and GCC while meeting most of the objectives of the Proposed Project.

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11.0 REFERENCES CITED

California Air Resources Board (CARB)

2007 California 1990 Greenhouse Gas Emissions Level and 2020 Emissions Limit. November 16.

2008 California 2020 GHG Emissions Forecast. Accessed June 1, 2010 from the CARB website at http://www.arb.ca.gov/cc/inventory/data/forecast.htm. Last updated October 2008; last reviewed May 28, 2010.

2010a *Senate Bill 375 – Regional Targets*. Obtained from the CARB website at http://www.arb.ca.gov/cc/sb375/sb375.htm on October 29.

2010b *Greenhouse Gas Inventory Data – 2000 to 2008*. Obtained from the CARB website at http://www.arb.ca.gov/cc/inventory/data/data.htm (last updated May 12, 2010) on December 28.

California Department of Transportation (Caltrans)

2000 Highway Capacity Manual.

California Energy Commission

2010 Fuels and Transportation Division, http://www.energy.ca.gov/ transportation/ index.html.

California, State of

1989 Clean Air Act.

1990 Integrated Waste Management Act.

2000 Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles (California Air Resources Board, Stationary Source Division, Mobile Source Control Division).

2001a Senate Bill 221.

2001b Senate Bill 610.

2002 Assembly Bill 1493 (Pavley Greenhouse Gas Vehicle Standards) (California Air Resource Board).

2005a *Air Quality and Land Use Handbook: A Community Health Perspective* (California Air Resources Board).

2005b Code of Regulations, Titles 20 and 24.

2005c Executive Order S-3-05 (Statewide GHG Emission Targets).

2006 Assembly Bill 32 (California Global Warming Solutions Act).

2007 Executive order S-01-07 (Low Carbon Fuel Standard).

2008a Climate Change Scoping Plan (California Air Resource Board).

2008b Senate Bill 375 (Regional Emission Targets).

2008c California Energy Commission 2008 Building Energy Efficiency Standards. Accessed online October 7, 2010. http://www.energy.ca.gov/title24/2008standards/.

2009a California Environmental Quality Act (CEQA) Guidelines.

2009b *The California Almanac of Emissions and Air Quality—2009 Edition* (California Air Resources Board, Planning and Technical Support Division).

2009c Senate Bill 97 (CEQA GHG Amendments).

2009d Title 24, Part 11 (California Green Building Standards Code).

2010a Ambient Air Quality Standards (California Air Resources Board).

2010b 2008 Energy Code (aka Title 24 2008).

Chula Vista, City of

1987 Threshold Standards.

1993a Otay Ranch General Development Plan/ Subregional Plan (Amended 1996, 2002, 2005 - draft).

1993b Otay Ranch Resource Management Plan (Amended 1996).

1994a City Design Manual.

1994b City Landscape Manual.

2001a Assessment of Chula Vista's Energy Management Options (February).

2001b Energy Strategy and Action Plan.

2002a CO_2 Reduction Plan.

2002b Creek Interceptor Sewer Hydraulic Basis of Design Report.

2002c Municipal Code Chapter 19.48 (Planned Community Zone).

2003a Greenbelt Master Plan.

2003b MSCP Subarea Plan.

2004 General Plan Update Water Technical Report.

2005 City of Chula Vista Vision 2020 General Plan Update EIR.

2005a Greenhouse Gas Emissions Inventory (Accessed June 23 from the City of Chula Vista website at http://www.chulavistaca.gov/clean/conservation/Climate/documents/GHG_2008InventoryReport_FINAL.pdf).

2005b Growth Management Oversight Commission (Water Questionnaire).

2005c Municipal Code Chapter 17.30 (Otay Ranch Grazing Ordinance).

2005d Wastewater Master Plan.

2006 Municipal Code Chapter 19.09 (Growth Management Ordinance).

2008a Land Offer Agreement Between Otay Land Company OLC and City of Chula Vista.

2008b Climate Protection Measures.

2008c Greenhouse Gas Emissions Inventory (Accessed June 23 from the Chula Vista city government website at http://www.chulavistaca.gov/clean/conservation/Climate/documents/GHG_2008InventoryReport_FINAL.pdf).

2009 Municipal Code Chapter 15.12 (Green Buildings Standards Ordinance). Accessed online October 11, 2010. http://www.chulavistaca.gov/City_Services/Development_Services/Planning_Building/SustainabilityCenter/GrBuildStnd/TheCVBldStnds.asp.

2010 General Plan Amendment Otay Ranch, Village 8 West and 9

2010a Letter from Justin Gibson, CVFD, dated 4/26/10

2010b Letter from Chief David Bejarano, CVPD, dated 5/3/10

2010c Municipal Code Chapter 15.26.030 (Energy Efficiency Standards Ordinance)

2011 Chula Vista Public Library Strategic Plan (April 2011).

Chula Vista Elementary School District

2003 SNFA Report (Student Generation Rates) Great Schools, California Schools-California State School Ratings, Public and Private.

2010 http://www.greatschools.org/california/ (Accessed June 2010).

Linscott Law & Greenspan, Engineers (LLG)

2011 Traffic Impact Analysis Chula Vista General Plan and General Development Plan Amendment for Otay Land Company.

Metropolitan Water District (MWD)

2003 Water Supply Report.

2010 Integrated Water Resources Plan Update.

Otay Water District (OWD)

2007 2005 Urban Water Management Plan.

