Palomar Gateway District Specific Plan

Final Environmental Impact Report

SCH #2011111077, June 17, 2013

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Program Environmental Impact Report

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276 Fourth Avenue • Chula Vista • California • 91910

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Acronyms

A.D.	Anno Domini
AASHTO	American Association of State Highway and Transportation Officials
ADA	Americans with Disabilities Act
AMR	American Medical Response
AQIP	Air Quality Improvement Plan
ARRA	American Recovery and Reinvestment Act
ASTs	Aboveground Storage Tanks
B.P.	Before Present
BMPs	Best Management Practices
BTEX	Benzene, Toluene, Ethylbenzene, and Xylenes
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standard
CAFE	Corporate Average Fuel Economy
Cal/OSHA	California Occupational Safety and Health Administration
CalEPA	California Environmental Protection Agency
CalRecycle	California Department of Resources Recycling and Recovery
Caltrans	California Department of Transportation
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CBC	California Building Code
CCAT	California Climate Action Team
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
CFG	California Fish and Game
CFR	Code of Federal Regulations
CIP	Capital Improvement Program
City	City of Chula Vista
CMP	Congestion Management Program
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO_2e	Carbon Dioxide Equivalent
CPTED	Crime Prevention Through Environmental Design
CRHR	California Register of Historical Resources
CVESD	Chula Vista Elementary School District
CVFD	Chula Vista Fire Department
CVMC	Chula Vista Municipal Code
CVPD	Chula Vista Police Department
CWA	Clean Water Act
d/D	Depth To Diameter

dB or dBA	Decibels
DEH	County of San Diego Department of Environmental Health
DTSC	California Department of Toxic Substances Control
DWR	California Department of Water Resources
EIR	Environmental Impact Report
ESA	Endangered Species Act
FAA	Federal Aviation Administration
FAR	Floor Area Ratio
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Maps
FRA	Federal Railroad Administration
FTA	Federal Transit Administration
FY	Fiscal Year
GHD	Graphical historic preservation district
GHGs	Greenhouse Gases
GMOC	Growth Management Oversight Commission
GPCD	Gallons per Capita per Day
HLIT	Habitat Loss and Incidental Take
HPC	Historic Preservation Commission
HPD	Historic Preservation District
HPP	Historic Preservation Program
HRA	Health Risk Assessment
HVAC	Heating, Ventilating, and Air Conditioning
Hz	Hertz
I-	Interstate
JURMP	Jurisdictional Urban Runoff Management Program
Ldn	Day-Night Average Noise Level
LEED	Leadership in Energy and Environmental Design
Leq	Equivalent Energy Level
LID	Low Impact Development
LOS	Level of Service
LPH	Liquid phase product
LTF	Local Transportation Fund
LUST	Leaking Underground Storage Tank
$\mu g/m^3$	Micrograms Per Cubic Meter
MBTA	Migratory Bird Treaty Act
METRO	San Diego Metropolitan Wastewater Branch
mg/l	Milligrams Per Liter
mg/m3	Milligrams Per Cubic Meter
mgd	Million Gallons Per Day
MMP	Management and Monitoring Plan
MMRP	Mitigation Monitoring and Reporting Program

mph	Miles Per Hour
MPO	Metropolitan Planning Organizations
MSCP	Multiple Species Conservation Program
MSDS	Material Safety Data Sheet
MSL	Mean Sea Level
MT	Metric Ton
MTBE	Fuel Oxygenates Including Methyl Tertiary Butyl Ether
MTS	Metropolitan Transit System
MU 1	Palomar Transit Plaza
MU 2	Palomar Mixed Use Corridor
MWD	Metropolitan Water District of Southern California
NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves Protection and Repatriation Act
NAHC	Native American Heritage Commission
NCCP	Natural Community Conservation Planning
NFRAP	No Further Remedial Action Planned
NHTSA	National Highway Traffic Safety Administration
NOI	Notice of Intent
NOP	Notice of Preparation
NO_x	Nitrogen Oxides
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
NRHP	National Register of Historic Places
NSLU	Noise Sensitive Land Uses
OEHHA	California Office of Environmental Health Hazard Assessment
OHWM	Observable Ordinary High Water Mark
PAHs	Polycyclic Aromatic Hydrocarbons
PCBs	Polychlorinated Biphenyls
PGD	Palomar Gateway District
PGDSP	Palomar Gateway District Specific Plan
PM_{10}	Course particulate matter with an aerodynamic diameter of 10 microns
$PM_{2.5}$	Fine particulate matter with an aerodynamic diameter of 2.5 microns
PNRC	Palomar Neighborhood Retail Cluster Sub-District
ppb	Parts Per Billion
ppm	Parts Per Million
PPV	Peak Particle Velocity
PRC	Public Resources Code
PRV	Palomar Residential Village Sub-District
RAQS	Regional Air Quality Strategy
RCP	Regional Comprehensive Plan
RTIP	Regional Transportation Improvement Program
RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Board
SAFETEA-LU	Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users

SAM	Site Assessment and Mitigation
SANDAG	San Diego Association of Governments
SARA	Superfund Amendments and Reauthorization Act
SCAQMD	South Coast Air Quality Management District
SCIC	South Coastal Information Center
SCS	Sustainable Communities Strategy
SDAB	San Diego Air Basin
SDAPCD	San Diego Air Pollution Control District
SDCWA	San Diego County Water Authority
SDG&E	San Diego Gas & Electric
SEMS	Standardized Emergency Management System
SIP	State Implementation Plan
SLIC	Spills, Leaks, Investigations and Cleanup
SMARA	Surface Mining and Reclamation Act
SQG	Small Quantity Generator
SRA	Scientific Resources Associates
STA	State Transit Assistance
STIP	Statewide Transportation Improvement Program
SUHSD	Sweetwater Union High School District
SUSMP	Standard Urban Storm Water Mitigation Plan
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board
SWWG	Southwest Working Group
TACs	Toxic Air Contaminants
TDA	Transportation Development Act
TDS	Total Dissolved Solids
TFA	Transit Focus Area
THD	Thematic Historic Preservation District
TMP	Traffic Monitoring Program
TNW	Traditional Navigable Water
TPHg	Total Petroleum Hydrocarbons In The Gasoline Range
TRB	Transportation Research Board
UBC	Uniform Building Code
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
USTs	Underground Storage Tanks
UWMP	Urban Water Management Plan
VdB	Vibration Decibels
VMT	Vehicle Miles Travelled
VOC	Volatile Organic Compounds
WTDIF	Western Transportation Development Impact Fee
WURMP	Watershed Urban Runoff Management Program

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Errata for the Palomar Gateway District Specific Plan Final Program Environmental Impact Report

In response to public comments, the text of the EIR has been modified which is indicated in underline and strikeout format as follows:

~~Old Text~~ Revised Text

The Final EIR is organized in the same manner as the Draft EIR (DEIR), as each section of the document has retained the same section number. Immediately following the title page of the EIR are the comments and responses to the Draft EIR. Following the comments and responses is the revised DEIR. Where changes in the text have been made in response to comments on the DEIR, such changes are noted in the responses.

Specifically, these changes to the EIR are limited to the following sections:

Executive Summary – References to reactive organic gases (ROG) were updated to refer to volatile organic compounds (VOC), consistent with the Air Quality section, described below.

Transportation, Circulation, and Access – Minor edits were made to the descriptions of the Palomar Street improvements described in the I-5 South Multimodal Corridor Study to add clarifying details. Bullet e) on page 5.3-41 has been revised as follows:

> The City has funded and is conducting an I-5 South Multimodal Corridor Study update and a Chula Vista Light Rail Corridor Improvements Project Study Report with subsequent environmental documents, which will include new design alternatives to Palomar Street, the split grade crossing at Palomar Street, and a future parking facility in preparation for future federal MAP-21 funding.

In addition, the second bullet under Table 5.3-10 on page 5.3-41 has been revised as follows:

> The Palomar Street interchange ranks high among the improvements needed for I-5 interchanges in Chula Vista based on traffic volumes and levels of service as identified in the 2050 RTP. Caltrans, SANDAG, and the City of Chula Vista have completed the I-5 South Multimodal Corridor Study, which identifies ~~an~~ alternatives including replacing the Palomar Street overcrossing ~~with~~ and adding additional lanes. This study proposes improvements to achieve LOS C at the I-5 ramp intersections on Palomar Street. Since intersection operations

influence segment capacity, the I-5 improvements will enhance street segment operations on Palomar Street between I-5 and Walnut Avenue.

Air Quality – References to ROG were updated to refer to VOC, consistent with the City of Chula Vista's significance thresholds for criteria pollutants. These terms are interchangeable[1].

Alternatives – References to ROG were updated to refer to VOC, consistent with the Air Quality section, described above.

[1] Antelope Valley Air Quality Management District. 2011. California Environmental Quality Act (CEQA) and Federal Conformity Guidelines. August.

Comments Received on the Draft EIR and Responses

Letters of comment to the Draft PEIR were received from the following agencies and organizations. Comment letters received during the Draft PEIR public review period contained accepted revisions that resulted in changes to the Final PEIR text. Revisions to the Final PEIR are intended to correct minor discrepancies and provide additional clarification. The revisions do not constitute significant changes to the project or environmental setting, no new significant environmental effects have been identified for the project, and the severity of environmental impacts would not be increased.

Letter A State Clearinghouse RTC-2
Letter B California Department of Transportation (Caltrans) RTC-4
Letter C Southwest Chula Vista Civic Association (SWCVCA) RTC-6
Letter D David Danciu RTC-19
Letter E Mario and Nancy Estolano RTC-21
Letter F Mario and Nancy Estolano RTC-22
Letter G Rodolofo Estolano RTC-23
Letter H Juan-Pablo Mariscal RTC-24

Letter A: State Clearinghouse

STATE OF CALIFORNIA
Governor's Office of Planning and Research
State Clearinghouse and Planning Unit

Edmund G. Brown Jr.
Governor

Ken Alex
Director

May 31, 2013

Benjamin Guerrero
City of Chula Vista
276 Fourth Avenue
Chula Vista, CA 91910

Subject: Palomar Gateway District Specific Plan
SCH#: 2011111077

Dear Benjamin Guerrero:

The State Clearinghouse submitted the above named Draft EIR to selected state agencies for review. On the enclosed Document Details Report please note that the Clearinghouse has listed the state agencies that reviewed your document. The review period closed on May 30, 2013, and the comments from the responding agency (ies) is (are) enclosed. If this comment package is not in order, please notify the State Clearinghouse immediately. Please refer to the project's ten-digit State Clearinghouse number in future correspondence so that we may respond promptly.

Please note that Section 21104(c) of the California Public Resources Code states that:

A-1. "A responsible or other public agency shall only make substantive comments regarding those activities involved in a project which are within an area of expertise of the agency or which are required to be carried out or approved by the agency. Those comments shall be supported by specific documentation."

These comments are forwarded for use in preparing your final environmental document. Should you need more information or clarification of the enclosed comments, we recommend that you contact the commenting agency directly.

This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act. Please contact the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process.

Sincerely,

Scott Morgan
Director, State Clearinghouse

Enclosures
cc: Resources Agency

A-1 This comment letter states that the Governor's Office of Planning and Research (OPR) submitted the Draft Program Environmental Impact Report (PEIR) to selected State agencies for review. The letter also confirms that the Draft PEIR public review period closed on May 30, 2013 and Caltrans submitted comments to OPR on the Draft PEIR by that date. No further response is required.

Document Details Report
State Clearinghouse Data Base

SCH# 2011111077
Project Title Palomar Gateway District Specific Plan
Lead Agency Chula Vista, City of

Type EIR Draft EIR

Description The proposed project is the implementation of the Palomar Gateway Specific Plan, which would govern the redevelopment of the Palomar Gateway District.

Lead Agency Contact

Name Benjamin Guerrero
Agency City of Chula Vista
Phone 619 476-5311 **Fax**
email
Address 276 Fourth Avenue
City Chula Vista **State** CA **Zip** 91910

Project Location

County San Diego
City Chula Vista
Region
Lat / Long 32° 36' 14" N / 117° 5' 8" W
Cross Streets Palomar Street and Industrial Boulevard
Parcel No.
Township **Range** **Section** **Base**

Proximity to:

Highways I-5
Airports No
Railways MTS Light Rail Line
Waterways San Diego Bay, Otay River
Schools Harborside ES
Land Use High Residential, Mixed Use Transit Focus Area, Retail Commercial, Parks/Recreation

Project Issues Aesthetic/Visual; Agricultural Land; Air Quality; Archaeologic-Historic; Biological Resources; Drainage/Absorption; Flood Plain/Flooding; Forest Land/Fire Hazard; Geologic/Seismic; Minerals; Noise; Population/Housing Balance; Public Services; Recreation/Parks; Schools/Universities; Septic System; Sewer Capacity; Soil Erosion/Compaction/Grading; Solid Waste; Toxic/Hazardous; Traffic/Circulation; Vegetation; Water Quality; Water Supply; Wetland/Riparian; Growth Inducing; Landuse; Cumulative Effects; Other Issues

Reviewing Agencies Resources Agency; California Coastal Commission; Department of Fish and Wildlife, Region 5; Office of Historic Preservation; Department of Parks and Recreation; Department of Water Resources; Office of Emergency Management Agency, California; California Highway Patrol; Caltrans, District 11; Department of Health Services; Regional Water Quality Control Board, Region 9; Department of Toxic Substances Control; Native American Heritage Commission; Public Utilities Commission

Date Received 04/15/2013 **Start of Review** 04/16/2013 **End of Review** 05/30/2013

STATE OF CALIFORNIA—BUSINESS, TRANSPORTATION AND HOUSING AGENCY EDMUND G. BROWN Jr., Governor

DEPARTMENT OF TRANSPORTATION
DISTRICT 11
4050 TAYLOR STREET, M.S. 240
SAN DIEGO, CA 92110
PHONE (619) 688-6960
FAX (619) 688-4299
TTY 771

Flex your power!
Be energy efficient!

May 21, 2013

11-SD-5
PM 6.06
Palomar Gateway District Specific Plan
DEIR
SCH No. 2011111077

Mr. Benjamin Guerrero
Senior Planner
City of Chula Vista
Development Services Department
276 Fourth Avenue
Chula Vista, CA 91910

Dear Mr. Guerrero:

The California Department of Transportation (Caltrans) appreciates the opportunity to comment on the Draft Environmental Impact Report (DEIR) for the Palomar Gateway District Specific Plan. Caltrans would like to submit the following comments:

B-1. Caltrans recognizes that there is a strong link between transportation and land use. Development can have a significant impact on traffic and congestion on State transportation facilities. In particular, the pattern of land use can affect both total vehicle miles traveled and the number of trips. Caltrans encourages local agencies to work towards a safe, functional, interconnected, multi-modal system.

B-2. The I-5 South Multimodal Corridor Study, prepared by SANDAG in collaboration with the City of Chula Vista (City), and Caltrans District 11; analyzes a variety of conceptual alternatives for multimodal improvements along Interstate 5 (I-5) between State Route 54 (SR-54) and Main Street within the City and includes a conceptual strategy for implementation of future multimodal transportation improvements within the I-5 South Corridor.

The preferred alternative from the I-5 South Multimodal Corridor Study proposes that I-5 be widened to include two High Occupancy Vehicle (HOV) lanes which would involve shifting the centerline to the west to accommodate a braided ramp system (or other interchange improvements) with associated collector-distributor roads.

B-3. This preferred alternative also includes replacing the existing Palomar Street structure over I-5. The analysis shows the need for a south to east loop ramp on I-5 and the addition of at least two lanes to the Palomar over-crossing. As stated in the study, six lanes will be required on Palomar east of the Interchange, plus the westbound free right turn onto northbound (NB) I-5.

Letter B: California Department of Transportation (Caltrans)

B-1 This comment introduces the commenter and expresses support for the major goals of the proposed project. This comment does not pertain to the adequacy or accuracy of information provided in the Draft PEIR. No further response is required.

B-2 This comment states that Caltrans, the San Diego Association of Governments (SANDAG), and the City participated in the development of I-5 South Multimodal Corridor Study. The preferred alternative from I-5 South Multimodal Corridor Study is discussed in the Draft PEIR in Section 5.3.1, Existing Conditions, and it was incorporated into the cumulative traffic analysis for the proposed project (Draft PEIR, pp. 5.3-5, 5.3-6, 5.3-12, 5.3-43). For additional information, see the Mobility Study (Appendix B of the Draft PEIR), which summarizes the preferred alternative from I-5 South Multimodal Corridor Study in Section 4.0, Non-Motorized Travel Conditions and Section 5.0, Motorized Travel Conditions and includes these planned improvements in the cumulative traffic analysis (Draft PEIR, Appendix B, pp. 7, 9, 17, 18, 47, 51). Therefore, the Draft PEIR adequately incorporated long-term transportation and traffic improvements associated with the preferred I-5 improvements into the traffic impact analysis for the proposed project. No modification of the Draft PEIR is required.

B-3 This comment states that the preferred alternative from I-5 South Multimodal Corridor Study includes replacing the existing Palomar Street structure over I-5. As stated in response to comment B-2, planned improvements to the Palomar Street interchange were incorporated into the cumulative traffic analysis. The description of the improvements to the Palomar Street interchange has been updated in the Draft PEIR to provide a more detailed description that is consistent with I-5 South Multimodal Corridor Study (Final PEIR, p. 5.3-43). Page 5.3-43 of the Draft PEIR has been revised as follows:

- The Palomar Street interchange ranks high among the improvements needed for I-5 interchanges in Chula Vista based on traffic volumes and levels of service as identified in the 2050 RTP. Caltrans, SANDAG, and the City of Chula Vista have completed the I-5 South Multimodal Corridor Study, which identifies alternatives including replacing the Palomar Street ~~an~~ overcrossing and adding ~~with~~ additional lanes. This study proposes improvements to achieve LOS C at the I-5 ramp intersections on Palomar Street. Since intersection operations influence segment capacity, the I-5 improvements will enhance street segment operations on Palomar Street between I-5 and Walnut Avenue.

This minor clarification does not constitute significant new information pursuant to Section 15088.5 of the California Environmental Quality Act

COMMENTS

Mr. Benjamin Guerrero
May 21, 2013
Page 2

B-4. Additionally, SANDAG's 2050 Regional Transportation Plan (RTP), Revenue Constrained Plan and Unconstrained Scenario calls for two Managed Lanes along I-5 from State Route 905 to SR-54. Caltrans has begun to develop the I-5 South Corridor Project Study Report (PSR). However, at this time the Caltrans I-5 South Corridor PSR is currently on hold. If you have specific questions related to the PSR, please contact Mr. Chi Vargas, Advance Planning Chief, at (619) 688-3159 or via email chi.vargas@dot.ca.gov.

B-5. Early coordination with Caltrans is recommended to review any potential traffic impacts and improvements on State facilities for development projects proposed as part of the Palomar Gateway District Specific Plan.

B-6. Caltrans looks forward to continuing coordination with City staff and community representatives on the Palomar Gateway District Specific Plan. If you have any questions, please contact Marisa Hampton at (619) 688-6954.

Sincerely,

JACOB M. ARMSTRONG, Chief
Development Review Branch

RESPONSES

(CEQA) Guidelines that would require recirculation of the Draft PEIR. As stated in Section 15088.5 of the CEQA Guidelines, significant new information includes: a new significant environmental impact that would result from the proposed project or a new mitigation measure proposed to be implemented; a substantial increase in the severity of an environmental impact would result unless mitigation measure are adopted that reduce the impact to a level of insignificance; a feasible project alternative or mitigation measure considerably different from others previously analyzed would clearly lessen the environmental impacts of the project, but the project's proponents decline to adopt it; or the draft environmental impact report (EIR) was so fundamentally and basically inadequate and conclusory in nature that meaningful public review and comment were precluded. The Draft PEIR revision does not meet any of these criteria; therefore, the revisions do not trigger recirculation.

B-4 This comment states that Caltrans has begun to develop the I-5 South Corridor Project Study Report; however, it is currently on hold. The City appreciates this information and will continue to coordinate with Caltrans to review any potential traffic impacts and improvements on State facilities for development projects proposed as part of the Palomar Gateway District Specific Plan (PGDSP). This comment does not pertain the adequacy or accuracy of information provided in the Draft PEIR. No further response is required.

B-5 This comment recommends early coordination with Caltrans for projects proposed as part of the PGDSP. The City agrees with this comment and will continue to coordinate with Caltrans to review any potential traffic impacts and improvements on State facilities for development projects proposed as part of the PGDSP. This comment does not pertain the adequacy or accuracy of information provided in the Draft PEIR. No further response is required.

B-6 This closing comment expresses an interest in continued coordination with the City. As stated in response to comment B-5, the City will continue to coordinate with Caltrans to review any potential traffic impacts and improvements on State facilities for development projects proposed as part of the PGDSP.

COMMENTS

SOUTHWEST CHULA VISTA CIVIC ASSOCIATION

PO Box 6064, Chula Vista, CA 91909
(619) 422-6000 (619) 425-5771
http://www.swcvca.org

May 20,2013

RE: Comments on Draft Program EIR for Palomar GatewayDistrict Specific Plan:

C-1. This area is within the boundaries of the Southwest Chula Vista Civic Association. We are very concerned about this area. It is our opinion that one has to look at this EIR in the context of the goal of conforming to a General Plan that was adopted with a totally unacceptable number of over-riding circumstances. This EIR only admits to unmitigatable and unavoidable traffic impacts, but one would think that since it is based upon an EIR with so many others there actually are many more.

C-2. The traffic situation and the levels of service have gotten worse throughout the city since the General Plan was adopted and the densities in the east have been increased, which have further exasperated the situation. The latest GMOC report found a number of Thresholds not being met.

C-3. A median to prevent left turns at Walnut Ave. is funded in 2013 CIP. The people living on Walnut and Trenton will not be happy about this, but it remains to be seen if this will actually happen this year. As it remains to be seen if any of the mitigation called for in the original General Plan or this plan will get done before more housing goes in.

C-4. The Cumulative Impacts section of this EIR says:" Walnut Avenue/ Palomar Street: LOS F – AM and PM peak periods

- Industrial Boulevard/Palomar Street (at-grade trolley): LOS E – AM and PM peak periods
- Palomar Street – I-5 to Walnut Avenue: LOS E
- Palomar Street – Industrial Boulevard to Transit Center Place (grade-separated trolley and at-grade trolley): LOS E and LOS F, respectively
- Industrial Boulevard – North of Palomar Street (grade-separated trolley and at-grade trolley): LOS E and LOS F, respectively the proposed project's contribution would be cumulatively considerable."

This is what residents of the area and all of us who use Palomar to access freeway will be faced with even if grade separation and bridge widening do occur before any new development. This really is not acceptable.

RESPONSES

Letter C: Southwest Chula Vista Civic Association (SWCVCA)

C-1 This comment states that the proposed project would result in additional significant and unavoidable impacts that are not disclosed in the Draft PEIR. This comment is based on the fact that the City's General Plan EIR identified several significant and unavoidable impacts related to implementation of the General Plan. The comment does not specify a significant and unavoidable impact that is not included in the Draft PEIR. Similar to the Draft PEIR for the proposed project, the General Plan EIR is a program EIR as described in Section 2.2.2 of the Draft PEIR, Purpose of the EIR. The purpose of the General Plan EIR was to address potential city-wide impacts that could result from the land uses and growth accommodated under the General Plan area, which includes the PGD. Therefore, as discussed in Section 2.2.1 of the Draft PEIR, Scope of the EIR, the General Plan EIR is incorporated by reference into the Draft PEIR where applicable. The analysis contained in the General Plan EIR does not supersede or preclude the analysis of impacts specific to the PGDSP contained in the Draft PEIR. Rather, the Draft PEIR updates and refines the General Plan analysis with project-specific information. The conclusions of the General Plan EIR pertaining to city-wide impacts of the General Plan are not necessarily that same, nor are they required to be the same, as the conclusions reached in the Draft PEIR for impacts associated with the PGDSP.

Further, as discussed in Chapters 5 and 6 in the PEIR, implementation of the proposed project would result in significant and unavoidable impacts associated with the following environmental issues:

- Transportation, Circulation and Access (direct and cumulative impacts, as described in Sections 5.3.7 and 6.2.3)
- Air quality (direct and cumulative impacts, as described in Sections 5.4.7 and 6.2.4)
- Cultural resources (cumulative impact, as described in Section 6.2.7)
- Paleontological resources (cumulative impact, as described in Section 6.2.8)
- Energy (direct and cumulative impacts, as described in Sections 5.12.9 and 6.2.12.8)
- Housing and Population (cumulative impact, as described in Section 6.2.14)

A Statement of Overriding Considerations would be required for the above-listed significant and unavoidable impacts. All other impacts identified in Chapters 5 and 6 in the Draft PEIR were determined to be less than significant or would be reduced to below a level of significance with implementation of mitigation measures, based on project-specific information as discussed

in those sections. The final determination of the significance of impacts and the feasibility of mitigation measures will be made by the City of Chula Vista as part of their certification action for the Final PEIR. Therefore, no new environmental issue has been raised by this comment and no modification of the Draft PEIR is required.

C-2 This comment is a general observation of traffic conditions in the City. It does not pertain to the adequacy or accuracy of information provided in the Draft PEIR. No further response is required.

C-3 This comment expresses concern over construction of a median to prevent left turn at Walnut Avenue, and questions whether the improvement will be made. The improvement to Walnut Avenue is included in the Draft PEIR as mitigation measure 5.3-1 in Section 5.3.6, Mitigation Measures (Draft PEIR, p. 5.3-41). To improve the existing (pre-project) level of service (LOS) of F to an acceptable LOS (LOS C during AM peak hours and LOS D during PM peak hours), mitigation measure 5.3-1 provides a raised median across the intersection of Walnut Avenue and Palomar Street and reconfigures Walnut Avenue to allow right-in/right-out movements only. This improvement enhances safety by restricting minor street left-turn movements from Walnut Avenue across high-speed multiple-lanes of traffic on Palomar Street.

The commenter's concern regarding mitigation measures proposed in the EIR for the General Plan does not pertain to the proposed project. However, pursuant to CEQA Guidelines 15097(a), in order to ensure that the mitigation measures and project revisions indentified in the Draft PEIR for the PGDSP are implemented, the public agency (the City) will adopt a program for monitoring or reporting on the revisions which it has required in the project and the measures it has imposed to mitigate or avoid significant environmental effects. The Mitigation Monitoring and Reporting Program (MMRP) will be included in the Final PEIR. As stated in mitigation measure 5.3-1, implementation of the measure would be required prior to the approval of any construction associated with PGDSP development projects. Therefore, no new environmental issue has been raised by this comment and no modification of the Draft PEIR is required.

C-4 This comment states that the cumulative impacts in Section 6.2.3, Transportation, Circulation, and Access in the Draft PEIR are unacceptable. The City agrees with the commenter that operation at LOS D or below is considered significant. As such, a project that would cause a roadway segment or intersection to operate at a deficient level of service, or significantly reduce an already deficient LOS, would be considered to have a significant impact. However, the City's traffic thresholds state that 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 a segment operates at LOS F, the impact is significant regardless of intersection level of service (Draft PEIR, p. 5.3-23).

The intersections and roadway segments listed by the commenter are the cumulative conditions that would result from implementation of the proposed project and cumulative growth through the year 2030. Compared to existing conditions (Draft PEIR, pp. 5.3-4 and 5.3-5), the following cumulative conditions are considered a cumulative impact under the City's significance thresholds:

- Walnut Avenue/Palomar Street: LOS F – AM and PM peak periods
- Industrial Boulevard/Palomar Street (at-grade trolley): LOS E – AM and PM peak periods
- Palomar Street – I-5 to Walnut Avenue: LOS E
- Palomar Street – Walnut Avenue to Industrial Boulevard (at-grade trolley): LOS E
- Palomar Street – Industrial Boulevard to Transit Center Place (grade-separated trolley and at-grade trolley): LOS E and LOS F, respectively
- Industrial Boulevard – North of Palomar Street (grade-separated trolley and at-grade trolley): LOS E and LOS F, respectively

Therefore, the Draft PEIR includes mitigation measures 5.3-1 through 5.3-3, which outline the roadway improvements required to reduce the project's impact to a less than cumulatively considerable level. As discussed in Section 5.3.7 if the Draft EIR, Level of Significance after Mitigation, with timely implementation of mitigation measures 5.3-1 through 5.3-3, all intersections and roadways would operate at an acceptable level of service, and Existing Plus Project, 2020 and 2030 impacts would be reduced to a less than significant level (Draft EIR, p. 46). However mitigation measure 5.3-2 (Grade Separation for Trolley at Industrial Boulevard/Palomar Street Intersection) is outside of the jurisdiction of the City of Chula Vista. Implementation of this improvement would require coordination with Caltrans and SANDAG/ Metropolitan Transit System (MTS) and a combination of local, state, and federal funding sources. Therefore, the City cannot ensure the implementation or timing of mitigation measure 5.3-2. As such, operational improvement of the following facilities cannot be guaranteed and the impacts to these facilities are not considered to be fully mitigated to a less than significant level. Therefore, impacts would remain significant and unavoidable until mitigation measure 5.3-2 is implemented by other agencies (Draft PEIR, p. 5.3-48). This is the best available mitigation for this impact and was indentified in the Mobility Study (Appendix B of the Draft PEIR, p. 48). Therefore, the Draft EIR acknowledges that significant traffic LOS may occur in the PGDSP and a

COMMENTS

C-5. We will be closely watching to make sure that the Growth Management goals of the General Plan are enacted, since so far this is not being done with what has been happening in the east. The recent adoption of Pointe verified that to all residents. Particularly:

Objective GM 1
Concurrent public facilities and services. (Many are missing)

Objective GM 2
Provide adequate and sustainable fiscal base. (inadequate industrial and commercial development)

Objective GM 3
Create and preserve vital neighborhoods. (traffic problems, huge deficit in maintenance of streets, etc. causing degradation everywhere in city of pavement, parks, etc.)

Objective GM 4
Provide support for regional and intergovernmental growth management efforts. ????

Objective GM 5
Maintain appropriate and applicable Threshold Standards that reflect changing development patterns, location of development, and methods of providing services. (Many thresholds not now being met) "the Chula Vista Public Library

C-6. System is currently in noncompliance with the City's Quality of Life Threshold Standard for libraries."

the CVPD is currently out of compliance with the City's Quality of Life Threshold Standard for Priority One emergency response and Priority Two urgent calls.

" The PGD lies within the service area of Fire Station 5, which is located at 391 Oxford Street, approximately 0.5 mile northeast of the PGD. The Fire Station 5 facility, which was built in 1954, is in a state of deterioration and in need of replacement (City of Chula Vista 2011d). This facility is far past its useful life, needing constant repair due to structural damage that has been brought on by age."

" In the Southwest Planning Area, which includes the PGD, there are currently seven neighborhood parks and five mini parks totaling 63.02 acres of parkland, as well as two community centers in two parks and one recreation complex (City of Chula Vista 2010a); however, none are located within the PGD."

In other words the city is far away from being in a position to allow any new development at all without compromising even more the quality of life of existing residents.

RESPONSES

Statement of Overriding Considerations would be required for this significant and unavoidable impact.

C-5 This comment does not pertain to the adequacy or accuracy of information provided in the Draft PEIR. No further response is required.

C-6 This comment states that the City should not allow any new development until the City's General Plan Growth Management objectives in regard to libraries, parks and recreation, police protection, and fire protection are met. This comment also lists several excerpts from Section 5.12, Public Services and Utilities, in the Draft PEIR that describe existing public service deficiencies in the project area. As discussed this section (Draft PEIR, p. 5.12-1), the Growth Management Ordinance was adopted in support of the Growth Management objectives, and includes Quality of Life Threshold Standards for facilities and improvements in order to ensure that public facilities and services, government and other utility services, and improvements are adequate to meet present and future needs of Chula Vista. For impacts related to libraries, parks and recreation, police protection, and fire protection, these thresholds also serve as the City's CEQA thresholds. As such, the Draft PEIR includes an analysis of the potential impacts of PGDSP on the City's ability to meet these quality of life thresholds in Section 5.12, Public Services and Utilities.

The commenter refers Draft PEIR Section 5.12.4, Libraries, which states "the Chula Vista Public Library System is currently in non-compliance with the City's Quality of Life Threshold Standard for libraries." Due to this existing deficiency, the Draft PEIR concluded that growth under the PGDSP would have the potential to contribute to continued non-compliance with the City's Quality of Life Threshold Standard for libraries. Implementation of mitigation measure 5.12-4 would reduce potential impacts to libraries to a less than significant level by ensuring payment of fees to support libraries (Draft PEIR, p. 5.12-15). Therefore, the Draft PEIR includes mitigation to ensure that implementation of future development projects pursuant to the PGDSP would result in a less than significant impact.

The commenter refers to Draft PEIR Section 5.12.2, Police Services, stating that "the Chula Vista Police Department is currently out of compliance with the City's Quality of Life Threshold Standard for Priority One emergency response and Priority Two urgent calls." As discussed in Section 5.12.2.2, Regulatory Framework, the CVPD is currently in compliance with the City's Quality of Life Threshold Standard for Priority One emergency response. However, the CVPD is currently in non-compliance with the City's Quality of Life Threshold Standard for Priority Two urgent response (Draft PEIR, p. 5.12-7). Due to this existing deficiency, the Draft PEIR concluded that growth under the PGDSP would have the potential to contribute to continued non-compliance with the City's Quality of Life Threshold Standard for police services. Implementation of

COMMENTS

RESPONSES

mitigation measure 5.12-2 would reduce potential impacts to police services to a less than significant level by ensuring payment of fees to support police protection, integration of Crime Prevention through Environmental Design (CPTED) techniques, and a commitment from the City to address potential police personnel shortages (Draft PEIR, pp. 5.12-8 and 5.12-9). Therefore, the Draft PEIR includes mitigation to ensure that implementation of future development projects pursuant to the PGDSP would result in a less than significant impact.

The commenter refers to Draft PEIR Section 5.12.1, Fire Protection and Emergency Medical Services, which states, "The PGD lies within the service area of Fire Station 5, which is located at 391 Oxford Street, approximately 0.5 mile northeast of the PGD. The Fire Station 5 facility, which was built in 1954, is in a state of deterioration and in need of replacement (City of Chula Vista 2011d). This facility is far past its useful life, needing constant repair due to structural damage that has been brought on by age." Due to this existing deficiency, the Draft PEIR concluded that growth under the PGDSP would have the potential to contribute to continued non-compliance with the City's Quality of Life Threshold Standard for fire protection services. Implementation of mitigation measure 5.12-1 would reduce potential impacts to fire protection and emergency medical services to a less than significant level by ensuring emergency access and water supply, payment of fees to support fire protection services, and a commitment from the City to address potential fire personnel shortages (Draft PEIR, p. 5.12-5). Therefore, the Draft PEIR includes mitigation to ensure that implementation of future development pursuant to the PGDSP would result in a less than significant impact.

The commenter refers to Draft PEIR Section 5.12.5, Parks and Recreation, which states, "In the Southwest Planning Area, which includes the PGD, there are currently seven neighborhood parks and five mini parks totaling 63.02 acres of parkland, as well as two community centers in two parks and one recreation complex (City of Chula Vista 2010a); however, none are located within the Palomar Gateway District (PGD)." Due to this existing deficiency, the Draft PEIR concluded that growth under the PGDSP would have the potential to contribute to continued non-compliance with the City's Quality of Life Threshold Standard for parks and recreation in the PGD area. The Draft PEIR identifies several potential locations within or adjacent to the PGD that may be improved with parks, plazas, or open spaces to meet the parkland requirement (Draft PEIR, pp. 5.12-18 and 5.12-19). Additionally, implementation of mitigation measure 5.12-5 would reduce potential impacts to parks and recreation to a less than significant level by ensuring payment of fees to support parks and recreation facilities. Therefore, the Draft PEIR includes mitigation to ensure that implementation of future development pursuant to the PGDSP would result in a less than significant impact.

COMMENTS

C-7. Grade Separation for Trolley at Industrial Boulevard/ Palomar Street Intersection. To improve vehicular operations, the MTS trolley rail crossing shall be grade-separated at the Industrial Boulevard/Palomar Street intersection to improve vehicular operations. The proposed trolley grade-separation on Palomar Street is included on the regional priority list for rail grade-separation projects in the 2050 RTP in the Revenue Constrained Plan to be completed by year 2020. This improvement would result in no additional vehicular delay during a trolley crossing. With the grade-separation, this intersection is calculated to operate at LOS D or better. Grade-separation would also eliminate vehicle, pedestrian, and bicycle conflicts with the trolley.

This would be a help although the traffic would still be E, which is a new made up rating to avoid saying F. Here it says D but in traffic report E is used. Also it is doubtful the increased density of housing along Olympic Parkway was taken into consideration in this EIR. These people needing to use I-5 to get to work will be using Palomar too.

C-8. 5.6-1 Site-Specific Acoustic Analysis — Multi-Family Residences. Concurrent with Design Review and prior to the approval of building permits for the following uses, an acoustical analysis shall be performed to ensure that interior noise levels due to exterior noise sources shall be below 45 dBA CNEL:

i. Multi-family residential units where the first and/or second floor exterior noise levels exceed 60 dBA CNEL;

ii. Multi-family outdoor usable areas (patios or balconies) where noise levels exceed 65 dBA CNEL;

iii. Multi-family residential units located within the same building as commercial development;

iv. Multi-family residential units located near a structure requiring a heating, ventilating, and air conditioning system, or near a school, park, or community center.

Building plans shall be available during design review and shall demonstrate the accurate calculation of noise attenuation for habitable rooms. For these areas, it may be necessary for the windows to be able to remain closed to ensure that interior noise levels meet the interior standard of 45 dBA CNEL. Consequently, based on the results of the interior acoustical analysis, the design for buildings in these areas may need to include a ventilation or air conditioning system to provide a habitable interior environment with the windows closed.

This analysis needs to be done in the middle of the night when the freight train goes through and definitely when the freight train in attaching and detaching cars.

RESPONSES

C-7 This comment states the Draft PEIR uses inaccurate LOS rating in mitigation measure 5.3-2. The commenter states that in the Mobility Study, Industrial Boulevard and Palomar Street Intersection is LOS E, while the Draft PEIR states a LOS D. This comment is not correct. LOS D is the correct LOS for this intersection following mitigation (Draft PEIR, Appendix B, Mobility Study, p. 41). The listed LOS impacts are impacts prior to mitigation. See response to comment C-4 for a detailed response regarding intersections and street segments impacts.

The comment also expresses concern whether increased density of housing along Olympic Parkway was included in the analysis of traffic impacts for the proposed project. As discussed in Section 5.3.4.1, Traffic and Level of Service Standards in the Draft PEIR, the long-term analysis traffic analysis (Year 2030) was based on the SANDAG 2030 forecast model (Draft PEIR, p. 5.3-27). The model is based on the adopted General Plan land uses and represents the expected development over the next 20 years. Therefore, planned development in the City through Year 2030, including increased residential density, has been accounted for in the traffic impact analysis. The SANDAG 2030 forecast model is the best available data for modeling traffic impacts and this methodology follows standard traffic engineering practices. No modification of the Draft PEIR is required in response to this comment.

C-8 This comment states that mitigation measure 5.6-1, Site Specific Acoustic Analysis – Multi-Family Residences , in Section 5.6 of the PEIR, Noise, should include a requirement that the analysis be conducted in the middle of the night to account for freight train noise. The mitigation measure requires noise levels to meet a Community Noise Equivalent Level (CNEL) standard of 45 dBA CNEL. As defined on page 5.6-2 of the Draft PEIR, CNEL is the average equivalent A-weighted sound level over a 24-hour period. This measurement applies weights to noise levels during evening and nighttime hours to compensate for the increased disturbance response of people at those times. CNEL is the equivalent sound level for a 24-hour period with a +5 dBA weighting applied to all sound occurring between 7:00 p.m. and 10:00 p.m. and a +10 dBA weighting applied to all sound occurring between 10:00 p.m. and 7:00 a.m. Therefore, this mitigation measure already addresses the analysis of noise that occurs in the middle of the night, because nighttime noise is weighted to account for the increased sensitivity of residences to noise during this time. All nighttime noise sources would be considered in future analyses of the ambient noise environment, including freight noise. The comment has already been incorporated into the PEIR and no revision to the mitigation measure is necessary.

This comment also states that the Draft PEIR does not analyze the negative effects of keeping windows closed or the increased use of energy to run ventilation and air conditioning systems. The commenter does not specify a

COMMENTS

Nowhere are the negative environmental effects of keeping windows closed all the time analyzed and the increased use of energy to run air conditioners and/or air purification equipment to prevent stagnant air within habitable area caused by air tightness required to achieve noise mitigation.

C-8. cont. During the day they came up with these conclusions in Noise study: "Provided that proposed NSLU would be located within 100 feet of both noise sources, interior noise levels of 45 dBA CNEL may not be achieved with the incorporation of standard building practices. Specifically, proposed NSLU located along Palomar Street could exceed the nighttime interior noise standard by 2 dBA and proposed NSLU located along Industrial Boulevard could exceed the nighttime interior noise standard by 1 dBA. Thus, a potentially significant impact would occur to residences along Palomar Street and Industrial Street within 100 feet of the trolley line or roadway." How would members of the council like to sleep in an area like this?

C-9. 5.6-2 Site-Specific Groundborne Vibration Analysis. Vibration control measures deemed appropriate by the site-specific groundborne vibration analysis shall be implemented by the project applicant.

What evidence is there that anything can mitigate for vibrations caused by trains as close to tracks as existing homes are on Industrial, Ada, Dorothy, Belvia and Anita? People living there now would love to have this information.

C-10. Future development associated with PGDSP build-out would have the potential to generate permanent increases in ambient noise levels due to increased traffic, although the increases would be below significance thresholds.

What proof is there this would be below the level of significance? The General Plan conveniently decided noise levels have to increase by 3 decibels to be considered significant in areas of change. So much for our Noise Ordinances, which are supposed to protect our quality of life in Chula Vista. Obviously that is not very important to members of the City Council. Ambient noise increase will likely be substantial, especially if eventually larger trains start using these or upgraded tracks.

C-11. Mitigation measures 5.9-1, 5.9-3, and 5.9-4 (described above), in addition to the following: 5.9-5 Project-Level Wetland Delineation Studies.

The seasonal stream (part of city's drainage system) between Dorothy and Ada should be preserved and enhanced, possibly as a series of retention basins to keep all the run off water on the property to allow it to percolate into the soil and perhaps support wetlands plants. This could be a beautiful little natural space for walking and enjoying nature. It is unfortunate that the city allowed a previous condo developer to build a large ugly wall, but the rest could be salvaged.

RESPONSES

potential negative effect of keeping windows closed. Mitigation measure 5.6-1 in the Draft PEIR specifies that residences that would only achieve the 45 dBA CNEL standard by closing their windows would need to include a ventilation air conditional system to provide a habitable interior environment. Energy use that would result from growth under the PGDSP is addressed in Section 5.12.9 of the Draft PEIR. The energy analysis utilizes an average electricity usage rate for residences based on average performance for southern California residences, according to the *California Statewide Residential Appliance Saturation Survey*[1]. Average energy usage rates account for homes that do and do not include ventilation systems. The average rate represents the best available data to estimate energy usage of future homes in the PGD because the specifications of future homes are not known at this time. It would be speculative to estimate the number of homes that would require a ventilation air conditioning system, or that would install such a system voluntarily. No revisions to the Draft PEIR are necessary in response to this comment.

This comment also implies that an environment that exceeds the 45 dBA CNEL standard would interfere with sleep. The Draft PEIR concurs with the comment. As quoted by the commenter, the Draft PEIR concludes on page 5.6-18 that a potentially significant impact would occur along Palomar Street and Industrial Boulevard where noise levels would exceed City noise standards. As such, the Draft PEIR includes mitigation measure 5.6-1, which requires new residences to demonstrate interior noise levels below 45 dBA CNEL to ensure an interior noise environmental compatible with residential use. No revisions to the Draft PEIR are necessary in response to this comment.