2008 Water Resources Master Plan (Approved February 2010/ Revised November 2010).

PBS&J

2010 Salt Creek Interceptor Technical Sewer Study for Village 8 West and Village 9.

RECON

2005 Final Environmental Impact Report Chula Vista Vision 2020 General Plan Update.

2010a Otay Ranch Air Quality Analysis for the Otay Land Company General Plan Amendment and General Development Plan Amendment.

2010b Otay Ranch Noise Analysis for the Otay Land Company General Plan Amendment and General Development Plan Amendment.

2010c Updated Water Technical Report for the Otay Land Company General Plan Amendment and General Development Plan Amendment.

2012 Global Climate Change Analysis for the Otay Land Company General Plan Amendment and Otay Ranch General Development Plan Amendment, Chula Vista, California. May.

Regional Water Quality Control Board (RWQCB)

1972 Federal Clean Water Act (Section 303).

1990 Municipal Storm Water Permit, Order 90-42.

1994 Water Quality Control Plan for the San Diego Basin (9).

2009 Construction General Permit Order 2009-0009-DWQ (Updated 2010).

Rimpo and Associates

2007 URBEMIS 2007 for Windows, Version 9.2 Emissions Estimation for Land Use Development Projects.

San Diego Association of Governments (SANDAG)

1987 Series 7 Growth Forecasts.

1992 Transportation Control Measures for the RAQS.

1994 San Diego Regional Energy Plan (Updated 2003, Energy 2030).

2003a Energy 2030.

2003b Regional Transportation Plan, Mobility 2030 (Amended, 2005).

2003c South Bay Transit First Study.

2003d 2030 Regional Growth Forecast.

2004a Final Program Environmental Impact Report for the Regional Comprehensive Plan.

2004b Regional Comprehensive Plan.

2010 Regional Climate Action Plan.

San Diego, County of

1969 San Diego Air Pollution Control District Rules and Regulations. (Regularly updated and available at http://www.sdapcd.org/rules/rules/randr.html.

1991 Regional Air Quality Strategies (San Diego Air Pollution Control District).

1998 *Air Quality in San Diego County 1997 Annual Report* (San Diego Air Pollution Control District).

1999 *Air Quality in San Diego County 1998 Annual Report* (San Diego Air Pollution Control District).

2009a *Air Quality in San Diego County 2009 Annual Report* (San Diego Air Pollution Control District).

2009b Guidelines for Determining Significance- Transportation and Traffic.

2010a E-mail from Kim Sheredy, AICP Airport Planner II, San Diego County Regional Airport Authority (SDCRAA).

2010b San Diego Air Pollution Control District Rules and Regulations. Accessed from the SDAPCD website at http://www.sdapcd.org/rules/rules/randr.html.

San Diego County Water Authority (SDCWA)

2003 Quantification Settlement Agreement.

2004a Annual Water Supply Report.

2004b Regional Water Facilities Master Plan (Draft).

2009 Annual Water Supply Report.

2010 2010 Urban Water Management Plan.

San Diego, City of

2007 Traffic Impact Significance Thresholds.

South Coast Air Quality Management District (SCAQMD)

2003a CEQA Air Quality Handbook.

2003b Final 2003 Air Quality Management Plan.

Sweetwater Union High School District
2003 Student Generation Rates.

Uniform Building Codes (UBC)
1997 Uniform Building Code.

United Nations Environment Programme (UNEP)
2007 *Achievements in Stratospheric Ozone Protection, The Montreal Protocol on Substances that Deplete the Ozone Layer, Progress Report 1987–2007* (Obtained from the UNEP website at http://ozone.unep.org/ Publications/MP_Acheivements-E.pdf on May 23, 2007).

United Nations Framework Convention on Climate Change (UNFCCC)
2007 *Kyoto Protocol* (Obtained from the UNFCCC website at http://unfccc.int/kyoto_protocol/items/2830.php on May 24, 2007).

2009 *Status of Ratification* (Obtained from the UNFCCC website at http://unfccc.int/kyoto_protocol/background/status_of_ratification/items/2613.php on July 24, 2009).

U.S. Army Corp of Engineers (USACE)
1972 Federal Clean Water Act (Section 401, 402 and 404).

2002 Code of Federal Regulations, Title 33.

U.S. Department of Finance
2010 Population and Housing Estimate Report.

U.S Energy Information Administration (U.S. EIA)
2006 2003 Commercial Buildings Energy Consumption Survey: Consumption and Expenditures Tables. Table C14. Electricity Consumption and Expenditure Intensities for Non-Mall Buildings.

U.S. Environmental Protection Agency (EPA)
1970 Clean Air Act (Amended 1990).

2004 Air Quality Designations and Classifications for the Fine Particles (PM2.5) National Ambient Air Quality Standards; Final Rule. Federal Register 70(3):944-1019.

2007 *International Cooperation*. Obtained from the EPA Climate Change website at http://www.epa.gov/climatechange/policy/internationalcooperation.html on May 24, 2007.

2009a Proposed Rule to Implement the 1997 8-Hour Ozone National Ambient Air Quality Standard: Revision on Subpart 1 Area Reclassification and Anti-Backsliding Provisions under Former 1-Hour Ozone Standard, Proposed Rule. Federal Register 74(11):2936-2945.

2009b Air Quality Designations for the 2006 24-Hour Fine Particle (PM2.5) National Ambient Air Quality Standards: Final Rule. Federal Register 74(218): 58717.

United State Global Change Research Information Office (GCRIO)

1993 U.S. Climate Change Action Plan (Obtained from GCRIO website at http://www.gcrio.org/USCCAP/toc.html on May 31, 2007).

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