C-9 This comment suggests that mitigation should be provided to address exposure of existing homes to existing vibration generated by the railroad. The Draft PEIR does not analyze the exposure of existing residences to existing vibration sources, nor is it required to do so, because this vibration exposure is an existing condition and not an impact of the proposed project. As stated in Section 15002(a) of the CEQA Guidelines, the basic purposes of CEQA are to inform decision makers of the potential significant environmental effects of the project and identify how those effects may be lessened or avoided. A significant environmental effect is defined in Section 15002(g) as a substantial adverse change in the physical conditions that exist in the area affected by the proposed project. The exposure of existing residences to vibration is a physical condition that already exists in the project area; therefore a significant environmental impact would occur only if the project would substantially increase the exposure of these residences to vibration. The proposed project would not increase the number or frequency of trains operating on the tracks in the PGD; therefore, an impact related to exposure of existing residences to train vibration would not occur. Mitigation measure 5.6-2 is intended to

[1] KEMA-XENERGY. 2004. *California Statewide Residential Appliance Saturation Study.* CEC-300-00-004. June.

protect future residences that would be developed under the proposed PGDSP from railroad vibration. Implementation of vibration-control measures would be based on analysis conducted in accordance with established Federal Transit Administration and Federal Railroad Administration guidance. No revisions to the Draft PEIR are necessary in response to this comment.

C-10 This comment requests information in support of the conclusion on page 5.6-22 of the Draft PEIR that future development associated with PGDSP build-out would have the potential to generate permanent increases in ambient noise levels due to increased traffic, although the increases would be below significance thresholds. This conclusion is supported by the analysis in Section 5.6.4.3 of the Draft PEIR, Permanent Increases in Ambient Noise Levels. As discussed in this section, acoustical calculations were performed for existing, existing plus project, and future (Year 2030) traffic volumes along roadway segments most affected by the project using standard noise modeling equations adapted from the FHWA Traffic Noise Model (FHWA-RD-77-108). Traffic volumes were provided by the Mobility Study prepared for the project (Appendix B to the Draft PEIR). As shown in Table 5.6-8, Future Traffic Noise Levels (CNEL), the proposed project would not result in an increase in noise levels that would exceed the City's significance threshold of 3 dBA CNEL. Therefore, the Draft PEIR provides analysis to support the conclusion on page 5.6-22.

This comment also questions the City's noise standards and significance thresholds; however, this comment does not address the adequacy or accuracy of information provided in the Draft PEIR. The proposed project does not include an amendment to the City's noise standards; therefore, an analysis of the City's standards is not warranted in the PEIR. As discussed in Section 5.6.1.1 of the Draft EIR, Noise Basics, a 3 dBA CNEL increase in noise is the minimum change in noise level that is generally perceptible to the human ear.

Additionally, the comment suggests that ambient noise in the PGD would be substantial if larger trains eventually start using the upgraded tracks. Ambient noise from a possible future use of the tracks is speculative and would not occur as a result of the proposed project. Therefore, this speculative future use was not included in the analysis of potential permanent increases in noise levels that would result from the proposed project. The analysis of exposure of future residences to significant ambient noise levels is provided in Section 5.6.4.1 of the Draft PEIR, Excessive Noise Levels. The Draft PEIR concluded that future residences could be exposed to excessive noise levels from both railroad and vehicle noise, and mitigation measure 5.6-1, Site-Specific Analysis – Multi-Family Residences, is included to mitigate impacts to a less than significant level. No revisions to the Draft PEIR are necessary in response to this comment.

COMMENTS

RESPONSES

C-11 This comment requests that the disturbed wetland habitat between Dorothy Street and Ada Street be preserved and enhanced. In Section 5.9.6, the Draft PEIR includes mitigation measures 5.9-1, 5.9-3, 5.9-4, 5.9-5 and 5.9-6, which would reduce potential impacts to wetlands to a less than significant level by ensuring project-level biological resources surveys and reports and wetland delineation studies are conducted, wetland permits are obtained, wetlands are mitigated by a combination of measures, and a long-term management and monitoring plan is prepared for in-kind habitat. It is unknown at the programmatic level how wetlands will ultimately be impacted by future proposed development, and as such, it is equally difficult to determine the most appropriate way for these impacts to be avoided or mitigated. To address this issue, mitigation measure 5.9-3 allows wetland mitigation by a combination of measures which include on-site creation of new habitat within avoided and preserved areas at the project site; on-site restoration of existing habitat within temporary impact areas and/or avoided and preserved areas at the project site; on-site enhancement of existing habitat within avoided and preserved areas at the project site; off-site purchase of habitat credits from a City-approved off-site mitigation bank in the region; off-site acquisition of land for the purposes of habitat preservation, creation, restoration, and/or enhancement within other properties or approved mitigation programs available at the time of grading; or a combination of the above (Draft PEIR, p. 5.9-31). Therefore, wetlands in the project area, including the area between Dorothy Street and Ada Street, may be created, restored, enhanced, credited, or acquired to satisfy wetland mitigation for future development. This comment has already been incorporated into the Draft PEIR and no modification of the Draft PEIR is required.

COMMENTS

C-12. BMPs in compliance with NPDES permit requirements and the Chula Vista Development Storm Water Manual would maintain downstream water quality in accordance with RWQCB standards, such that construction of future PGDSP development projects would not violate any water quality standards or waste discharge requirements and would not otherwise substantially degrade water quality.

This will be upgraded to meet the new standards?

5.12-1 Adequate Level of Fire Protection and Emergency Medical Services. 5.12-2 Adequate Level of Police Services.

C-13. It is extremely questionable that these areas will not be adversely impacted by this proposed development, considering the latest GMOC report shows they are not currently meeting all the required standards. Development should be contingent upon improvement to minimal required levels before it is allowed or the situation will continue to get worse. This has been happening for a number of years now.

C-14. Libraries

This is another area where impacts would be significant since they are currently deficient.

C-15. As far as Parks and Recreation go any development here would require another park due to the existing deficit on the west side of the city. Several possibilities are mentioned in the EIR, but funding has not been identified for any of them.

C-16. Water is becoming an increasingly scarce resource. No matter what SWA says. 100% water conservation, reuse needs to be required for any new development.

C-17. The 15,000 new homes already tentatively approved for the southeast are going to strain the sewer system to far beyond the proposed modification to accommodate this proposed development.

C-18. It is amazing that only energy has been identified as substantial and unmitigatable considering all the other resources that are just as limited. A possible mitigation would be to require new development to produce a large share of its projected energy use through solar, fuel cells, or other technologies to be developed in the future.

C-19. We have been told that there is an emergency plan in the event that the highly explosive cargo carried by the freight train through this area were to explode. It is said this would impact a one-mile circle. How would this increased development effect this plan? How would it effect the city's liability for allowing an increased number of people to be at risk? This is not mentioned in the report. Indeed the freight train is mentioned in passing but no measurements were taken to show its impacts, especially on nights when it is there for an extended amount of time exchanging an empty freight car for a full one.

RESPONSES

C-12 This comment asks whether water quality standards will be updated to meet new standards. The commenter does not specify a particular new standard; therefore, it is assumed that the commenter is referring to either the NPDES permit or the City's Development Storm Water Manual. The regulations described in the Draft PEIR in Section 5.10.4.1, Water Quality Degradation are current as of date of issuance of the NOP for the EIR (November 22, 2011), consistent with CEQA Guidelines Section 15125 for the description of the existing setting. Future PGDSP development projects would be required to comply with the NPDES permit and Development Storm Water Manual requirements that are adopted at the time future development is proposed. No modification of the Draft PEIR is required in response to this comment.

C-13 This comment reiterates concerns expressed in comment C-6 regarding the City's ability to meet the Quality of Life Threshold Standards for fire protection and police services. Refer to response to comment C-6. The Draft PEIR concluded that implementation of the PGDSP would have the potential to significantly impact the City's ability to maintain the Quality of Life Threshold Standards for fire protection and police services. Therefore, mitigation measures for fire protection and police services are included in the Draft PEIR to reduce potential impacts from future development to a less than significant level. No new environmental issue has been raised by this comment and no modification of the Draft PEIR is required. No further response is required.

C-14 This comment reiterates concerns expressed in comment C-6 regarding the City's ability to meet the Quality of Life Threshold Standards for libraries. Refer to response to comment C-6. The Draft PEIR concluded that implementation of the PGDSP would have the potential to significantly impact the City's ability to maintain the Quality of Life Threshold Standards for libraries. Therefore, mitigation measures for libraries are included in the Draft PEIR to reduce potential impacts from future development to a less than significant level. No new environmental issue has been raised by this comment and no modification of the Draft PEIR is required. No further response is required.

C-15 This comment reiterates concerns expressed in comment C-6 regarding the City's ability to meet the Quality of Life Threshold Standards for parks and recreation. Refer to response to comment C-6. The Draft PEIR concluded that implementation of the PGDSP would have the potential to significantly impact the City's ability to achieve the Quality of Life Threshold Standards for parks and recreation. Therefore, mitigation measures for parks and recreation are included in the Draft PEIR to reduce potential impacts from future development to a less than significant level. No new environmental issue has been raised by this comment and no modification of the Draft PEIR is required. No further response is required.

C-16 The comment states that 100 percent water conservation and reuse should be required for new development due to increasing reduced water supply. The analysis of the proposed project's water demand is based on the Water Supply Assessment prepared for the project by the Sweetwater Authority (2012) (Draft PEIR Appendix G). The Sweetwater Authority prepares an Urban Water Management Plan (UWMP) every 5 years, that includes projected water supplies required to meet future demands. As the planning agency for water supply in the project area, the water supply assessment from Sweetwater Authority represents the best available information for determining the project's potential impact on water supply. Based on the findings of the Water Supply Assessment (Sweetwater Authority 2012), the Sweetwater Authority has verified that with development of the resources identified, there would be sufficient water supply over the 20-year planning horizon to meet the projected demands of the proposed PGDSP, along with the other existing and planned development projects within the Sweetwater Authority's service area, under normal year, single-dry, and multiple-dry year conditions. Therefore, impacts associated with water supply would be less than significant (Draft EIR, p. 5.12-31).

As discussed in Section 5.12.6, Water in the Draft PEIR, Sweetwater Authority's water conservation program long-term goal is to achieve and maintain water use efficiency goals for various use categories that are reasonable for that category. Sweetwater Authority's customers are asked to continue voluntary water conservation, up to ten percent, without penalties or mandatory water use restrictions[2]. For a detailed description of the current demand management measures implemented by the Sweetwater Authority, refer to Section 5.1.4 of the Water Supply Assessment (Sweetwater Authority 2012), which is provided as Appendix G of the Draft PEIR. Additionally, the City's Design Manual includes a conservation element that provides guidance on project design, including water conservation and landscaping (PGDSP, p. 44). Therefore, water conservation would be incorporated into future development projects in the PGD.

C-17 This comment expresses concern over new homes tentatively approved to the southeast and the potential strain it may have on the proposed project sewer system. The cumulative analysis in Chapter 6.0 of the Draft PEIR includes future growth that would be accommodated under the General Plan, including future homes southeast of the PGD. As discussed in Section 6.2.12.6, Wastewater in the Draft PEIR, the City's General Plan EIR states that the City will generate approximately 26.2 millions of gallons per day (mgd) of wastewater at buildout of the adopted General Plan, including the PGD. The City anticipates a future allocated treatment capacity of 20.870 mgd within

[2] Sweetwater Authority, Water Efficiency. http://www.sweetwater.org/index.aspx?page=72, accessed June 11, 2013.

the San Diego Metropolitan wastewater system and has begun discussions with the City of San Diego to identify a mechanism for the provision of additional capacity. Consistent with the conclusion of the General Plan EIR for cumulative wastewater impacts, the Draft EIR also concluded that implementation of General Plan Policies the Chula Vista Municipal Code, which require provision of adequate facilities for all discretionary permits, would self-mitigate impacts on wastewater facilities to less than significant (Draft PEIR, p. 6-10).

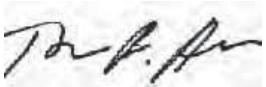
As identified in the Draft PEIR in Section 5.12.7, Wastewater, the PGDSP would increase the expected sewage load in the City. When added to other past, existing, and future planned development, the development of the PGDSP would contribute incrementally to impacts to sewer systems serving the region. The proposed project, as well as future development, would be required to adhere to the City's Threshold Standards Policy. This policy requires the City to provide the San Diego Metropolitan Sewer Authority with a 12- to 18-month 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. Implementation of mitigation measures 5.12-6 and 5.12-7 would ensure the proposed project is consistent with the City's Threshold Standards for wastewater. Therefore, implementation of the PGDSP would result in a less than significant cumulative impact (Draft PEIR, p. 6-10).

C-18 This comment expresses concern over energy use and recommends the Draft PEIR include mitigation to require solar, fuel cells, and/or other technologies. As discussed in Section 5.5 of the Draft PEIR, Global Climate Change, the City of Chula Vista actively promotes the adoption of solar and other clean energy technologies in new development as well as existing buildings, as outlined in the City's Climate Action Plan. All future development projects and associated buildings constructed as part of the PGDSP will be required to comply with the City's enhanced energy code, which requires their energy performance to be 15 percent better than state standards. As such, some developers will choose to install solar photovoltaic, solar hot water, or other type of renewable energy system to meet the standards. In addition, single-family dwellings, duplexes, and certain multi-family complexes are required to be pre-wired and pre-plumbed for solar photovoltaic and solar hot water, respectively, allowing future property-owners to install systems at a lower cost. Future development under the PGDSP would be required to comply with all applicable City requirements related to energy use. Therefore, the commenter's suggestion has already been incorporated into the project. As stated in the Draft PEIR in Section 5.12.9.4, Impacts, compliance with the City's regulations would reduce energy use, but not to the extent that future energy availability can be guaranteed (Draft PEIR, pp. 5.12-49 and 5.12-50). This comment also implies that other issues should be considered significant and unavoidable, but does

COMMENTS

C-20. In 13 areas the Reduced Project Alternative will reduce impacts. This is clearly the best alternative. It allows for upgrades in traffic management, and other areas that No Project does not. This would likely improve quality of life for existing residents. The lack of grade separation and the too narrow freeway bridge already are causing significant problems in this area.

Sincerely,



Theresa Acerro
President SWCV

RESPONSES

not specify an issue. Refer to response to comment C-1 regarding significant and unavoidable impacts.

C-19 This comment expresses concerns regarding explosives on freight trains and the City's emergency plan. According to Matt Domen, General Manager for the San Diego/Arizona freight rail road (SD/AR RR) that operates on the trolley lines[3], the freight trains that traverse the project site do not carry any highly explosive cargo. Emergency/contingency plans are in place that involve the Chula Vista Fire Department, MTS and the SD/AR RR. The proposed project would not result in the transport of any highly explosive cargo; therefore, this issue does not need to be addressed in the Draft PEIR. The commenter also states that the freight trains would have other impacts, but does not specify an issue. It is assumed based on the reference to a measurement that the commenter is concerned about noise issues. Freight train noise was addressed and modeled in Section 5.6 of the Draft PEIR, Noise (Draft PEIR, p. 5.6-15). Refer to response to comment C-8 regarding potentially significant impacts and mitigation related to freight train noise. No revisions to the Draft PEIR are required in response to this comment.

C-20 This comment recommends adoption of the Reduced Project Alternative. The Draft PEIR, as an informational document, does not provide a recommendation to the City Council. However, all project alternatives will be considered by the City Council at the time of project approval. As discussed in Section 15041 of the CEQA Guidelines, the City Council has the authority to require feasible changes to any or all of the activities involved in a project to lessen or avoid environmental impacts. Feasible changes could include incorporation of feasible portions of the Reduced Project Alternative that pertain to a specific project activity.

[3] Domen, Matt. 2013. Personal communication with Ben Guerrero, City of Chula Vista Senior Planner, via telephone. June 11, 2013.

COMMENTS

From: David Danciu [mailto:dpdanciu@aol.com]
Sent: Wednesday, May 29, 2013 3:13 PM
To: Mary Ladiana; Miguel Tapia
Subject: Palomar Gateway

Mary and Miguel,

Please forward to B. Guerrero or respond to the following:

D-1. First and foremost, the best option I have read in the EIR to help reduce the enviromental impact is the reduced project alterative found in section 1.5. This option lends value to quality of life concerns.

D-2. Second, we spoke about the need for grade separation of the trolley at Palomar and I feel that this should be accomplished before development begins.

D-3. Third, The Palomar Transit Plaza (MU-1) is a regional bus, trolley, park and ride and transportation center that I feel should have the MINIMUM of other uses (residential, commercial). At some point in the future even the BRT may come this far west. Transportation needs should be the top priority.

D-4. Fourth, I recommend that the elimination of industrial uses in the PGDSP not cause a loss of relatively better paying jobs for retail or other types. It has been well reported that Chula Vista has a lack of good jobs.

Thank for including these comments and I hope to add more on the 30th.

David Danciu
Member SWWG

RESPONSES

Letter D: David Danciu

D-1 This comment is a recommendation that the City Council adopt the Reduced Project Alternative. Refer to response to comment C-20. The Reduced Project Alternative and all project alternatives will be considered by the City Council at the time of project approval.

D-2 This comment recommends that grade separation for trolley be accomplished before development begins. Grade separation for the trolley at the Industrial Boulevard and Palomar Street intersection is required in Draft PEIR mitigation measure 5.3-2 for short-term and long-term impacts to intersections and roadway segments (Draft PEIR, p. 5.3-42). However, as discussed in Section 5.3.7, Level of Significance after Mitigation, this improvement is outside of the jurisdiction of the City of Chula Vista. Implementation of this improvement would require coordination with Caltrans and SANDAG/MTS and a combination of local, state, and federal funding sources. Moreover, the proposed trolley grade-separation on Palomar Street is included on the regional priority list for rail grade-separation projects in the 2050 Regional Transportation Plan in the Revenue Constrained Plan to be completed by year 2020. The City shall continue to stress the importance of the grade-separation with appropriate authorities. However, implementation of mitigation measure 5.3-2 cannot be guaranteed; therefore, impacts related to traffic and level of service standards are considered significant and unavoidable until the grade separation has been constructed.

D-3 This comment recommends that PGDSP should include a minimum of residential and commercial use in the MU-1 plan area, and that transportation should be top priority. The suggestion to minimize new land uses near the transit station is not consistent with the Transit Focus Area designation of the General Plan. Focused density around the transit station is consistent the General Plan Smart Growth policies, and the Project objectives. Implementation of this recommendation would be inconsistent with the General Plan.

As described in Section 3.2.5 of the Draft PEIR, Mobility Study, a Mobility Study was developed to analyze mobility conditions to accommodate expected growth in the PGD and the City's vision for the area (Draft PEIR, p. 3-7). The Mobility Study includes a review of the current and future transportation system across all modes of travel (pedestrians, bikes, autos and transit) and user abilities (children, elderly and disabled), and recommends a Mobility Plan for the PGD. The Mobility Plan reviews the constraints and opportunities of each travel mode and identifies recommendations for transportation improvements in a tiered priority system. Therefore, the commenter's recommendation to make transportation a priority has already been incorporated into the proposed project.

COMMENTS

RESPONSES

D-4 This comment states that industrial uses lost as a result of the project should not cause a loss of relatively better paying jobs. The comment speculates as to the economic and social effects of future development. Jobs would be accommodated in new non-residential land uses. As stated in Section 15131 of the CEQA Guidelines, potential economic or social effects of a project shall not be treated as significant effects on the environment. The purpose of the Draft PEIR is to disclose potential physical environmental changes. No potential physical environmental impacts are identified in this comment; therefore, no further response is required.

COMMENTS

RESPONSES

Letter E: Mario and Nancy Estolano

From: Nancy Estolano [mailto:nancy@leather.com]
Sent: Saturday, May 25, 2013 3:00 PM
To: Miguel Tapia
Cc: Rudy Ramirez; 'Nancy Estolano'
Subject: FW: WRITTEN RESPONSE TO THE Palomar Gateway District Draft Specific Plan

RE: Palomar Gateway District Draft Specific Plan

To Miguel Tapia and Mary Ladina

Thank you for the time you have taken in conducting community meetings. I appreciate advice and patience in listening to and including many of our suggestions.

E-1. I appreciate the Cities work in developing this plan and think the result will be a beautiful, well planned community where residents can take full use of the trolley and amenities and young ones can still be in central Chula Vista where many were raised and went to school and have parents nearby.

We have read over the PGD Draft Specific Plan and discussed the plan with several of my neighbors.

The thing we would strongly encourage you to incorporate is a change in density of 18-34 or more Units in the Residential High.

E-2. My property is 754-60 Anita Street. This is one of the few big parcels in RH and MU that are ideal for a good sized project and would not require a developer acquiring many small lots before developing. There are about 6 large development parcels along with mine on Anita. The parcels on Anita also have the benefit of being across from industrial park already and would impact single family houses.

Many of the lots I the MU area are small and it will be very hard for a developer to acquire enough contiguous parcels for a good project. They could never be developed.

I would recommend your incorporating 18-40 density for Anita and the RH zones.

Thanks

Mario and Nancy Estolano

E-1 This comment introduces the commenter and expresses support for the proposed project. This comment does not pertain the adequacy or accuracy of information provided in the Draft PEIR. No further response is required.

E-2 This comment recommends a change in density of 18-36 or 18-40 (dwelling units/gross acre) in the Residential High Zone and along Anita Street for the proposed project. The proposed project is intended to implement and be consistent with the land use plan of the City's 2005 General Plan, which calls for High Density Residential - 18-27 (dwelling units/gross acre) within the Specific Plan PRV Subdistrict. The PGDSP applies the R-3 zoning designation to the PRV Subdistrict (See Chapter 3 of the PGDSP and Chula Vista Municipal Code Chapter 19.28), which is consistent with the General Plan designation of a maximum of 27 dwelling units/gross acre). The R-3 zone designation allows for densities up to 32 dwelling units/net acre. However, a higher density would not be consistent with the City's General Plan in the PRV Subdistrict. Consistent with the General Plan, densities of up to 40 dwelling units per acre are allowed within one quarter mile of the Palomar Trolley Station in the Mixed Use Transit Focus Area.

COMMENTS

From: Nancy Estolano [mailto:nancy@leather.com]
Sent: Tuesday, May 28, 2013 2:12 PM
To: 'Juan-Pablo Mariscal'; Miguel Tapia
Cc: Mary Ladiana; Ben Guerrero; 'Eary, Christine'; 'Mukherjee, Suchitra'; 'Nancy Estolano'
Subject: RE: Availability of EIR for Palomar Gateway District Specific Plan

F-1. I have read Juan Pablo's suggestions and they are very good and much more complete that mine.

Mario P Estolano and I agree and hope that you will incorporate them in our District Specific Plan.

Thanks
Mario P and Nancy Estolano

RESPONSES

Letter F: Mario and Nancy Estolano

F-1 This comment expresses concurrence with the comments on the Draft PEIR submitted by Juan-Pablo Mariscal. Refer to response to comments H-1 through H-6 for the responses to these comments.

COMMENTS

Letter G: Rodolofo Estolano

From: Nancy Estolano [mailto:nancyestolano@gmail.com]
Sent: Saturday, May 25, 2013 3:09 PM
To: Miguel Tapia
Cc: Rudy Ramirez
Subject: FW: Palomar Gateway District Draft Specific Plan

Palomar Gateway District Draft Specific Plan

To Miguel Tapia

G-1. I am the owner of 750 Anita Street in the Residentail High zone

I have looked over the DRAFT and appreciate the plan

I recommend a change in density of 18-36 In the Residential High Zone.

This can be justified by its proximity to the Trolley and all facilities and the need for more rental housing in Chula Vista. I would like to be sure the area gets underground wiring, not just as developed; so that the area will become modern and beautiful.

Thanks
Rodolofo P Estolano

RESPONSES

G-1 This comment recommends a change in density of 18-36 (dwelling units/gross acre) for the Residential High Zone for the proposed project. Refer to response to comment E-2. The proposed project is intended to implement and be consistent with the land use plan of the City's 2005 General Plan, which calls for High Density Residential - 18-27 (dwelling units/gross acre) within the Specific Plan PRV Subdistrict. The R-3 zone designation allows for densities up to 32 dwelling units/net acre.

COMMENTS

From: Juan-Pablo Mariscal [mailto:jp@margroup.com]
Sent: Tuesday, May 28, 2013 1:19 PM
To: Miguel Tapia
Cc: Mary Ladiana; Ben Guerrero; Eary, Christine; Mukherjee, Suchitra
Subject: RE: Availability of EIR for Palomar Gateway District Specific Plan

Good afternoon Miguel,

We support and appreciate the City effort to achieve a successful redevelopment plan for the area.

H-1. As owners of the following properties:

745-765 Dorothy St (Aprox 2 Acres)

1350 Industrial (Aprox 2.8 Acres)

H-2. Here are our comments;

1-To incorporate a density of 18-36 Units in the Residential High Area

H-3. 2-To incorporate a plan to have all electric wires underground and improve sidewalks, signage, roads and landscape

H-4. 3-To have incentives for developers to encourage the use of public transportation, especially on sites close to the Trolley (reduce parking requirements)

H-5. 4-Acelerate negotiations with SDGE for Public Park on Industrial

H-6. 5-Find ways to reduce or defer fees

Thank you for taking into account our comments and suggestions.

Best Regards,

JP

Juan-Pablo Mariscal
President

915 Camino del Mar
Suite 200
Del Mar, Ca 92014
858.794.2600 office
858.724.1409 fax

RESPONSES

Letter H: Juan-Pablo Mariscal

H-1 This comment introduces the comments that are detailed in comments H-2 through H-6. Refer to the response to these comments.

H-2 This comment recommends a change in density of 18-36 (dwelling units/gross acre) in the Residential High Zone or the proposed project. Refer to response to comment G-1 for a response to this comment.

H-3 This comment recommends that the PDGSP incorporate a plan to have all electric wires underground and improve sidewalks, signage, roads and landscape. Section 3.4 of the PGDSP, Other Land Use Regulations, includes regulations to improve streets, sidewalks, and signage (PGDSP, pp. 41 and 42). Design guidelines for streetscape improvements, including landscaping, street trees, sidewalk design, lighting design, and public art are included in Chapter 4, Design Guidelines of the PGDSP (PGDSP, pp. 50-54). Although the PDGSP does not include any specific regulations for the undergrounding of utility wires, future development would be subject to Policy LUT 10.5 of the Chula Vista General Plan Land Use and Transportation Element, which requires undergrounding of utilities on private property and includes development of a City-wide program to underground utilities along public rights-of-way. Therefore, the commenter's suggestions have already been incorporated into the proposed project.

H-4 This comment recommends incentives for developers to encourage the use of public transportation, such as reduced parking requirements. This comment has already been incorporated into the Draft PEIR. The proposed PGDSP provides flexible parking requirements (See Section 3.4.4, p. 42), and allows for parking reductions (on a case by case basis) for residential development projects within a quarter-mile of the Transit Station and through shared parking agreements.

H-5 This comment recommends accelerated negotiations with San Diego Gas and Electric for a public park on Industrial Boulevard. This comment does not address the adequacy or accuracy of information provided in the Draft PEIR. No further response is required.

H-6 This comment recommends that the City find a way to reduce or deter fees. This comment does not address the adequacy or accuracy of information provided in the Draft PEIR. Future development projects proposed under the PGDSP would be required to pay applicable fees at the time the project is proposed. This comment has been noted.

Chapter 1 Executive Summary

This chapter provides a summary of the Environmental Impact Report (EIR) for the implementation of the proposed Palomar Gateway District Specific Plan (PGDSP), prepared in compliance with the California Environmental Quality Act (CEQA). The summary highlights the major areas of importance in the environmental analysis for the proposed PGDSP, as required by Section 15123 of the CEQA Guidelines, and provides a brief description of the proposed PGDSP's features, objectives, and alternatives to the proposed PGDSP. In addition, this chapter provides a table summarizing: 1) the potential environmental impacts that would occur from implementation of the proposed PGDSP; 2) the level of impact significance before mitigation; 3) the recommended mitigation measures that would avoid or reduce significant environmental impacts; and 4) the level of impact significance after mitigation measures are implemented. Two additional tables summarizing the proposed project's cumulative impacts and the comparative impacts of the alternatives to the proposed PGDSP are also provided at the end of this chapter.

1.1 Existing Conditions and Background

The PGD is currently comprised of a variety of land uses that include residential, commercial, and industrial uses. Residential development is the dominant land use, primarily concentrated south of Palomar Street, with densities ranging from approximately five to 20 dwelling units per acre. There are currently about 400 residential units in the PGD. A major commercial area is located on the northeast corner of Palomar Street and Industrial Boulevard and the Palomar Transit Station is located on the southeast corner of Palomar Street and Industrial Boulevard. The PGDSP has been prepared as a neighborhood-level planning document which provides updated zoning regulations, land use and development regulations, and design guidelines to implement the planned land uses, as envisioned in the Chula Vista General Plan.

The PGD is located in the General Plan's Southwest Planning Area, and is identified as one of five "areas of change" within this planning area that requires a detailed planning process. The General Plan objective for the PGD is to help transition the area from a low-density, auto-focused interchange into a Mixed Use Transit Focus Area surrounding the Palomar Transit Station. The vision for the Mixed Use Transit Focus Area includes higher intensity residential uses, as well as mixed use developments that offer a combination of pedestrian-friendly residential, office, and retail uses with strong linkages to the Palomar Transit Station. A mix of retail and office uses would be located along Palomar Street with residential uses above and/or behind the retail and office uses.

In creating the PGDSP, a strong public engagement strategy was initiated by the City. The first stage of the specific planning process for the southwest area included a series of three Urban Design Workshops, each focusing on different "areas of change" that had been identified in the General Plan, one of which

was focused on the PGD. The Urban Design Workshops were held in June and July 2009. Eighteen community members, each from various backgrounds, attended the Urban Design Workshop for the PGDSP. The City identified and reached out to a group of individuals and stakeholders with interest, knowledge of the area, and leadership abilities to be part of and actively participate in the Southwest Working Group (SWWG). The SWWG represented a cross-section of the southwest community and was tasked with providing oversight for the southwest area planning efforts and with working to engage other members of the community with the process. SWWG participated in several workshops to provide input during the PGDSP planning process, and were encouraged to get other members of their communities/organizations to attend SWWG meetings and other workshops. As the planning process advanced, City staff sought to involve the SWWG in the selection of consultants to perform the traffic, market, and environmental studies for the PGDSP. The City also held public meetings throughout 2010 and 2011 to provide an introduction to the PGDSP process. This early input helped form the baseline conditions for the PGDSP planning effort.

1.2 Project Description and Objectives

The subject of this Program EIR is a proposal to adopt and implement the PGDSP, which would govern the redevelopment of the Palomar Gateway District (PGD). The proposed PGDSP project was prepared in accordance with Chula Vista Municipal Code (CVMC) Section 19.07, Specific Plans, and with California Government Code, Title 7, Division 1, Chapter 3, Article 8, Sections 65450 through 65457, and contains all the mandatory elements identified in Government Code Section 65451. The PGDSP and appendices are available for review in their entirety at the City of Chula Vista Development Services Department at 276 Fourth Avenue; at the Chula Vista Civic Center Library at 365 F Street; and on the City of Chula Vista's website at www.chulavistaca.gov.

The PGD is located within the southwestern portion of the City of Chula Vista, County of San Diego, California, near the interchange of Palomar Street and Interstate (I) 5, approximately four miles north of the border with Mexico. The boundaries of the PGD consist of an approximately 100-gross acre area surrounding the Palomar Transit Station at the intersection of Palomar Street and Industrial Boulevard. The Metropolitan Transit System operates San Diego Trolley Blue Line light rail service from the Palomar Transit Station, while the Palomar Street/I-5 freeway interchange is considered one of the busiest traffic interchanges in the City. Thus, the PGD is considered the major southern gateway to the City for visitors entering both from the I-5 freeway and from the San Diego Trolley.

The preparation of the PGDSP follows the direction provided in the City of Chula Vista General Plan (City of Chula Vista 2005a) to prepare and adopt a more detailed vision, regulations, and guidelines for future development in the PGD. The following are the primary objectives of the PGDSP:

- Objective 1: Create a vibrant, safe, pedestrian friendly live/work/play environment that emphasizes the area as a southern gateway to the City of Chula Vista.
- Objective 2: Achieve a compact pattern of development conducive to walking and bicycling.
- Objective 3: Encourage light rail transit use and convenient access to services and jobs.
- Objective 4: Allow for a mix of uses, designed to attract pedestrians.
- Objective 5: Maintain an adequate level of parking and access for automobiles and integrate automobile use safely with pedestrians, bicyclists, and other users.
- Objective 6: Provide sufficient density of employees, residents, and recreational users to support transit.
- Objective 7: Generate a relatively high percentage of trips serviceable by transit.

The PGDSP has been prepared as a neighborhood-level planning document which provides updated zoning regulations, land use and development regulations, and design guidelines to implement the planned land uses, as envisioned in the Chula Vista General Plan. In addition to being a land use regulatory document, the PGDSP also outlines the framework for the provision of urban amenities and other public improvements associated with new development. The planning horizon for the PGDSP is year 2030, with provisions for periodic evaluation of progress in meeting plan goals.

All zoning-related portions of the PGDSP (i.e. land use matrix, permitted uses, and development regulations) would serve as regulatory provisions and supersede other City regulations and ordinances for the control of land use and development within the PGD. Other portions of the PGDSP, such as the development design guidelines, would provide direction for future planning and public improvement efforts. Future development projects, subdivisions, public improvement projects, and other implementing programs would be required to be consistent with the proposed PGDSP, once adopted.

Based on the 2010 Census, the total population of Chula Vista is estimated at 243,916 persons (as of April 1, 2010). Taking into account the adopted General Plan, the City's population is projected to reach approximately 288,978 persons by year 2030 (SANDAG 2011). The General Plan includes intensification of retail, office, and residential uses with low emphasis on industrial uses in the western portion of the City. The General Plan also proposes the replacement of a significant amount of existing lower density commercial and residential development in western Chula Vista with mixed use and higher density residential uses.

Based on the land use designations and densities established in the 2005 General Plan Update, the PGD could accommodate up to an additional 2,000 dwelling units, an increase of approximately 100,00 square feet of additional commercial retail development, and an increase of commercial office development of 25,000 square feet. The net increase in dwelling units would result in a population increase for the plan area of 6,420 (using a factor of 3.21 persons per household based on the 2010 Census information).

A market study was prepared for the PGDSP by Gafcon (2011), the results of which helped to refine the overall projected development for the PGDSP build-out identified in the General Plan. Based on the market study, the projected build-out for the PGD would allow for an additional 1,300 residential units over the existing 400 residential units for a total of 1,700 residential units, and an additional 100,000 square feet of commercial retail uses over the existing 200,000 square feet for a total of up to 300,000 square feet of commercial retail uses. In addition, the PGDSP proposes the development of 50,000 square feet of new commercial office uses and the elimination of the existing 30,000 square feet of industrial uses in the PGD. Based on the market study, the net increase in the maximum number of dwelling units would result in a population increase of approximately 3,354 people (using a factor of 2.58 persons per household based on the General Plan's Multi-Family residential land uses permitted by the Specific Plan).

A Mobility Study was prepared for the PGDSP in April 2012. The Mobility Study was developed to analyze mobility conditions (motorized and non-motorized) to accommodate expected growth in the PGD and the City's vision for the area. The Mobility Study includes a review of the current and future transportation system across all modes of travel (pedestrians, bikes, autos and transit) and user abilities (children, elderly and disabled), and recommends a Mobility Plan for the PGD. The Mobility Plan reviews the constraints and opportunities of each travel mode and identifies recommendations in a tiered priority system.

1.3 Project Approval

Approval of the PGDSP would require the approval of discretionary actions. Consistent with CEQA Guidelines Sections 15050 and 15367, the City of Chula Vista is designated as the Lead Agency for the proposed PGDSP. Discretionary actions for the project by the Chula Vista City Council include adoption of the PGDSP and certification of the Final EIR. Future development proposed in accordance with the PGDSP would require also discretionary approvals. The Final EIR for the PGDSP would be used by the City for discretionary actions associated with subsequent development and other activities within the PGD which require CEQA review.

1.4 Impact Summary

This Program EIR contains an environmental analysis of the potential impacts associated with implementing the proposed PGDSP. Issue areas subject to detailed analysis in Chapter 5, Environmental Impact Analysis, of this EIR include those that were identified as having potentially significant environmental impacts by the City of Chula Vista and in response to the City's Notice of Preparation (NOP) and scoping meeting, and consist of the following:

- Land Use, Planning, and Zoning
- Landform Alteration/Aesthetics
- Transportation, Circulation, and Access
- Air Quality
- Global Climate Change
- Noise
- Cultural Resources
- Paleontological Resources
- Biological Resources
- Hydrology and Drainage
- Geology and Soils
- Public Services and Utilities
- Hazards and Hazardous Materials
- Housing and Population

Table 1-1, presented at the end of this chapter, provides a summary of the environmental impacts that could result from implementation of the proposed PGDSP and identifies feasible mitigation measures that could reduce or avoid environmental impacts, as discussed in detail in Chapter 5, Environmental Impact Analysis, of this EIR. Table 1-2, presented at the end of this chapter, provides a summary of the potentially significant cumulative impacts to which the proposed PGDSP may contribute, as discussed in detail in Chapter 6, Cumulative Impacts, of this EIR. The proposed project was determined to result in potentially significant impacts related to transportation, circulation, and access; air quality; noise; cultural resources; paleontological resources; biological resources; geology and soils; public services and utilities; and hazards and hazardous materials. As shown in Table 1-1, mitigation measures were identified for all significant impacts. All direct impacts would be mitigated to a less than significant level except impacts related to traffic level of service standards, cumulatively considerable criteria air pollutant emissions, and energy use. The proposed project would result in a cumulatively considerable contribution to significant cumulative impacts related to transportation, cultural resources, paleontological resources, energy, and population and housing. Impacts to the following environmental topics were determined to be Effects Not Found to be Significant according to Section 15128 of the CEQA Guidelines: 1) Agricultural and Forestry Resources; and 2) Mineral Resources. These environmental topics are discussed in Chapter 7, Effects Not Found to be Significant, of this EIR.

1.5 Alternatives to the Proposed Project

The objective of the alternatives analysis is to consider a reasonable range of potentially feasible alternatives to foster informed decision-making and public participation. The following alternatives to the proposed PGDSP are analyzed in detail in Chapter 11, Alternatives, of this EIR:

- **No Project (Existing Plan) Alternative** – This alternative would continue to implement the current adopted CVMC Zoning and General Plan land use designations in the PGD. The existing zoning designations include single and multi-family residential, commercial, industrial, and utility corridor designations. No mixed use and only limited high-density residential development would be accommodated in the PGD based on the existing zoning designations, and existing zoning would not accommodate the development of a Transit Focus Area surrounding the Palomar Transit Center. Potential residential build-out in the PGD would be higher under the existing General Plan designations as compared to the proposed project. However, under this alternative, the Mobility Plan component of the PGDSP would not be implemented to improve pedestrian and bicycle accessibility in the PGD.
- **Reduced Project Alternative** – This alternative would reduce build-out in the PGD by 25 percent compared to the projected build-out that would be accommodated under the PGDSP. The 25 percent reduction would be applied evenly across the PGD so that overall development intensity would be reduced. A total of 1,275 residences would be accommodated under this alternative, as compared to 1,700 under the proposed project, for a net increase in residential units under this alternative of 875 new homes. Commercial development would be reduced to 225,000 square feet, compared to 300,000 square feet under the proposed PGDSP, for a total net increase in commercial development of 25,000 square feet. Office development under this alternative would be reduced to 37,500 square feet of new development, compared to 50,000 square feet of new development under the proposed PGDSP. Similar to the proposed project, this alternative does not propose any new industrial development. Under this alternative, the PGDSP Mobility Plan to enhance the use of transit, reduce vehicular trips and provide pedestrian and bicycle facilities that enhance connectivity in the PGD would be implemented.
- **Modified Land Use Arrangement Alternative** – This alternative would accommodate the same total projected number of residential units in the PGD as would be accommodated under the proposed project (1,700 units). However, the development density would be increased in the Mixed Use Corridor (MU-2) Sub-district and decreased in the Palomar Residential Village (PRV) Sub-district. Under this alternative, the residential density in the PRV would be reduced from approximately 16 units per acre to 10 units per acre. The residential density in the MU-2 Sub-district would be increased from an average of approximately 14 dwelling units per acre to approximately 23 dwelling units per acre. This would be accomplished by increasing the allowable building height to 60 feet across the entire MU-2 Sub-district, rather than just in the designated gateway areas. This alternative would accommodate an additional 100,000 square feet of commercial land uses and does not propose any new industrial development, similar to the proposed project. This alternative would implement the PGDSP Mobility Plan to increase transit use, reduce vehicle trips, and provide pedestrian and bicycle facilities that enhance connectivity in the PGD.

An EIR is required to identify the environmentally superior alternative among the range of reasonable alternatives that are evaluated. The Reduced Project Alternative would be the environmentally superior alternative, as it would lessen the project's significant impacts associated with noise, public services and

utilities, and hazards and hazardous materials. This alternative would also lessen but not avoid any of the project's significant and unavoidable impacts associated with transportation, circulation, and access; air quality, energy, cumulative loss of cultural and paleontological resources, or cumulative population growth. This alternative would meet two of the proposed project objectives, but would only partially meet the project objectives to create a pedestrian friendly mixed-use environment (Objective 1), achieve compact development conducive to walking and bicycling (Objective 2), provide a mix of uses to attract pedestrians (Objective 4), provide sufficient density to support transit (Objective 6), and provide for additional trips serviceable by transit (Objective 7).

Table 1-3, presented at the end of this chapter, provides a summary comparison of the environmental impacts that could result from implementation of the project alternatives against those identified for the proposed PGDSP.

1.6 Areas of Controversy

CEQA Guidelines Section 15123(b)(2) requires that an EIR identify areas of controversy, including issues raised by other agencies and the public. Areas of known controversy associated with the proposed project that are relevant to the EIR are listed below. The majority of these issues were raised in comments received on the NOP.

- Potential biological impacts and compliance with the City of Chula Vista Multiple Species Conservation Program (MSCP) Subarea Plan
- Potential to pose a threat to human health or the environment from hazardous materials
- Potential direct and cumulative traffic impacts
- Alternatives to avoid or lessen traffic impacts
- Potential to cause a substantial adverse change to the significance of an historical resource, including an archaeological resource
- Native American consultation
- Safety of the railroad corridor
- Vehicular and pedestrian traffic impacts over the existing railroad crossing
- Traffic analysis should balance the need of motorists, transit riders, pedestrians, and bicyclists
- Project consistency with the 2050 Regional Transportation Plan, Regional Comprehensive Plan Sustainable Communities Strategy, and Regional Housing Needs Assessment
- Consider regulations related to greenhouse gas emissions
- Consider policies that promote the reduction of energy demand and water consumption
- Compatibility with San Diego Gas and Electric facilities
- Missing infrastructure, including a grade level trolley crossing and existing too-narrow bridge over I-5
- Hazards associated with freight trains
- Noise and vibration from freight trains
- Placement of homes within 500 feet of a freeway
- Drainage improvements

Table 1-1 Summary of Environmental Impacts and Mitigation Measures

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
5.1 Land Use, Planning, and Zoning				
Community Character and Land Use Compatibility	Implementation of the PGDSP would not physically divide an established community or result in incompatible land uses.	LS	No mitigation required.	LS
Applicable Land Use Plan, Policy, or Regulation	Implementation of the PGDSP would not result in any conflicts with applicable land use plans, policies, or regulations with implementation of the mitigation measures identified in Section 5.3, Transportation, Circulation, and Access; Section 5.9, Biological Resources; and Section 5.12, Public Services and Utilities.	LS	No further mitigation required other than mitigation measures identified in Section 5.3, Transportation, Circulation, and Access; Section 5.9, Biological Resources; and Section 5.12, Public Services and Utilities.	LS
5.2 Landform Alterations/Aesthetics				
Scenic Vistas and Resources	Future PGDSP development projects would not obstruct scenic vistas and would not result in any major landform alterations that could damage scenic resources.	LS	No mitigation required.	LS
Visual Character	The development regulations and design guidelines outlined in the PGDSP would ensure that future development within the PGD would not result in architecture, urban design, landscaping, or landforms that adversely affect the visual character or quality of the PGD and surrounding areas.	LS	No mitigation required.	LS
Light and Glare	Future PGDSP development projects would be required to comply with the PGDSP development regulations and design guidelines and the City's Unnecessary Lights Ordinance, which would prevent significant light and glare impacts.	LS	No mitigation required.	LS

Key: PS = Potentially Significant; LS = Less than Significant; SU = Significant and Unavoidable

Table 1-1 continued

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
5.3 Transportation, Circulation, and Access				
Traffic and Level of Service Standards	Analysis of the study intersections and street segments under Existing + Project, Year 2020, and Year 2030 scenarios revealed significant impacts at several facilities operating at LOS E or LOS F.	PS	**5.3-1 Walnut Avenue/Palomar Street Intersection Raised Median and Walnut Avenue Reconfiguration.** Prior to the approval of any construction associated with PGDSP development projects, the City shall implement a raised median across the intersection and Walnut Avenue shall be reconfigured to allow right-in/right-out movements only. This improvement is required to restrict minor street left-turn movements from Walnut Avenue across multiple lanes of traffic on Palomar Street. Pedestrians shall be prohibited from crossing Palomar Avenue at this intersection and shall be required to utilize the Industrial Boulevard/Palomar Street intersection to cross Palomar Street. Because left-turn movements would be restricted at the Walnut Avenue/Palomar Street intersection, eastbound vehicles on Palomar Street intending to turn left at Walnut Avenue would need to make a u-turn at the Palomar Street/Industrial Boulevard intersection. Similarly, westbound left-turning vehicles at Walnut Avenue would be required to make a left-turn at the Palomar Street/Industrial Boulevard intersection and turn right on Ada Street. This improvement has been added to the City's CIP for 2013 and is now fully funded. **5.3-2 Grade Separation for Trolley at Industrial Boulevard/ Palomar Street Intersection.** To improve vehicular operations, the MTS trolley rail crossing shall be grade-separated at the Industrial Boulevard/Palomar Street intersection to improve vehicular operations. The proposed trolley grade-separation on Palomar Street is included on the regional priority list for rail grade-separation projects in the 2050 RTP in the Revenue Constrained Plan to be completed by year 2020. This improvement would result in no additional vehicular delay during a trolley crossing. With the grade-separation, this intersection is calculated to operate at LOS D or better. Grade-separation would also eliminate vehicle, pedestrian, and bicycle conflicts with the trolley.	SU

Key: PS = Potentially Significant; LS = Less than Significant; SU = Significant and Unavoidable

Table 1-1 continued

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			5.3-3 Industrial Boulevard/Palomar Street Intersection Left-Turn Lane Signal Change. The left-turn lane signal phasing at the Industrial Boulevard/Palomar Street intersection shall be changed from permitted-protected to protected at all intersection approaches. The timing of implementation of this improvement shall be determined by the results of the annual study conducted under the City's Traffic Management Program.	
Air Traffic Patterns	Implementation of the proposed PGDSP would not result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.	LS	No mitigation required.	LS
Traffic Hazards	PGDSP build-out would generate additional pedestrian, bicycle, and vehicular traffic along Palomar Street, which could further increase traffic hazards at existing intersections. In addition, existing conditions at the Transit Center/Palomar Street intersection would have the potential to result in traffic hazards associated with PGDSP implementation.	PS	Mitigation measures 5.3-1 through 5.3-3 (described above), in addition to the following: **5.3-4 Transit Center Place/Palomar Street Intersection.** The following improvements shall be implemented to improve pedestrian access and safety at the Transit Center/Palomar Street intersection: i. Realign the north leg of the intersection to align with the south leg, which would eliminate intersection offset. This improvement would also benefit pedestrians by allowing shorter walking distances. ii. Install pavement markings after realignment on the north leg of the intersection showing an exclusive left-turn lane and shared through-right lanes.	LS
Emergency Access	Temporary roadway closures and detours during construction of future PGDSP development projects within roadway rights-of-way could potentially impede emergency access if the appropriate authorities are not properly notified prior to construction.	PS	**5.3-5 Traffic Control Plans.** Prior to construction of future development projects in the PGDSP that require temporary roadway closures and detours, project applicants shall submit a traffic control plan to the City Engineer for review and approval. The traffic control plan shall be prepared by a licensed traffic engineer in accordance with the California Manual on Uniform Traffic Control Devices. The traffic control plan shall identify the location and timing of anticipated roadway closures and the alternative routes to be utilized during project construction.	LS

Key: PS = Potentially Significant; LS = Less than Significant; SU = Significant and Unavoidable

Table 1-1 continued

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
Public Transit, Bicycle, or Pedestrian Facilities	PGDSP implementation would not conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.	LS	No mitigation required.	LS
5.4 Air Quality				
Applicable Air Quality Plans	Because the proposed PGDSP would be consistent with the RAQS and SIP, PGDSP implementation would not conflict with or obstruct implementation of the applicable air quality plans.	LS	No mitigation required.	LS
Air Quality Violations	Because the proposed PGDSP would not include any significant stationary sources of emissions such as industrial uses or toxic emitters, PGDSP implementation would not contribute substantially to an existing or projected air quality violation.	LS	No mitigation required.	LS
Cumulatively Considerable Emissions	Implementation of the proposed PGDSP would generate a cumulatively considerable net increase of ozone precursors (~~ROG~~VOC and NO_X) related to both construction emissions and operational emissions.	PS	**5.4-1 Construction Emissions Reduction Measures.** Construction contractors for future PGDSP development projects shall implement the following measures to reduce construction emissions during all construction activities: i. Minimize simultaneous operation of multiple construction equipment units (i.e., phase construction to minimize impacts). ii. Use low pollutant-emitting construction equipment. iii. Use electrical construction equipment. iv. Use catalytic reduction for gasoline-powered equipment. v. Use injection timing retard for diesel-powered equipment. vi. All unpaved construction areas shall be sprayed with water or other acceptable dust control agents twice daily during dust-generating activities to reduce dust emissions. Additional watering or acceptable dust control agents shall be applied during dry weather or on windy days until dust emissions are not visible. vii. Trucks hauling dirt and debris shall be properly covered to reduce windblown dust and spills. viii. A 15 mile per hour speed limit on unpaved surface shall be enforced. ix. On dry days, dirt and debris spilled onto paved surfaces shall be swept up immediately to reduce re-suspension of particulate	SU

Key: PS = Potentially Significant; LS = Less than Significant; SU = Significant and Unavoidable

Table 1-1 continued

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			matter caused by vehicle movement. Approach routes to construction sites shall be cleaned daily of construction-related dirt in dry weather. x. On-site stockpiles of excavated material shall be covered or watered. xi. Disturbed areas shall be hydroseeded, landscaped, or developed as quickly as possible and as directed by the City to reduce dust generation. **5.4-2 Operational Emissions Reduction Measures.** The City shall implement the following measures to reduce operational emissions by further reducing vehicle use associated with PGDSP implementation: i. Require Transportation Demand Management Plans from employers within the PGDSP, which could include ride-sharing programs, vanpools/shuttles, etc. ii. Synchronize traffic signals to minimize idling and reduce emissions due to traffic congestion. iii. Require parking fees within the PGDSP to encourage transit use. iv. Limit parking supply to encourage transit use. v. Require employers within the PGDSP to provide transit subsidies.	
Sensitive Receptors	Implementation of the proposed PGDSP would have the potential to expose new sensitive receptors to on-site sources of toxic air contaminants.	LS	**5.4-3 Siting Sensitive Receptors near Gas Stations or Dry Cleaning Facilities**. A Health Risk Assessment (HRA) shall be prepared by a qualified air quality professional for development of new sensitive receptors proposed in the PGD within 500 feet of a dry cleaning facility that uses perchloroethlyene, or within 50 feet of an auto service station. The project shall not be considered for approval until an HRA has been completed and approved by the City. The methodology for the HRA shall follow the Office of Environmental Health Hazard Assessment and San Diego Air Pollution Control District guidelines for the preparation of HRAs. If a potentially significant health risk is identified, the HRA shall identify appropriate measures to reduce the potential health risk to below a significant level, or the sensitive receptor shall be sited in another location.	LS

Key: PS = Potentially Significant; LS = Less than Significant; SU = Significant and Unavoidable

Table 1-1 continued

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
Objectionable Odors	Implementation of the proposed PGDSP would not create major sources of odors and would not place any receptors in close proximity to existing odor sources.	LS	No mitigation required.	LS
5.5 Global Climate Change				
Direct and Indirect Generation of GHG Emissions	Because the GHG emissions reduction measures incorporated into the PGDSP would reduce GHG emissions by more than 28.35 percent below business-as-usual, PGDSP implementation would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.	LS	No mitigation required.	LS
Applicable GHG Emissions Reduction Plan, Policy, or Regulation	Implementation of the proposed PGDSP would not conflict with Assembly Bill 32 and the associated Climate Change Scoping Plan and would require future projects to be consistent with the City's Climate Action Plan.	LS	No mitigation required.	LS
5.6 Noise				
Excessive Noise Levels	Implementation of the proposed PGDSP would have the potential to result in exposure of NSLU to excessive noise levels from operational and transportation noise sources.	PS	**5.6-1 Site-Specific Acoustic Analysis — Multi-Family Residences.** Concurrent with Design Review and prior to the approval of building permits for the following uses, an acoustical analysis shall be performed to ensure that interior noise levels due to exterior noise sources shall be below 45 dBA CNEL: i. Multi-family residential units where the first and/or second floor exterior noise levels exceed 60 dBA CNEL; ii. Multi-family outdoor usable areas (patios or balconies) where noise levels exceed 65 dBA CNEL; iii. Multi-family residential units located within the same building as commercial development; iv. Multi-family residential units located near a structure requiring a heating, ventilating, and air conditioning system, or near a school, park, or community center. Building plans shall be available during design review and shall demonstrate the accurate calculation of noise attenuation for habitable rooms. For these areas, it may be necessary for the windows to be able to remain closed to ensure that interior noise levels meet the interior standard of 45 dBA CNEL. Consequently,	LS

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Table 1-1 continued

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			based on the results of the interior acoustical analysis, the design for buildings in these areas may need to include a ventilation or air conditioning system to provide a habitable interior environment with the windows closed.	
Excessive Groundborne Vibration	Implementation of the proposed PGDSP would have the potential to result in the exposure of vibration sensitive land uses to excessive groundborne vibration from trolley/railroad operations and construction activities.	PS	**5.6-2 Site-Specific Groundborne Vibration Analysis.** Concurrent with design review and prior to issuance of building permits, future projects shall implement the FTA and FRA guidelines, where appropriate, to limit the extent of exposure that sensitive uses may have to groundborne vibration from trains, construction equipment, and other sources. Specifically, Category 1 uses (vibration-sensitive equipment) within 600 feet, Category 2 uses (residences and buildings where people normally sleep) within 200 feet, and Category 3 uses (institutional land uses) within 120 feet of railroad rights-of-way or other major sources of groundborne vibration shall require a site-specific groundborne vibration analysis conducted by a qualified groundborne vibration specialist in accordance with FTA and FRA guidelines. Vibration control measures deemed appropriate by the site-specific groundborne vibration analysis shall be implemented by the project applicant.	LS
Permanent Increases in Ambient Noise Levels	Future development associated with PGDSP build-out would have the potential to generate permanent increases in ambient noise levels due to increased traffic, although the increases would be below significance thresholds.	LS	No mitigation required.	LS
Temporary Increases in Ambient Noise Levels	Future development associated with PGDSP build-out would have the potential to generate temporary increases in ambient noise level due to construction activities; however, construction activities would comply with applicable regulations for construction noise.	LS	No mitigation required.	LS
Aircraft Noise	Implementation of the proposed PGDSP would not result in the exposure of NSLU to excessive noise levels from aircraft noise.	LS	No mitigation required.	LS

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Table 1-1 continued

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
5.7 Cultural Resources				
Historical Resources	Because three buildings that have been recommended as Historical Resources (California Historical Resource Status Code 5S3) and the six buildings that have been recommended for further evaluation (California Historical Resource Status Code 7N) were identified in the PGD, it is possible that future PGDSP development projects could cause a substantial adverse change in the significance of an historical resource.	PS	**5.7-1 Historical Resources Mitigation Program.** Future PGDSP development projects shall be required to implement the following measures to prevent potential impacts to historical resources: i. Impacts to any resource(s) that is/are listed in a Historical Resources Survey as being a historical resource, or that has been substantiated through completion of a DPR Form, an Expert Technical Analysis report, or by the City, to be an Eligible Historical Resource, as defined in CVMC Section 21.03.044, shall require a Certificate of Appropriateness and shall follow the requirements set forth in CVMC Sections 21.07.070 and 21.07.080. ii. Prior to any modification or alteration, as defined in CVMC Section 21.03.002, to a resource 45 years or older that may meet the findings of fact and eligibility criteria established in CVMC Section 21.04.100, or any resource that has been determined through a survey to need further evaluation (California Historical Resource Status Code 7N), an evaluation of historical significance shall be conducted pursuant to CVMC Section 21.07.020. Any resource determined to be an Eligible Historical Resource, as defined in CVMC Section 21.03.044, shall follow the procedure described in Item i) above.	LS
Archaeological Resources	Because presently obscured or buried archaeological resources may occur within the PGD, it is possible that ground-disturbing activities associated with construction of future PGDSP development projects could cause a substantial adverse change in the significance of an archaeological resource.	PS	**5.7-2 Archaeological Resources Mitigation Program.** Future PGDSP development projects that involve ground disturbance beyond that previously disturbed shall be required to implement the following measures to prevent potential impacts to archaeological resources: i. Cultural resource significance evaluations shall be required when new resources are identified as a result of a survey, when previously recorded resources that have not been previously evaluated are relocated during a survey, and when previously recorded sites are relocated during the survey and if there is a likelihood that the resource still exists. A property shall be reevaluated if its condition or setting has either improved or deteriorated, if new information is available, or if the resource is	LS

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Table 1-1 continued

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			becoming increasingly rare due to the loss of other similar resources. In such cases, an archaeological testing program shall be required, which includes evaluating the horizontal and vertical dimensions of a site, the chronological placement, site function, artifact/ecofact density and variability, presence/absence of subsurface features, and research potential. It should be noted that Tribal representatives and/or Native American monitors shall be involved in making recommendations regarding the significance of prehistoric archaeological sites during this phase of the process. The testing program may require reevaluation of the project in consultation with the Native American representative which could result in a combination of project redesign to avoid and/or preserve significant resources as well as mitigation in the form of data recovery and monitoring (as recommended by the qualified archaeologist and Native American representative). ii. If significant cultural resources are identified within the proposed PGDSP project site, those resources may be eligible for designation for the NRHP, CRHR, or local register. If no significant resources are found, then no further action is required. Resources found to be non-significant as a result of a survey and/or assessment will require no further work beyond documentation of the resources on the appropriate DPR 523 site forms and inclusion of results in the survey and/or assessment report. If no significant resources are found but results of the initial evaluation and testing phase indicates there is still a potential for resources to be present in portions of the property that could not be tested, then mitigation monitoring shall be required. Preferred mitigation for cultural resources is to avoid the resource through project redesign. If the resource cannot be entirely avoided, all prudent and feasible measures to minimize harm shall be taken. iii. For archaeological resources where preservation is not an option, a data recovery program shall be implemented. The data recovery program shall be based on a written research design, which will outline research questions and data recovery	

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Table 1-1 continued

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			methodology, and is subject to the provisions outlined in CEQA Section 21083.2. Archaeological monitoring may be required during building demolition and/or construction grading when significant resources are known or suspected to be present on the proposed PGDSP project site, but cannot be recovered prior to grading due to obstructions such as, but not limited to, existing development or dense vegetation. iv. A Native American observer shall be retained for all subsurface investigations, including geotechnical testing and other ground disturbing activities whenever a Native American Traditional Cultural Property or archaeological site within the proposed PGDSP project site would be impacted. The Native American monitor shall be consulted during the preparation of the written report, at which time they may express concerns about the treatment of sensitive resources. If the Native American community requests participation of an observer for subsurface investigations on private property, the request shall be honored.	
Human Remains	Compliance with California Health and Safety Code Section 7050.5 and California Public Resources Code Section 5097.98 in the unlikely event that human remains are encountered during construction of future PGDSP development projects would ensure proper treatment and disposition of human remains.	LS	No mitigation required.	LS
5.8 Paleontological Resources				
Paleontological Resources	Ground-disturbing activities during future development associated with PGDSP build-out may expose the underlying Bay Point Formation, which has a moderate paleontological sensitivity level and resources potential rating, and could potentially damage or destroy unique paleontological resources.	PS	**5.8-1 Paleontological Resources Mitigation Program.** Future PGDSP development projects that propose grading in excess of 2,000 cubic yards volume and five feet depth shall be required to implement a pre-construction or construction mitigation program, or both, as a condition of approval. All mitigation programs shall be performed by a qualified professional paleontologist, defined as an individual with a M.S. or Ph.D. in paleontology or geology who has proven experience in San Diego County paleontology and who is knowledgeable in professional paleontological procedures and techniques. Fieldwork may be conducted by a qualified paleontological monitor, defined as an individual who has experience in the collection and salvage of fossil materials. The	LS

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Table 1-1 continued

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			paleontological monitor shall always work under the direction of a qualified paleontologist. <u>Pre-construction mitigation.</u> This method of mitigation is only applicable to instances where well-preserved and significant fossil remains, discovered in the assessment phase, would be destroyed during initial brush clearing and equipment move-on. The individual tasks of this program include: i. Surface prospecting for exposed fossil remains, generally involving inspection of existing bedrock outcrops but possibly also excavation of test trenches; ii. Surface collection of discovered fossil remains, typically involving simple excavation of the exposed specimen, but possibly also plaster jacketing of large and/or fragile specimens or more elaborate quarry excavations of richly fossiliferous deposits; iii. Recovery of stratigraphic and geologic data to provide a context for the recovered fossil remains, typically including description of lithologies of fossil-bearing strata, measurement and description of the overall stratigraphic section, and photographic documentation of the geologic setting; iv. Laboratory preparation (cleaning and repair) of collected fossil remains, generally involving removal of enclosing rock material, stabilization of fragile specimens (using glues and other hardeners), and repair of broken specimens; v. Cataloging and identification of prepared fossil remains, typically involving scientific identification of specimens, inventory of specimens, assignment of catalog numbers, and entry of data into an inventory database; vi. Transferral, for storage, of cataloged fossil remains to an accredited institution (museum or university) that maintains paleontological collections (including the fossil specimens, copies of all field notes, maps, stratigraphic sections, and photographs); and	

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Table 1-1 continued

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			vii. Preparation of a final report summarizing the field and laboratory methods used, the stratigraphic units inspected, the types of fossils recovered, and the significance of the curated collection. <u>Construction mitigation.</u> Under this program, mitigation occurs while excavation operations are underway. The scope and pace of excavation generally dictate the scope and pace of mitigation. The individual tasks of a construction mitigation program shall typically include: i. Monitoring of excavation operations to discover unearthed fossil remains, generally involving inspection of ongoing excavation exposures (e.g., sheet graded pads, cut slopes, roadcuts, basement excavations, and trench sidewalls); ii. Salvage of unearthed fossil remains, typically involving simple excavation of the exposed specimen but possibly also plaster jacketing of large and/or fragile specimens, or more elaborate quarry excavations of richly fossiliferous deposits; iii. Recovery of stratigraphic and geologic data to provide a context for the recovered fossil remains, typically including description of lithologies of fossil-bearing strata, measurement and description of the overall stratigraphic section, and photographic documentation of the geologic setting; iv. Laboratory preparation (cleaning and repair) of collected fossil remains, generally involving removal of enclosing rock material, stabilization of fragile specimens (using glues and other hardeners), and repair of broken specimens; v. Cataloging and identification of prepared fossil remains, typically involving scientific identification of specimens, inventory of specimens, assignment of catalog numbers, and entry of data into an inventory database; vi. Transferral, for storage, of cataloged fossil remains to an accredited institution (museum or university) that maintains paleontological collections, including the fossil specimens, copies of all field notes, maps, stratigraphic sections and photographs; and	

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Table 1-1 continued

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			vii. Preparation of a final report summarizing the field and laboratory methods used, the stratigraphic units inspected, the types of fossils recovered, and the significance of the curated collection.	
5.9 Biological Resources				
Special-Status Species	Future PGDSP development projects would result in potentially significant impacts to special-status plant and animal species if project applicants of future PGDSP development proposals within those portions of the MU-2 and PRV sub-districts that are characterized by non-native grassland or disturbed wetland do not provide an updated, project-level biological resources survey and report to document the current conditions and biological resources impacts associated with each specific project. In addition, implementation of the proposed PGDSP would result in potentially significant impacts to nesting birds that are protected under the MBTA and CFG Code.	PS	**5.9-1 Project-Level Biological Resources Surveys and Reporting.** During the design and environmental review phase, and prior to the construction of future PGDSP development projects that include those portions of the Palomar Mixed Use Corridor Sub-District (MU-2) and Palomar Residential Village Sub-District (PRV) characterized by non-native grassland or disturbed wetland, as depicted on Figure 5.9-1, project applicants shall retain a City-approved biologist to conduct an updated, project-level biological resources technical study of the proposed PGDSP project site, to include an updated biological survey and report prepared in accordance with the City's MSCP Subarea Plan and HLIT Ordinance. The updated biological survey shall include an inventory of the current existing condition at the proposed PGDSP project site and verify whether the project would occur on or in the immediate vicinity of sensitive natural habitat, including wetlands, in addition to habitat suitable for special-status species. The updated biological resources report shall provide documentation of the results of the updated biological survey, and shall also identify potential direct and indirect impacts to sensitive biological resources and project-level measures to mitigate the potential impacts. The updated biological resources report shall be submitted to the City in support of CEQA documentation and the issuance of any subsequent discretionary actions or permits identified for the future development proposal. **5.9-2 Pre-Construction Nesting Bird Surveys.** To avoid any direct impacts to raptors and/or any migratory birds, removal of habitat that supports active nests on the proposed area of disturbance should occur outside of the breeding season for these species (January 15 to August 31). If removal of habitat on the proposed area of disturbance must occur during the breeding season, project applicants shall retain a City-approved biologist to	LS

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Table 1-1 continued

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			conduct a pre-construction survey to determine the presence or absence of nesting birds on the proposed area of disturbance. The pre-construction survey must be conducted within 10 calendar days prior to the start of construction activities (including removal of vegetation). Project applicants shall submit the results of the pre-construction survey to the City for review and approval prior to initiating any construction activities. If nesting birds are detected, a letter report or mitigation plan as deemed appropriate by the City, shall be prepared and include proposed measures to be implemented to ensure that disturbance of breeding activities is avoided. The report or mitigation plan shall be submitted to the City for review and approval and implemented to the satisfaction of the City. The City's Mitigation Monitor shall verify and approve that all measures identified in the report or mitigation plan are in place prior to and/or during construction.	
Sensitive Natural Communities	Future PGDSP development projects within portions of the MU-2 and PRV sub-districts would have the potential to result in the loss of non-native grassland and disturbed wetland habitat.	PS	Mitigation measure 5.9-1 (described above), in addition to the following: **5.9-3 In-Kind Habitat-Based Compensatory Mitigation.** Permanent and temporary impacts to non-native grassland and disturbed wetland habitat associated with future PGDSP development projects in the MU-2 and PRV sub-districts shall be mitigated by the project applicant in-kind (i.e., the same type of habitat as that which is impacted), or an alternative type of habitat which provides equivalent or superior mitigation, through implementation of any one or combination of the following measures, as approved and/or amended by the USACE, RWQCB, and/or CDFW in federal and state permits or by the City during the HLIT permit and Wetlands Protection Program processes, as applicable: i. On-site as creation of new habitat within avoided and preserved areas at the project site; ii. On-site as restoration of existing habitat within temporary impact areas and/or avoided and preserved areas at the project site;	LS

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Table 1-1 continued

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			iii. On-site as enhancement of existing habitat within avoided and preserved areas at the project site; iv. Off-site as purchase of habitat credits from a City-approved off-site mitigation bank in the region, as determined through agreements with the City. Unless otherwise required by the City, USACE, RWQCB, and/or CDFW, the mitigation shall include off-site areas located within the boundaries of the City's MSCP Subarea Plan; v. Off-site as acquisition of land for the purposes of habitat preservation, creation, restoration, and/or enhancement within other properties or approved mitigation programs available at the time of grading. Unless otherwise required by the City, USACE, RWQCB, and/or CDFW, the mitigation shall include off-site areas located within the boundaries of the City's MSCP Subarea Plan; or vi. A combination of the above. In-kind habitat-based mitigation for impacts to non-native grassland shall be mitigated at a ratio of 0.5:1 (i.e., 0.5 acre of mitigation land for every 1.0 acre of habitat impacted) to 1:1. The required mitigation ratio for non-native grassland shall be 0.5:1 if the mitigation will occur within a designated Preserve area under the City's MSCP Subarea Plan, and 1:1 if the mitigation will occur outside of a designated Preserve area, such as on-site. In-kind habitat-based mitigation for impacts to non-native grassland shall be mitigated at a ratio of 0.5:1 (i.e., 0.5 acre of mitigation land for every 1.0 acre of habitat impacted) to 1:1. The required mitigation ratio for non-native grassland shall be 0.5:1 if the mitigation will occur within a designated Preserve area under the City's MSCP Subarea Plan, and 1:1 if the mitigation will occur outside of a designated Preserve area, such as on-site. In-kind habitat-based mitigation for impacts to disturbed wetland shall be mitigated at a ratio of 1:1 to 2:1 to ensure there is no-net-loss, as determined through agreements with the City, and if required, through the acquisition of federal and state permits from the USACE, RWQCB, and/or CDFW.	

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Table 1-1 continued

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			Prior to the issuance of any land development permits (including clearing and grubbing or grading permits) for projects requiring on- or off-site creation, restoration, and/or enhancement mitigation, project applicants shall prepare a restoration plan for impacts to sensitive biological resources. The restoration plan shall be prepared by a City-approved biologist and to the satisfaction of the City's Development Services Director (or his designee). The restoration plan shall include, at a minimum, an implementation strategy, appropriate seed mixtures and planting method; irrigation; quantitative and qualitative success criteria; maintenance, monitoring, and reporting program; estimated completion time; and contingency measures. Project applicants shall also be required to implement the restoration plan subject to the oversight and approval by the City's Development Services Director (or his designee). If required, restoration plans prepared for wetland habitat mitigation shall be approved by the USACE, RWQCB, and/or CFDG prior to vegetation clearing, grading, and/or construction activities. Project applicants shall be required to record a biological open space easement or conservation easement over land that is to be used as mitigation, if such an easement does not already exist, designating it as a preserve for biological conservation purposes. Mitigation proposed within the City shall be accompanied with an conservation easement or other mechanism approved by the City, USFWS, USACE, RWQCB, and/or CDFW, as appropriate, as being sufficient to insure that lands are protected in perpetuity. In the event that a project applicant is unable to secure mitigation through an established mitigation bank approved by the City and Wildlife Agencies, the project applicant shall secure the required mitigation through the conservation of an area containing in-kind habitat within the City's MSCP Subarea Plan or MSCP Planning Area in accordance with the mitigation ratios contained in Table 5-3 of the City's MSCP Subarea Plan and subject to Wildlife Agency concurrence.	

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Table 1-1 continued

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			5.9-4 Construction Fencing. Prior to issuance of any land development permit, and to the satisfaction and oversight of the City's Development Services Director (or his designee), the applicant shall secure the parcel(s) that will be permanently preserved for in-kind habitat impact mitigation, prepare a long-term Management and Monitoring Plan (MMP) for the mitigation area, secure an appropriate management entity to ensure that long-term biological resource management and monitoring of the mitigation area is implemented in perpetuity, and establish a long-term funding mechanism for the management and monitoring of the mitigation area in perpetuity. The long-term MMP shall provide management measures to be implemented to sustain the viability of the preserved habitat and identify timing for implementing the measures prescribed in the MMP. The mitigation parcel shall be restricted from future development and permanently preserved through the recordation of a conservation easement or other mechanism approved by the Wildlife Agencies as being sufficient to insure that the lands are protected in perpetuity. The conservation easement or other mechanism approved by the Wildlife Agencies shall be recorded prior to issuance of any land development permits. The project applicant shall be responsible for maintaining the biological integrity of the mitigation area and shall abide by all management and monitoring measures identified in the MMP until such time as the established long-term funding mechanism has generated sufficient revenues to enable a City-approved management entity to assume the long-term maintenance and management	
Wetlands	Future PGDSP development projects within portions of the MU-2 and PRV sub-districts would have the potential to result in the loss of disturbed wetland habitat.	PS	Mitigation measures 5.9-1, 5.9-3, and 5.9-4 (described above), in addition to the following: **5.9-5 Project-Level Wetland Delineation Studies.** Prior to construction of future PGDSP development projects within portions of the MU-2 and PRV sub-districts that could result in impacts to disturbed wetland habitat, project applicants shall retain a qualified biologist to perform a formal wetland delineation in order to qualify and quantify existing wetland resources potentially subject to the	LS

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Table 1-1 continued

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			regulatory jurisdiction of the USACE, RWQCB, and/or CDFW. Wetland delineations shall be conducted according to the methodologies and current regulatory guidance recommended by these agencies. The results of the wetland delineation shall be documented in a report to determine project impacts and avoidance, and if required, facilitate the acquisition of federal and state permits. **5.9-6 Wetland Permits.** Prior to construction of future PGDSP development projects within portions of the MU-2 and PRV sub-districts that have been confirmed to result in potential impacts to jurisdictional wetlands, as identified through implementation of mitigation measure 5.9-5 above, project applicants shall obtain the required federal and state permits from the USACE, RWQCB, and/or CDFW, as specified below: i. An application for a Nationwide or Individual Permit, depending upon the extent of impacts, shall be submitted by the project applicant to the USACE pursuant to Section 404 of the CWA. If required, the project applicant shall obtain a Nationwide or Individual Permit from the USACE for all impacts, temporary and/or permanent, to any areas within the proposed project which are determined to qualify as waters of the United States subject to USACE jurisdiction. ii. For any future PGDSP development projects requiring a federal license or permit to construct or operate, which may result in any discharge into waters of the United States, the project applicant shall submit to the RWQCB a request for Water Quality Standards Certification pursuant to Section 401 of the CWA to confirm that the discharge would comply with applicable water quality and discharge provisions. iii. A Notification of Lake or Streambed Alteration shall be submitted by the project applicant to the CDFW pursuant to CFG Code Section 1602. If required, a Streambed Alteration Agreement shall be obtained from the CDFW for all impacts, temporary and/or permanent, to any areas within the project which are determined to qualify as streambed and/or riparian subject to CDFW jurisdiction.	

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Table 1-1 continued

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			In accordance with permit requirements, project applicants shall mitigate the loss of jurisdictional wetlands through the implementation of the in-kind habitat-based compensatory mitigation proposed within mitigation measure 5.9-3 above, unless otherwise conditioned by the USACE, RWQCB, and CDFW in federal and state permits or by the City during the HLIT permit and Wetlands Protection Program processes.	
Wildlife Movement and Nursery Sites	Future development associated with PGDSP build-out would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, including linkages identified in the City's MSCP Subarea Plan, or impede the use of native wildlife nursery sites.	LS	No mitigation required.	LS
Local Policies, Ordinances, and Adopted Conservation Plans	Prior to mitigation, future PGDSP development projects within those portions of the MU-2 and PRV sub-districts that are characterized by non-native grassland or disturbed wetland would have the potential to conflict with the City's MSCP Subarea Plan and CVMC Chapter 17.35.		Mitigation measures 5.9-1, 5.9-3, 5.9-4, 5.9-5, and 5.9-6 (described above), in addition to the following: **5.9-7 Habitat Loss and Incidental Take Permit.** Prior to construction of future PGDSP development projects within portions of the MU-2 and PRV sub-districts that could result in impacts to non-native grassland (Tier III) and disturbed wetland (Wetland) habitat, project applicants shall submit for approval to the City of Chula Vista an application for a HLIT permit, to include all relevant submittal requirements and required findings in accordance with CVMC Chapter 17.35. Project applicants shall provide all necessary information to allow the City to take action on the HLIT permit application and meet the required findings for an HLIT permit to be issued. In accordance with HLIT permit requirements, project applicants shall mitigate the loss of non-native grassland (Tier III) and disturbed wetland (Wetland) habitat through the implementation of the in-kind habitat-based compensatory mitigation proposed within mitigation measure 5.9-3, unless otherwise conditioned by the USACE, RWQCB, and CDFW in federal and state permits through the implementation of mitigation measure 5.9-6.	LS

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Table 1-1 continued

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
5.10 Hydrology and Drainage				
Water Quality Degradation	Future PGDSP development projects would potentially contribute pollutants to runoff during construction and operation; however, implementation of construction BMPs and permanent BMPs in compliance with NPDES permit requirements and the Chula Vista Development Storm Water Manual would maintain downstream water quality in accordance with RWQCB standards, such that construction of future PGDSP development projects would not violate any water quality standards or waste discharge requirements and would not otherwise substantially degrade water quality.	LS	No mitigation required.	LS
Groundwater Depletion	Implementation of the proposed PGDSP would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge.	LS	No mitigation required.	LS
Drainage Alterations	Construction of future PGDSP development projects would temporarily alter the localized drainage pattern at the construction site; however, implementation of construction BMPs in compliance with the NPDES Construction General Permit and the Chula Vista Development Storm Water Manual would minimize the potential for erosion and siltation and would control surface runoff such that flooding does not occur and off-site flow does not exceed the capacity of the City's storm water drainage system during construction. Future PGDSP development projects occurring on the limited remaining undeveloped areas of the PGD would permanently alter the localized drainage pattern at the project site; however, compliance with the Chula Vista Subdivision Manual would minimize the potential for erosion and siltation and would control surface runoff such that flooding does not occur and off-site flow does not exceed the capacity of the City's storm water drainage system during operation.	LS	No mitigation required.	LS
Flood Hazards	Implementation of the proposed PGDSP would not place housing or structures within a 100-year flood hazard area and would not expose people or structures to significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam.	LS	No mitigation required.	LS

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Table 1-1 continued

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
5.11 Geology and Soils				
Seismic Hazards	Implementation of the proposed PGDSP would not expose people or structures to substantial adverse effects involving ground surface rupture, strong seismic ground shaking, liquefaction, or landslides.	LS	No mitigation required.	LS
Soil Erosion	Implementation of the proposed PGDSP would not result in substantial soil erosion or the loss of topsoil.	LS	No mitigation required.	LS
Soil Hazards	Future PGDSP development projects would potentially be located on compressible and/or expansive soils, which could create substantial risks to life or property.	PS	**5.11-1 Site-Specific Geotechnical Investigation.** Prior to the construction of future PGDSP development projects, project applicants shall submit a site-specific geotechnical investigation to the City Engineer and/or Building Official for review and approval. The investigation shall be prepared by a licensed geotechnical engineer in order to evaluate the specific geologic conditions of the proposed PGDSP project site, determine whether potential geologic hazards exist, and provide recommendations for project design and construction to minimize such hazards. The investigation shall include (but not be limited to) a delineation of specific locations where compressible and expansive soils would affect structural stability. Compressible and expansive soils shall be removed from the site and replaced with compacted fill.	LS
5.12 Public Services and Utilities				
Fire Protection and Emergency Medical Services	PGDSP build-out would allow for increased development densities and associated population growth in the PGD, thereby increasing the demand for fire protection and emergency medical services, which could hinder response times. If the provision of additional personnel does not coincide with the PGDSP's projected population growth and associated demand for fire protection and emergency medical services, a potentially significant impact would occur.	PS	**5.12-1 Adequate Level of Fire Protection and Emergency Medical Services.** The following measures shall be implemented to ensure that adequate fire protection and emergency medical services are maintained in accordance with the adopted standards and Quality of Life Threshold Standard: i. Prior to approval, future PGDSP development projects shall demonstrate provision of adequate access for fire vehicles (pursuant to General Plan Policy PFS 6.1) and adequate water pressure to new buildings (pursuant to General Plan Policy PFS 6.2). ii. As a condition of project approval, each individual developer shall pay the Public Facilities Development Impact Fees at the rate in effect at the time the building permit is issued. iii. As part of the annual budgeting process, the City shall assess the	LS

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Table 1-1 continued

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			need for additional fire personnel to provide fire protection and emergency medical services consistent with established City service levels and commensurate with the increase in population. Pursuant to City of Chula Vista Growth Management Policy GM1.11, the City of Chula Vista establishes the authority to withhold discretionary approval and subsequent building permits from projects demonstrated to be out of compliance with applicable threshold standards.	
Police Services	PGDSP build-out would allow for increased development densities and associated population growth in the PGD, thereby increasing the demand for police services, which could hinder response times. If the provision of additional personnel does not coincide with the PGDSP's projected population growth and associated demand for police services, a potentially significant impact would occur.	PS	**5.12-2 Adequate Level of Police Services.** The following measures shall be implemented to ensure that adequate police services are maintained in accordance with the adopted Quality of Life Threshold Standards: i. Prior to approval, future PGDSP development projects shall demonstrate provision of adequate access for police vehicles (pursuant to General Plan Policy PFS 6.1) and integration of CPTED techniques (pursuant to General Plan Policy PFS 6.3). ii. As a condition of project approval, each individual developer shall pay the Public Facilities Development Impact Fees at the rate in effect at the time the building permit is issued. iii. As part of the annual budgeting process, the City shall assess the need for additional police personnel to provide police services consistent with established City service levels and commensurate with the increase in population. Pursuant to City of Chula Vista Growth Management Policy GM1.11, the City of Chula Vista establishes the authority to withhold discretionary approval and subsequent building permits from projects demonstrated to be out of compliance with applicable threshold standards.	LS
Schools	PGDSP build-out would allow for increased development densities and associated population growth in the PGD, thereby increasing the demand for schools. If the construction or expansion of school facilities does not coincide with the PGDSP's student generation and associated demand for schools, a potentially significant impact would occur.	PS	**5.12-3 Adequate Level of School Facilities.** Prior to approval of future PGDSP development projects, each individual developer shall pay the statutory school impact fees at the rate in effect at the time the building permit is issued.	LS

Key: PS = Potentially Significant; LS = Less than Significant; SU = Significant and Unavoidable

Table 1-1 continued

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
Libraries	PGDSP build-out would allow for increased development densities and associated population growth in the PGD, thereby increasing the demand for libraries, which could contribute to the existing shortage of library space if the City's plans for additional library development continue to be unrealized. If the construction or expansion of library facilities does not coincide with the PGDSP's projected population growth and associated demand for libraries, a potentially significant impact would occur.	PS	**5.12-4 Adequate Level of Library Facilities.** Prior to approval, future PGDSP development projects shall demonstrate that significant impacts to libraries resulting from the individual project have been addressed. As a condition of project approval, each individual developer shall pay the Public Facilities Development Impact Fees at the rate in effect at the time the building permit is issued.	LS
Parks and Recreation	PGDSP build-out would allow for increased development densities and associated population growth in the PGD, thereby increasing the demand for parks and recreation facilities. If the dedication of parkland and construction of recreation facilities does not coincide with the PGDSP's projected population growth and associated demand for parks and recreation facilities, a potentially significant impact would occur.	PS	**5.12-5 Adequate Level of Parks and Recreation Facilities.** Prior to approval, future PGDSP development projects shall establish to the satisfaction of the Development Services Director that the project meets the City's parkland dedication requirement. As a condition of project approval, each individual developer shall provide required parkland and recreational facilities consistent with potential site locations identified in the PGDSP and the Parks and Recreation Master Plan; or shall pay the applicable parkland acquisition and parkland development fees and recreation facility development impact fees at the rate in effect at the time building permits are issued.	LS
Water	The Sweetwater Authority has verified that with development of the resources identified, there would be sufficient water supply over the 20-year planning horizon to meet the projected demands of the proposed PGDSP, along with the other existing and planned development projects within the Sweetwater Authority's service area, under normal year, single-dry, and multiple-dry year conditions.	LS	No mitigation required.	LS
Wastewater	PGDSP build-out would allow for increased development densities and associated population growth in the PGD, thereby increasing the demand for sewer service. If the construction or expansion of sewer facilities does not coincide with the PGDSP's projected population growth and associated demand for sewer service, non-compliance with the City's Quality of Life Threshold Standard for sewer service may result such that a potentially significant impact would occur.	PS	**5.12-6 Sewer System Upgrades.** Commensurate with population growth in the PGDSP, the City shall implement the preferred improvement alternative, Proposal 2, as identified in the PGDSP Sewer Study (Atkins 2012c). Proposal 2 consists of installing a new 15-inch sewer main parallel to the existing 12-inch line between Main Street and Anita Street, and would also divert Industrial Boulevard flows into the Salt Creek Interceptor and abandon portions of the existing sewer within Industrial Boulevard.	LS

Key: PS = Potentially Significant; LS = Less than Significant; SU = Significant and Unavoidable

Table 1-1 continued

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			5.12-7 Sewer Development Impact Fee. The City shall establish a sewer development impact fee or other similar fee structure to charge future PGDSP development projects for their portion of sewer upgrades. Prior to issuance of building permits, future PGDSP development projects shall pay the applicable sewer development impact fee at the rate in effect at the time building permits are issued.	
Solid Waste	The Otay Landfill has sufficient capacity to accommodate the PGDSP's solid waste disposal needs.	LS	No mitigation required.	LS
Energy	Because there is no assurance of a long-term supply of energy in the future, the increase projected energy demand associated with the PGDSP could potentially result in the available supply of energy to fall below a level considered sufficient to meet the City's needs or cause a need for new and expanded facilities.	PS	**5.12-8 Energy Strategy and Action Plan.** The City shall implement 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, as well as the Carbon Dioxide Reduction Plan, in order to lessen the extent of impacts associated with energy supply.	SU
5.13 Hazards and Hazardous Materials				
Hazardous Materials Transport, Use, Disposal, or Release	Demolition or renovation activities involving buildings constructed prior to the 1980s, as well as ground-disturbing activities in soils with elevated levels of lead or pesticides, would have the potential to expose construction workers to hazardous building materials, which could pose substantial health risks.	PS	**5.13-1 Hazardous Building Materials Surveys.** Prior to demolition or renovation activities associated with future PGDSP development projects, a hazardous building materials survey shall be performed at buildings that were constructed prior to 1980. This type of survey typically addresses asbestos-containing materials, lead-based paint, PCBs in electrical equipment, mercury switches, and heating/cooling systems. The hazardous building materials survey shall be conducted under the direct supervision of a certified asbestos consultant and certified lead inspector/assessor. If asbestos-containing materials, lead-based paint, or other hazardous materials are identified during the hazardous building materials survey, a licensed abatement removal contractor shall remove and properly dispose of the hazardous materials in accordance with applicable federal, state, and local regulations. A certified consultant shall prepare a bid specification document, and perform abatement project planning, site and air monitoring, oversight activities, and reporting activities.	LS

Key: PS = Potentially Significant; LS = Less than Significant; SU = Significant and Unavoidable

Table 1-1 continued

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
Hazards to Schools	Implementation of the proposed PGDSP would not result in any new land uses that would emit hazardous emissions or handle acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school.	LS	No mitigation required.	LS
Hazardous Material Sites	Due to releases and/or historical uses, sites containing contaminated groundwater and/or soils have been identified in the PGD. Contaminated groundwater and/or soil may pose significant hazards to public health and safety during construction or long-term use of future PGDSP development projects on hazardous materials sites.	PS	**5.13-2 Risk Assessments.** Prior to the issuance of a grading permit of future PGDSP development projects on sites where contamination has been identified, or if contamination is discovered during construction activities, work shall be immediately suspended and a risk assessment shall be performed to address risks posed by any residual contamination and establish appropriate mitigation measures, such as natural attenuation, active remediation, and engineering controls, that would be protective of human health and the environment. All assessment and remediation activities shall be conducted in accordance with a Work Plan that has been approved by the regulatory agency with oversight. In addition, the following precautions shall be observed as may be applicable: i. Pre-project activities (e.g., planning or early design) shall take into consideration site-specific environmental evaluation to address hazardous materials concerns related to worker and community health and safety, waste generation and disposal, and regulatory requirements. ii. If a site was historically used for agricultural purposes, there is the potential for on-site soil or groundwater to be impacted with pesticides, herbicides, or other related contaminants. Prior to construction, these sites shall be evaluated for potential impacts related to the agricultural land use. iii. Caution shall be taken during excavation activities near the facilities associated with unauthorized releases because of the potential for encountering documented and undocumented releases of contaminants and hazardous materials or wastes that may have occurred within or adjacent to these sites. Excavation and soil monitoring shall be conducted by professionals trained in the identification and management of hazardous materials or wastes, such as contaminated soil or groundwater.	LS

Key: PS = Potentially Significant; LS = Less than Significant; SU = Significant and Unavoidable

Table 1-1 continued

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			iv. If hazardous or regulated wastes are generated during construction or demolition activities, the wastes shall be handled and disposed of in accordance with applicable federal, state, and local regulations. v. A human health risk assessment shall be performed, as necessary, to evaluate if a release or releases of hazardous materials presents an unacceptable risk to human health. vi. Appropriate references regarding the potential to encounter contaminated soil or groundwater shall be included in construction specifications. vii. A Site Safety Plan shall be prepared and implemented prior to initiation of construction activities to reduce potential health and safety hazards to workers and the public. viii. If dewatering is necessary in instances where groundwater is encountered during construction activities, it shall be noted that dewatering activities require obtaining a discharge permit from the state and/or city. The discharge permit requirements may include sampling, treatment, and appropriate storage and disposal of groundwater. ix. During construction activities, it may be necessary to excavate existing soil, or to bring fill soils to future PGDSP project sites from off-site locations. In areas that have been documented as being contaminated or where soil contamination is suspected, sampling shall be performed. Characterization of the soil is suggested prior to any excavation or removal activity and contaminated soil not suitable for onsite reuse shall be properly disposed of at an off-site facility. Fill soils shall also be evaluated or sampled to document that imported soil does not contain unacceptable concentrations of contamination. x. Caution shall be taken during excavation activities near existing groundwater monitoring wells so that they are not damaged. Existing groundwater monitoring wells may have to be abandoned and reinstalled if they are located in an area that is undergoing redevelopment. The locations of existing groundwater monitoring wells can be found at the following web address: http://geotracker.waterboards.ca.gov.	

Key: PS = Potentially Significant; LS = Less than Significant; SU = Significant and Unavoidable

Table 1-1 continued

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
			xi. Illegal dumping of potentially hazardous wastes may have occurred on sites containing vacant land. Potentially hazardous wastes shall be appropriately disposed of prior to initiating redevelopment activities. xii. Any USTs that are removed during redevelopment activities shall be removed under a permit by the DEH or other regulatory agency, as appropriate. The soil and groundwater within the vicinity of the USTs shall be adequately characterized and remediated, if necessary, to a standard that would be protective of water quality and human health, based on future site use. xiii. In the event that USTs or undocumented areas of contamination are encountered during future redevelopment activities, work shall be discontinued until appropriate health and safety procedures are implemented and appropriate notifications are made. A contingency plan shall be prepared to address contractor procedures for such an event, to minimize the potential for costly construction delays. In addition, it shall be determined if regulatory notification is required regarding the contamination. Each regulatory agency and program within the respective agency has its own mechanism for initiating an investigation. The appropriate program shall be selected based on the nature of the contamination identified (e.g., DEH Local Oversight Program for tank release cases, DEH Voluntary Assistance Program for non-tank release cases, RWQCB for non-tank cases involving groundwater contamination, and Local Enforcement Agency (LEA)/APCD for landfill-related contamination issues). In general, LEA oversight/notification is needed for work conducted within 1,000 feet of a landfill. The contamination remediation and removal activities shall be conducted in accordance with pertinent federal, state, and local regulatory guidelines, under the oversight of the appropriate regulatory agency.	
Airport Hazards	Implementation of the proposed PGDSP would not result in the exposure of people residing or working in the PGD to airport hazards.	LS	No mitigation required.	LS

Key: PS = Potentially Significant; LS = Less than Significant; SU = Significant and Unavoidable

Table 1-1 continued

Issue	Impact	Significance Before Mitigation	Mitigation Measure(s)	Significance After Mitigation
Emergency Response and Evacuation Plans	Temporary roadway closures and detours during construction of future PGDSP development projects within roadway rights-of-way could potentially interfere with emergency response and/or evacuation routes and impair the implementation of the Operational Area Emergency Plan if the appropriate authorities are not properly notified prior to construction.	PS	Mitigation measure 5.3-5 (described above).	
Wildland Fire Hazards	Implementation of the proposed PGDSP would not expose people or structures to significant risks involving wildland fires.	LS	No mitigation required.	LS
5.14 Housing and Population				
Population Growth Inducement	Implementation of the PGDSP would not induce substantial unplanned growth.	LS	No mitigation required.	LS
Displacement of Housing or People	Implementation of the PGDSP would not necessitate the construction housing outside of the PGD as a result of displacement of housing or people.	LS	No mitigation required.	LS

Key: PS = Potentially Significant; LS = Less than Significant; SU = Significant and Unavoidable

Table 1-2 Summary of Cumulative Impacts

Issue		Significance of Cumulative Impact	Proposed Project Contribution Cumulatively Considerable?
Land Use, Planning, and Zoning		NC	No
Landform Alternation and Aesthetics		SC	No
Transportation, Circulation, and Access		SC	Yes
Air Quality		SC	Yes
Global Climate Change		SC	No
Noise		SC	No
Cultural Resources		SC	Yes
Paleontological Resources		SC	Yes
Biological Resources		NC	No
Hydrology and Drainage		NC	No
Geology and Soils		NC	No
Public Services and Utilities	Fire Protection and Police Services	NC	No
	Schools	NC	No
	Libraries	NC	No
	Parks and Recreation	NC	No
	Water	SC	No
	Wastewater	NC	No
	Solid Waste	NC	No
	Energy	SC	Yes
Hazards and Hazardous Materials		NC	No
Housing and Population		SC	Yes

Key: NC = No Cumulative Impact; SC = Significant Cumulative Impact

Table 1-3 Summary of Alternative Impacts Compared to Proposed Project

Issue	Proposed Project		Alternatives		
	Without Mitigation	With Mitigation	No Project (Existing Plan) Alternative	Reduced Project Alternative	Modified Land Use Arrangement Alternative
5.1 Land Use, Planning, and Zoning					
Community Character and Land Use Compatibility	LS	LS	—	—	—
Applicable Land Use Plan, Policy, or Regulation	LS	LS	▲	—	▲
5.2 Landform Alterations/Aesthetics					
Scenic Vistas and Resources	LS	LS	—	—	—
Visual Character	LS	LS	▲	—	—
Light and Glare	LS	LS	—	—	—
5.3 Transportation, Circulation, and Access					
Traffic and Level of Service Standards	PS	SU	▲	▼	—
Air Traffic Patterns	LS	LS	—	—	—
Traffic Hazards	PS	LS	—	—	—
Emergency Access	PS	LS	—	—	—
Public Transit, Bicycle, or Pedestrian Facilities	LS	LS	▲	—	—
5.4 Air Quality					
Applicable Air Quality Plans	LS	LS	—	—	—
Air Quality Violations	LS	LS	—	—	—
Cumulatively Considerable Emissions	PS	SU	▲	▼	—
Sensitive Receptors	LS	LS	—	—	—
Objectionable Odors	LS	LS	—	—	—
5.5 Global Climate Change					
Direct and Indirect Generation of GHG Emissions	LS	LS	▲	—	—
Applicable GHG Emissions Reduction Plan, Policy, or Regulation	LS	LS	▲	—	—
5.6 Noise					
Excessive Noise Levels	PS	LS	▲	▼	—
Excessive Groundborne Vibration	PS	LS	▲	▼	—
Permanent Increases in Ambient Noise Levels	LS	LS	▲	—	—
Temporary Increases in Ambient Noise Levels	LS	LS	—	—	—
Aircraft Noise	LS	LS	—	—	—

Key: PS = Potentially Significant; LS = Less than Significant Impact; SU = Significant and Unavoidable

▲ = Alternative is likely to result in greater impacts to issue when compared to proposed project.

— = Alternative is likely to result in similar impacts to issue when compared to proposed project.

▼ = Alternative is likely to result in lesser impacts to issue when compared to proposed project, however, impacts would still be significant before and/or after mitigation.

Table 1-3 continued

Issue	Proposed Project		Alternatives		
	Without Mitigation	With Mitigation	No Project (Existing Plan) Alternative	Reduced Project Alternative	Modified Land Use Arrangement Alternative
5.7 Cultural Resources					
Historical Resources	PS	LS	—	—	—
Archaeological Resources	PS	SU (cumulative)	—	—	—
Human Remains	LS	LS	—	—	—
5.8 Paleontological Resources					
Paleontological Resources	PS	SU (cumulative)	—	—	—
5.9 Biological Resources					
Special-Status Species	PS	LS	—	—	—
Sensitive Natural Communities	PS	LS	—	—	—
Wetlands	PS	LS	—	—	—
Wildlife Movement and Nursery Sites	LS	LS	—	—	—
Local Policies, Ordinances, and Adopted Conservation Plans	PS	LS	—	—	—
5.10 Hydrology and Drainage					
Water Quality Degradation	LS	LS	—	—	—
Groundwater Depletion	LS	LS	—	—	—
Drainage Alterations	LS	LS	—	—	—
Flood Hazards	LS	LS	—	—	—
5.11 Geology and Soils					
Seismic Hazards	LS	LS	—	—	—
Soil Erosion	LS	LS	—	—	—
Soil Hazards	PS	LS	—	—	—
5.12 Public Services and Utilities					
Fire Protection and Emergency Medical Services	PS	LS	▲	▼	—
Police Services	PS	LS	▲	▼	—
Schools	PS	LS	▲	▼	—
Libraries	PS	LS	▲	▼	—
Parks and Recreation	PS	LS	▲	▼	—

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— = Alternative is likely to result in similar impacts to issue when compared to proposed project.

▼ = Alternative is likely to result in lesser impacts to issue when compared to proposed project, however, impacts would still be significant before and/or after mitigation.

Table 1-3 continued

Issue	Proposed Project		Alternatives		
	Without Mitigation	With Mitigation	No Project (Existing Plan) Alternative	Reduced Project Alternative	Modified Land Use Arrangement Alternative
Water	LS	LS	▲	—	—
Wastewater	PS	LS	▲	▼	—
Solid Waste	LS	LS	▲	—	—
Energy	PS	SU	▲	▼	—
5.13 Hazards and Hazardous Materials					
Hazardous Materials Transport, Use, Disposal, or Release	PS	LS	—	▼	—
Hazards to Schools	LS	LS	—	—	—
Hazardous Material Sites	PS	LS	—	▼	—
Airport Hazards	LS	LS	—	—	—
Emergency Response and Evacuation Plans	PS	LS	—	—	—
Wildland Fire Hazards	LS	LS	—	—	—
5.14 Housing and Population					
Population Growth Inducement	LS	SU (cumulative)	—	—	—
Displacement of Housing or People	LS	LS	—	—	—

Key: PS = Potentially Significant; LS = Less than Significant Impact; SU = Significant and Unavoidable

▲ = Alternative is likely to result in greater impacts to issue when compared to proposed project.

— = Alternative is likely to result in similar impacts to issue when compared to proposed project.

▼ = Alternative is likely to result in lesser impacts to issue when compared to proposed project, however, impacts would still be significant before and/or after mitigation.

Chapter 2 Introduction

This Program EIR for the proposed PGDSP has been prepared in compliance with CEQA and CEQA Guidelines (Public Resources Code Section 21000, et seq. and California Code of Regulations, Title 14, Sections 15000 et seq.). The purpose of this Program EIR is to address the potential environmental effects of and provide CEQA documentation for the implementation of the PGDSP. This document is intended to be used by the City of Chula Vista, as Lead Agency, in approving the proposed PGDSP. In addition, as a Program EIR, this document is intended to be used by the City, as well as CEQA Responsible and Trustee Agencies, when taking action on subsequent permits to allow development within the PGD in accordance with the PGDSP.

2.1 Proposed Project

The proposed PGDSP project was prepared in accordance with CVMC Section 19.07, Specific Plans, and with California Government Code, Title 7, Division 1, Chapter 3, Article 8, Sections 65450 through 65457, and contains all the mandatory elements identified in Government Code Section 65451. The PGDSP and appendices are available for review in their entirety at the City of Chula Vista Development Services Department at 276 Fourth Avenue; at the Chula Vista Civic Center Library at 365 F Street; and on the City of Chula Vista's website at www.chulavistaca.gov.

The PGD is located within the southwestern portion of the City of Chula Vista, County of San Diego, California, near the interchange of Palomar Street and I-5, approximately four miles north of the border with Mexico. The boundaries of the PGD consist of an approximately 100-gross acre area surrounding the Palomar Transit Station at the intersection of Palomar Street and Industrial Boulevard. The Metropolitan Transit System operates San Diego Trolley Blue Line light rail service from the Palomar Transit Station, while the Palomar Street/I-5 freeway interchange is considered one of the busiest traffic interchanges in the City. Thus, the PGD is considered the major southern gateway to the City for visitors entering both from the I-5 freeway and from the San Diego Trolley.

The preparation of the PGDSP follows the direction provided in the City of Chula Vista General Plan (City of Chula Vista 2005a) to prepare and adopt a more detailed vision, regulations, and guidelines for future development and beautification in the PGD. The following are the primary objectives of the PGDSP:

- Objective 1: Create a vibrant, safe, pedestrian friendly live/work/play environment that emphasizes the area as a southern gateway to the City of Chula Vista.
- Objective 2: Achieve a compact pattern of development conducive to walking and bicycling.
- Objective 3: Encourage light rail transit use and convenient access to services and jobs.

- Objective 4: Allow for a mix of uses, designed to attract pedestrians.
- Objective 5: Maintain an adequate level of parking and access for automobiles and integrate automobile use safely with pedestrians, bicyclists, and other users.
- Objective 6: Provide sufficient density of employees, residents, and recreational users to support transit.
- Objective 7: Generate a relatively high percentage of trips serviceable by transit.

The PGDSP has been prepared as a neighborhood-level planning document which provides updated zoning regulations, land use and development regulations, and design guidelines to implement the planned land uses, as envisioned in the General Plan. In addition to being a land use regulatory document, the PGDSP also outlines the framework for the provision of urban amenities and other public improvements associated with new development. The planning horizon for the PGDSP is year 2030, with provisions for periodic evaluation of progress in meeting plan goals.

All zoning-related portions of the PGDSP (i.e., land use matrix, permitted uses, and development regulations) would serve as regulatory provisions and supersede other City regulations and ordinances for the control of land use and development within the PGD. Other portions of the PGDSP, such as the development design guidelines, would provide direction for future planning and public improvement efforts. Future development projects, subdivisions, public improvement projects, and other implementing programs would be required to be consistent with the proposed PGDSP, once adopted.

Pertinent content of the PGDSP is summarized in Chapter 3, Project Description, of this EIR.

2.2 CEQA Requirements

This EIR has been prepared in accordance with the requirements of the City of Chula Vista Environmental Review Procedures, and complies with all criteria, standards, and procedures of CEQA and the CEQA Guidelines.

2.2.1 Scope of the EIR

The scope of analysis of this EIR was determined by the City of Chula Vista Development Services Department as a result of the circulation of a NOP on November 22, 2011, and a scoping meeting held on December 15, 2011, in the City of Chula Vista. The City's NOP, associated responses, and comments made during the scoping meeting are included in Appendix A of this document. Based on the responses to the NOP, comments made during the scoping meeting, and extensive review of relevant past environmental documents and of the project by City staff, it was determined that the proposed PGDSP might result in potentially significant adverse environmental impacts to the following:

- Land Use, Planning, and Zoning
- Landform Alteration/Aesthetics
- Transportation, Circulation, and Access
- Air Quality
- Global Climate Change
- Noise
- Cultural Resources
- Paleontological Resources
- Biological Resources
- Hydrology and Drainage
- Geology and Soils
- Public Services and Utilities
- Hazards and Hazardous Materials
- Housing and Population

These issues are discussed in detail in Chapter 5, Environmental Impact Analysis, of this EIR, with impacts assessed on a "plan to ground" basis. The "plan to ground" analysis addresses the changes or impacts that will result from implementation of the proposed PGDSP as compared to existing ground conditions. Pursuant to CEQA Guidelines Section 15126, all phases of the proposed PGDSP are considered when evaluating its potential impact on the environment, including the phases of planning, acquisition, development, and operation. A "plan to plan" analysis, which addresses the changes or impacts that will result from implementation of the proposed PGDSP as compared to the currently adopted CVMC Zoning, is also provided in this EIR. Typically, a "plan to plan" analysis would compare the proposed plan with the currently adopted plan; in this case, however, that comparison is addressed in the land use impact analysis (Section 5.1) and rendered somewhat moot by the fact that the proposed PGDSP was written as an implementing tool for the adopted General Plan. For the purposes of "plan to plan" analysis in this EIR, the CVMC Zoning (parts of which will be superseded by the proposed PGDSP) will form the existing plan condition to which the proposed PGDSP will be compared. This comparison is concentrated in the discussion of the No Project Alternative in Chapter 11, Alternatives, of this EIR.

Other mandatory sections required by CEQA include a discussion of cumulative impacts, effects found not to be significant, significant and unavoidable environmental impacts, and significant irreversible environmental changes, growth inducement, and alternatives to the proposed project, which are provided in Chapters 6 to 11, respectively, of this EIR.

The General Plan and associated General Plan Update EIR (City of Chula Vista 2005b), which address the development of the PGD, were adopted by the Chula Vista City Council in December 2005. Potential significant environmental effects resulting from the implementation of the General Plan were identified for the issues of land use, landform alteration, biology, cultural resources, geology and soils, paleontology, agricultural resources, mineral resources, water quality, traffic, noise, air quality, public services, and hazards and risk of upset. This EIR incorporates by reference the General Plan Update Final EIR (EIR #05-01, SCH #2004081066) and associated Mitigation Monitoring and Reporting Program (MMRP), pursuant to CEQA Guidelines Section 15150. These documents are available for review at the City of Chula Vista Development Services Department at 276 Fourth Avenue; at the Chula Vista Civic Center Library at 365 F Street; and on the City of Chula Vista website at www.chulavistaca.gov. This EIR contains selected information summarized from these prior documents where necessary to facilitate the environmental analysis and reader's review of this document.

2.2.2 Purpose of the EIR

This EIR has been prepared to achieve the following objectives:

1) Inform decision makers and the general public of the potential environmental consequences of the approval and implementation of the proposed PGDSP.

2) Identify project alternatives or mitigation measures that are available to avoid or reduce potential significant environmental impacts.

3) Serve as a basis for environmental review for all public and private development activities or undertakings pursuant to the PGDSP, and resulting from approval of the PGDSP.

4) Provide environmental review for other lead or responsible agencies with jurisdiction over future development falling within the scope of the proposed PGDSP.

5) Reduce the environmental review required as subsequent development occurs according to the goals, policies, and regulations of the proposed PGDSP.

In order to meet the first objective, the EIR forecasts the nature and extent of future development of the PGD pursuant to the projected build-out and various policies and regulations that are proposed in the PGDSP. Based on this foundation, the EIR identifies physical changes in the environment that may result from such future development, and in consideration of applicable threshold criteria, determines whether or not the changes constitute a significant impact. In addition, the EIR identifies mitigation measures that are available to avoid or minimize potentially significant impacts, thus meeting the second objective. The recommended mitigation measures identified in Chapter 5, Environmental Impact Analysis, of this EIR will be included in the MMRP, which will accompany the Final EIR. Regarding the remaining three objectives, environmental review of future developments within in the PGD will be accomplished in accordance with CEQA Guidelines Sections 15168(c)–(e), which allows this Program EIR to serve as the basis for subsequent projects environmental review. This process is discussed in greater detail in Section 2.3.3 of this EIR.

This EIR has been prepared as a Program EIR. As defined in CEQA Guidelines Section 15168(a), a Program EIR is an EIR which may be prepared on a series of actions that can be characterized as one large project and are related either:

1) Geographically;

2) As logical parts in a chain of contemplated actions;

3) In connection with the issuance of rules, regulations, plans, or other general criteria to govern the conduct of a continuing program; or

4) As individual activities carried out under the same authorizing statutory or regulatory authority and having generally similar environmental effects which can be mitigated in similar ways.

As stated in CEQA Guidelines Section 15168(b), the advantages of a Program EIR include the ability to provide a more exhaustive consideration of effects and alternatives than would be practical in an EIR on an individual action; to ensure consideration of cumulative impacts that might be slighted in a case-by-case analysis; to avoid duplicative reconsideration of basic policy considerations; to allow the Lead Agency to consider broad policy alternatives and program-wide mitigation measures at an early time when the agency has greater flexibility to deal with basic problems or cumulative impacts; and to allow reduction in paperwork. In addition, as a Program EIR, this document is intended to be used by the City, as well as Responsible and Trustee Agencies, when taking action on subsequent permits to allow development in accordance with the proposed PGDSP.

2.2.3 Organization of the EIR

CEQA and the CEQA Guidelines specify the contents of EIRs and require the document to clearly identify the location of the specified contents, but do not specify the format within which those items shall be included. In this EIR, a topical organization has been followed so that most of the information related to a single issue or topic is presented within the same report section. Table 2-1 lists the CEQA Guidelines references for required content and the location of each required section in this EIR.

Table 2-1 CEQA-Required EIR Contents

CEQA Guidelines	Contents	Location in this EIR
Section 15122	Table of Contents or Index	Table of Contents
Section 15123	Summary	Chapter 1
Section 15124	Project Description	Chapter 3
Section 15125	Environmental Setting	Chapter 4, with further detail provided in "Existing Conditions" sections of Chapter 5
Section 15126	Environmental Impact a. Significant Effects b. Significant Effects Which Cannot Be Avoided c. Mitigation Measures d. Alternatives e. Significant Irreversible Changes f. Growth Inducing Impacts	"Impacts" sections of Chapter 5 Chapter 8 "Mitigation" sections of Chapter 5 Chapter 11 Chapter 9 Chapter 10
Section 15128	Effects Found Not to Be Significant	Chapter 7
Section 15129	Organizations and Persons Consulted	Chapter 13
Section 15130	Cumulative Impacts	Chapter 6
Section 15148	Citation of Sources	Chapter 12

A brief overview of the chapters of this EIR is provided below:

- Chapter 1, Executive Summary, provides a summary of the proposed PGDSP along with a table identifying significant impacts, proposed mitigation measures, and impact rating after mitigation. This chapter also contains a summary of the project alternatives that have been considered and compares the potential impacts of the alternatives with those of the proposed PGDSP.
- Chapter 2, Introduction, contains an overview of the proposed PGDSP and the CEQA environmental review process.
- Chapter 3, Project Description, provides a detailed discussion of the proposed PGDSP, including background, objectives, anticipated build-out, land use and development regulations, design guidelines, and plan implementation and administration. It also includes a list of discretionary actions that will be required to implement the proposed PGDSP.
- Chapter 4, Environmental Setting, contains a description of the physical environmental conditions (location, climate, topography, and context) in the project area and vicinity.
- Chapter 5, Environmental Impact Analysis, provides a detailed evaluation of specific issues that may be associated with significant environmental impacts. Each issue begins with a discussion of the existing conditions related to the issue that serves as the basis of the analysis, followed by a statement of the specific criteria (thresholds) that are used to determine if the impacts would be significant. The evaluation of potential impacts is followed by the identification of specific mitigation measures to avoid or reduce any significant impacts.
- Chapter 6, Cumulative Impacts, identifies the impact of the proposed PGDSP in combination with other planned and future development in the region.
- Chapter 7, Effects Found Not to Be Significant, lists all of the issues determined in the scoping process to be not significant, including a brief summary of the basis for this determination.

- Chapter 8, Significant and Unavoidable Environmental Impacts, identifies all of the significant impacts related to the proposed PGDSP that cannot be avoided, as determined in Chapters 5 and 6.
- Chapter 9, Significant Irreversible Environmental Changes, provides a discussion of any significant irreversible environmental changes that would be caused by the proposed PGDSP.
- Chapter 10, Growth-Inducing Impacts, evaluates the potential influence the proposed PGDSP may have on growth within the project area as well as the region.
- Chapter 11, Alternatives, provides a description of alternatives to the proposed PGDSP that would reduce or avoid significant impacts identified for the proposed project.
- Chapter 12, References, lists all of the documents, individuals, and organizations which are cited in the EIR.
- Chapter 13, EIR Preparation, identifies all of the agencies, organizations and individuals who were directly involved in the preparation of the EIR.

Technical studies and supporting materials are provided in the appendices to the EIR.

2.3 EIR Review Process

The City of Chula Vista is the Lead Agency for the preparation and review of this EIR. The EIR review process occurs in two basic stages. The first stage is the Draft EIR, which offers the public the opportunity to comment on the document. The second stage is the Final EIR, which provides the basis for the City Council's decision to approve or deny the proposed project.

2.3.1 Draft EIR

The Draft EIR will be distributed to the public and public agencies for a 45-day review period for the purpose of providing comments "on the sufficiency of the document in identifying and analyzing the possible impacts on the environment and ways in which the significant effects of the project might be avoided and mitigated" (CEQA Guidelines Section 15204). In accordance with CEQA Guidelines Section 15087(a)(1), a Notice of Availability of the Draft EIR will be issued in a newspaper of general circulation in the area. Copies of the Draft EIR and appendices will be distributed to responsible agencies and other interested parties and will be available for review at the City of Chula Vista Development Services Department at 276 Fourth Avenue; at the Chula Vista Civic Center Library at 365 F Street; and on the City of Chula Vista's website at www.chulavistaca.gov.

2.3.2 Final EIR

The City of Chula Vista, as Lead Agency, will provide written responses to comments received on the Draft EIR per CEQA Guidelines Section 15088, and will consider all comments in making its decision whether to certify the Final EIR. Detailed responses to the comments received during public review; a MMRP; Findings of Fact; and, if necessary, a Statement of Overriding Considerations will be prepared as part of the EIR finalization process. The culmination of this process is a public hearing where the City Council will determine whether to certify the Final EIR as being complete and in accordance with CEQA.

Chapter 3 Project Description

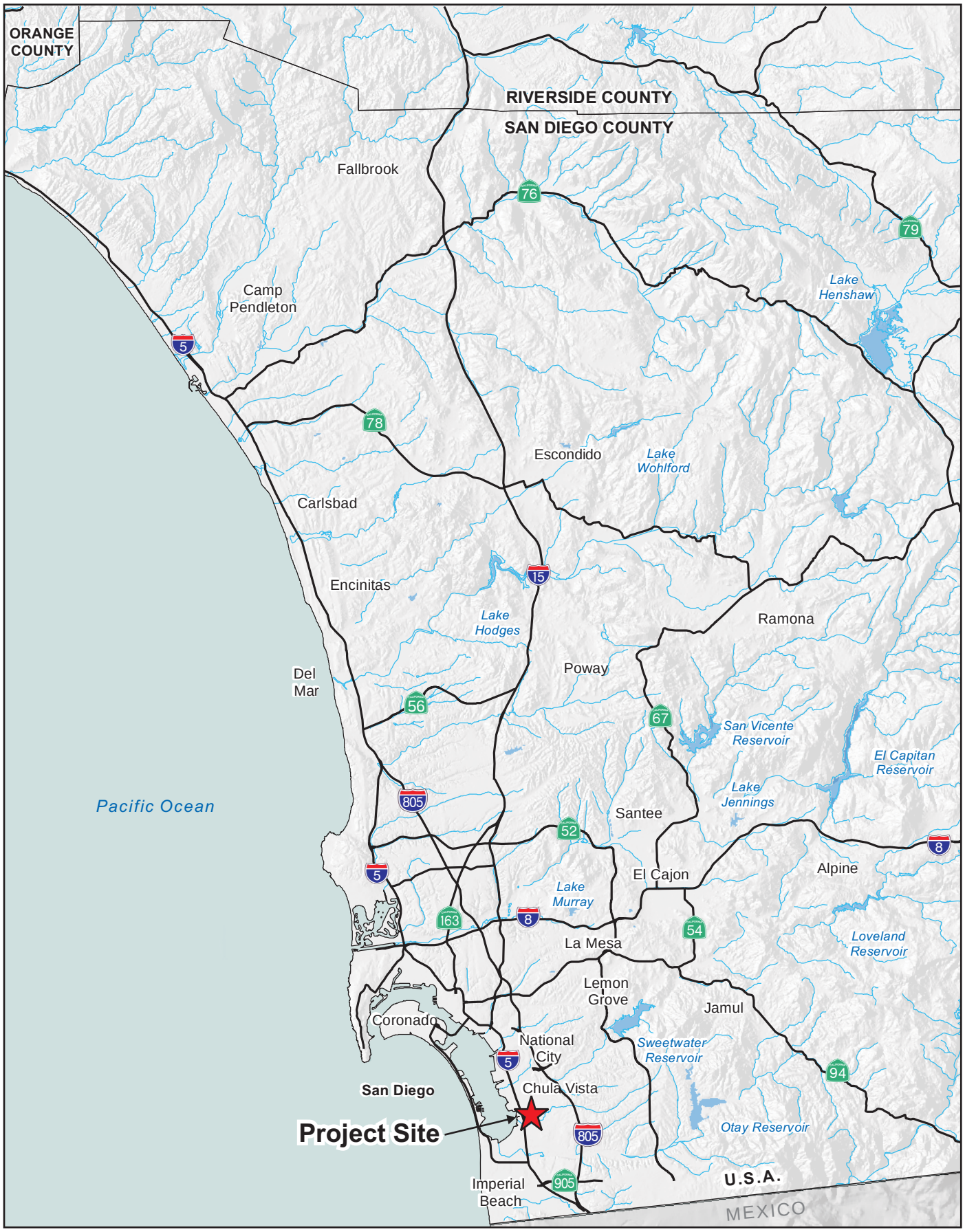
The purpose of this chapter is to describe the PGDSP to the public, reviewing agencies, and decision-makers. According to CEQA Guidelines Section 15124, a complete project description must contain the following information: a) the precise location and boundaries of the project, as shown on a detailed map, along with a regional map of the project's location; b) a statement of the underlying purpose of the project and the objectives (or goals) sought by the project; c) a description of the project's technical, economic, and environmental characteristics; and d) a discussion of the intended uses of the EIR, including discretionary actions.

The proposed PGDSP was prepared in accordance with CVMC Section 19.07, Specific Plans, and with California Government Code, Title 7, Division 1, Chapter 3, Article 8, Sections 65450 through 65457, and contains all the mandatory elements identified in Government Code Section 65451. The PGDSP and appendices are available for review in their entirety at the City of Chula Vista Development Services Department at 276 Fourth Avenue; at the Chula Vista Civic Center Library at 365 F Street; and on the City of Chula Vista's website at www.chulavistaca.gov.

3.1 Project Location

The PGD is located within the southwestern portion of the City of Chula Vista, County of San Diego, California, near the interchange of Palomar Street and I-5, approximately four miles north of the border with Mexico, as shown on Figure 3-1, Regional Location Map. Maps contained in the PGDSP (and replicated in this EIR) identify the boundaries of the PGD as an approximately 100-gross-acre area surrounding the Palomar Transit Station at the intersection of Palomar Street and Industrial Boulevard, as shown on Figure 3-2, Location Map. The MTS operates San Diego Trolley Blue Line light rail service from the Palomar Transit Station, while the Palomar Street/I-5 freeway interchange is considered one of the busiest traffic interchanges in the City. Thus, the PGD is considered the major southern gateway to the City for visitors entering both from the I-5 freeway and from the San Diego Trolley.

The PGD includes the properties north of Palomar Street around Walnut Street, Trenton Street, and Industrial Boulevard. Farther east, the PGD also extends north from Palomar Street to Oxford Street. South of Palomar Street, the PGD extends along Industrial Boulevard and Frontage Road to Anita Street.



Source: SanGIS, 2009; CASIL, 2009

0 5 10
Miles

N

REGIONAL LOCATION MAP
FIGURE 3-1

Source: SanGIS, 2011; CASIL, 2011

0 200 400
Feet

N

LOCATION MAP
FIGURE 3-2

3.2 History and Background

The following section provides an overview of the existing land uses within the PGD, the relationship of the PGDSP to adopted regional and local plans, and the development and public participation process related to the PGDSP.

3.2.1 Existing Land Uses

The PGD is currently comprised of a variety of land uses that include residential, commercial, and industrial uses. Residential development is the dominant land use, primarily concentrated south of Palomar Street, with densities ranging from approximately five to 20 dwelling units per acre. There are currently about 400 residential units in the PGD, including 67 rooms related to two hotels. Land uses to the north of Palomar Street include a mix of industrial and multi-family residential housing, with a major commercial area on the northeast corner of Palomar Street and Industrial Boulevard that attracts shoppers and employees from surrounding communities. Land uses south of Palomar Street include single and multi-family residential housing, industrial, and vacant land, with the Palomar Transit Station on the southeast corner of Palomar Street and Industrial Boulevard.

3.2.2 SANDAG Regional Comprehensive Plan

The PGD has been identified by San Diego Association of Governments (SANDAG) as a designated smart growth Community Center in the 2004 Regional Comprehensive Plan (RCP). SANDAG is the San Diego region's primary public planning, transportation, and research agency, providing the public forum for regional policy decisions regarding population growth, transportation planning and transit construction, environmental management, housing, open space, energy, public safety, and bi-national topics. SANDAG directors are mayors, council members, and a supervisor from each of the region's 18 cities and county government.

The RCP for the San Diego Region (SANDAG 2004) is a long-range planning document which establishes a strategic planning framework for decision-making with respect to anticipated regional growth, and the effect of regional growth on housing, economics, transportation, environmental planning, and overall quality of life needs. The RCP balances regional population, housing, and employment growth with habitat preservation, agriculture, open space, and infrastructure needs. The goal of the RCP is to increase the region's sustainability and encourage "smart growth" while preserving natural resources and limiting urban sprawl. Basic "smart growth" principles designed to strengthen land use and transportation integration include the following:

- Mix compatible land uses;
- Take advantage of compact building design;
- Create a range of housing opportunities 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.

A key implementation action of the RCP has been the development of a "Smart Growth Concept Map" illustrating the location of existing, planned, and potential smart growth areas. The Smart Growth Concept Map identifies the PGD as a Community Center, which is a designated smart growth area that draws from the nearby community and neighborhoods, and is characterized by residential and commercial uses, including mixed use, as well as possible community-serving civic uses. Community Centers are intended to consist of low- to mid-rise buildings with 20 to 45 dwelling units per acre within one-quarter mile of a transit station; be served by at least one corridor or regional transit line; be served by arterials and/or collector streets; have high frequency corridor/regional transit services; and provide one or more on-street transit stations. Progress towards transforming the PGD into a smart growth Community Center is already underway; $2.1 million of street enhancements along Palomar Street and Industrial Boulevard were completed in the fall of 2009 through funding from the 2005 Transnet Smart Growth Incentive Program, which is funded by SANDAG through a half-cent sales tax program.

3.2.3 City of Chula Vista General Plan

The City of Chula Vista General Plan (City of Chula Vista 2005a), known as Vision 2020, provides a long-term strategy to address planning issues for the growth and development of Chula Vista and outlines the community's shared vision for the future. The 2005 General Plan applies key principles of "smart growth" (described above) by focusing planning efforts on the City's currently developed areas, in particular the western portions of Chula Vista which include the PGD. The General Plan functions as the constitution for all future development in the City; thus, any decision affecting land use and development in the City must be consistent with the General Plan.

The PGD is located in the General Plan's Southwest Planning Area, and is identified as one of five "areas of change" within this planning area that requires a detailed planning process. The General Plan objective for the PGD is to help transition the area from a low-density, auto-focused interchange into a Mixed Use Transit Focus Area surrounding the Palomar Transit Station. The vision for the Mixed Use Transit Focus Area includes higher intensity residential uses, as well as mixed use developments that offer a combination of pedestrian-friendly residential, office, and retail uses with strong linkages to the Palomar Transit Station. A mix of retail and office uses would be located along Palomar Street with residential uses above and/or behind the retail and office uses.

Table 3-1 identifies the adopted General Plan land use designations and build-out conditions for the PGD. Based on these adopted land use designations, projected build-out within the PGD could include up to 2,400 total dwelling units. Existing residential units within the PGD total approximately 400 dwelling units. Therefore, a net increase of up to 2,000 dwelling units and several acres of mixed use commercial and retail commercial space are proposed within the PGD over the 20-year planning horizon, consistent with the General Plan. The adopted General Plan land use designations for the PGD (High Residential, Mixed Use Transit Focus Area, Retail Commercial, and Parks/Recreation) are defined below.

3.2.3.1 High Residential

The High Residential designation is intended for multi-family units, such as apartment and condominium-type dwellings in multiple-story buildings, with densities ranging from 18.1 to 27 dwelling units per gross acre. At an average of 2.52 persons per unit, population density in this designation would range from 45.3 to 67.5 persons per acre. The 2005 General Plan identifies High Residential land uses in the majority of the PGD area south of Ada Street.

Table 3-1 General Plan Land Use Designations and Build-Out Conditions for PGD[1]

General Plan Designation	District Area[2] (acres)	Potential Build-Out Conditions		Existing Conditions		Net Increase in DU (Potential Units minus Existing Units)
		Maximum DU/AC[3]	Maximum Residential Units (acres x DU/AC)	Residential Units	DU/AC	
High Residential	35	27	949	189	5	760
Mixed Use Transit Focus Area	37	40	1,460	211	6	1,249
Retail Commercial	1	--	--	5	3	-5
Parks/Recreation[4]	5	--	--	--	--	--
Total	**78**		**2,400**	**400**	**5**	**2,000**

[1] All values are approximate and have been rounded off.
[2] Approximately 20 acres of land within the PGD are designated as Transportation Corridors and Rights-of-Way.
[3] DU/AC = dwelling units per acre
[4] The 2005 General Plan identifies a "floating" symbol for a Neighborhood Park. The General Plan Land Use and Transportation policy 43.14 states "provide for the development of one Neighborhood Park within or near the Palomar Gateway District."
Source: PGDSP Existing Conditions Summary Report, 2010

3.2.3.2 Mixed Use Transit Focus Area

The Mixed Use Transit Focus Area designation is intended within approximately one-quarter mile of existing and planned transit stations, and is intended for the highest intensity mixed use residential environment. This designation allows a mix of residential, office, and retail uses in an area that is pedestrian-friendly and has a strong linkage to transit. District-wide gross residential density within this designation averages 40 dwelling units per acre. The commercial (retail and/or office) portion of this designation is intended to have an area-wide aggregate Floor Area Ratio (FAR) of 1.0. The 2005 General Plan identifies Mixed Use Transit Focus land uses in areas surrounding the Palomar Transit Station, including most of the northern portion of the PGD.

3.2.3.3 Retail Commercial

The Retail Commercial designation is intended to allow a range of retail shopping and services, including neighborhood, community, and regional shopping areas. This designation may include limited thoroughfare retail and automobile-oriented services. The FAR for this designation would range from 0.25 to 0.75. The 2005 General Plan identifies Retail Commercial land uses in the southeastern corner of the PGD located at the corner of Industrial Boulevard at Anita Street.

3.2.3.4 Parks and Recreation

The Parks and Recreation designation is intended for parks, sports fields, playgrounds, golf courses, and other passive and active recreation uses. This designation may also include community centers and urban parks. The 2005 General Plan identifies a future Neighborhood Park in the center of the PGD south of Ada Street. The designation is a floating symbol and is not intended to be parcel specific.

3.2.4 Market Study

A market study for the PGDSP was prepared by Gafcon, Inc. (herein referred to as the Consultant) in July 2011. The purpose of the market study was to determine whether the General Plan vision for the PGD is

compatible with the area's current and future market demands in terms of residential, retail, and office development. The market study also looked at strategies to promote market investment in transit-oriented projects in the PGD. The market analysis was conducted at the regional level, city level, and local (district and surrounding area) level, and included an analysis of the demand for residential, retail, and office development.

As part of the market study, the Consultant met with City staff, reviewed existing studies, and conducted a site reconnaissance. Existing market conditions were analyzed to identify feasible market opportunities. Area stakeholders were interviewed to identify opportunities and constraints. The Consultant forecasted near and long-term demand potential for key land uses, evaluated existing policy, and identified strategies to promote the development of key land uses. The conclusions of the market study with respect to the General Plan vision for the development of the PGD are as follows:

- Residential Development. The General Plan vision for residential development is very optimistic. The PGD is likely to generate a demand of up to 1,300 additional multiple-family residential units over the next 20 years, compared to the 2,000 projected by the General Plan vision.
- Retail Development. The market study looked at the demand for retail development generated by four different factors: 1) the primary market within 1.5 miles of the transit station; 2) the secondary market located between 1.5 miles to 5 miles of the station; 3) area workers; and 4) cross border trade. In total, these categories generate a demand for approximately 100,000 additional square feet of retail space in the PGD over the next 20 years, which represents a development projection that is well below the General Plan vision.
- Office Development. Based on regional employment and office market trends, the PGD has capacity to capture approximately 50,000 square feet of additional office space by 2030. This equates to about 2,000 square feet of annual demand. The PGD is not expected to become a notable center of office activity because other areas, such as the Urban Core and Eastlake, are planned for additional office development. However, the PGD area may capture demand to provide office services to the surrounding community.

Overall, the General Plan land use designations generate far more capacity for the PGD than the potential demand identified by the market study. The market study prepared for the Specific Plan was utilized in developing projected buildout scenarios for the PGDSP as represented in Table 3-2. Other market study recommendations include the following:

- The PGDSP should promote flexible zoning and zoning incentives in terms of development standards.
- Preparation of the PGDSP should include a public outreach process to facilitate public participation and project review.
- The City should enter into public/private partnerships and collaborate early-on in the process.
- The PGDSP should address the provision of missing area infrastructure.
- The PGDSP should address the provision of public amenities, such open spaces and streetscapes.
- The City should expedite project review and approval.

3.2.5 Mobility Study

A Mobility Study was prepared for the PGDSP in April 2012. The Mobility Study was developed to analyze mobility conditions (motorized and non-motorized) to accommodate expected growth in the

PGD and the City's vision for the area. The Mobility Study includes a review of the current and future transportation system across all modes of travel (pedestrians, bikes, autos and transit) and user abilities (children, elderly and disabled), and recommends a Mobility Plan for the PGD. The Mobility Plan reviews the constraints and opportunities of each travel mode and identifies recommendations in a tiered priority system. The study is provided as Appendix B and is discussed in greater detail in Section 5.3, Transportation, Circulation, and Access.

3.2.6 Plan Development and Public Participation

In creating the PGDSP, a strong public engagement strategy was initiated by the City. The community outreach effort involved various citizens and interest groups, and built upon several pre-existing community outreach and education efforts. In 2007 to 2008, the City established the "Southwest United in Action" community strengthening effort, which sought to establish a stronger dialogue between the City and the community, and to build connections between the City and other resource providers in the southwest area of Chula Vista, in advance of specific planning in this area. Through multiple community events, surveys, and meetings, the Southwest United in Action effort helped clarify the priorities of the southwest community. The final component of this effort was the Southwest Leaders' Conference, which took place in May and June 2009, and provided greater detail on planning, municipal finance, and community leadership.

The first stage of the specific planning process for the southwest area included a series of three Urban Design Workshops, each focusing on different "areas of change" that had been identified in the General Plan, one of which was focused on the PGD. The Urban Design Workshops were held in June and July 2009, and attracted new participants, such as business owners, residents, and community members, as well as many participants from the Southwest Leaders' Conference. Eighteen community members, each from various backgrounds, attended the Urban Design Workshop for the PGDSP.

From the Southwest Leaders' Conference and the Urban Design Workshops, the City identified and reached out to a group of individuals and stakeholders with interest, knowledge of the area, and leadership abilities to be part of and actively participate in the Southwest Working Group (SWWG). The SWWG represented a cross-section of the southwest community, including community organizations, businesses, and residents. This group was tasked both with providing oversight for the southwest area planning efforts and with working to engage other members of the community with the process. The first SWWG meeting was held on December 14, 2009, and was attended by 21 members. The SWWG met monthly to review and direct the latest planning efforts. In addition, the SWWG participated in several workshops to provide input during the PGDSP planning process, and were encouraged to get other members of their communities/organizations to attend SWWG meetings and other workshops.

The City also held public meetings throughout 2010 and 2011 to provide an introduction to the PGDSP process, including the scope of work. An additional public meeting featured a presentation by SANDAG staff, which consisted of explaining the 2030 Regional Comprehensive Plan and how the local efforts in Chula Vista relate to this regional plan. In March 2010, the SWWG was provided with a SWOT (Strengths, Weaknesses, Opportunities, and Threats) Analysis prepared by the City for the PGDSP, and SWWG members were asked to augment the list as they saw fit. This early input helped form the baseline conditions for the PGDSP planning effort.

The SWWG was provided with an overview of the existing conditions findings for the PGD. SWWG members expressed frustration with the limited area to be studied under the PGDSP, suggesting that

much of the success or failure of the PGD will rest upon the surrounding areas. In particular, SWWG members were concerned about the pedestrian connectivity to the PGD from Palomar Street and Orange Avenue, which have areas with informal or unpaved sidewalks. SWWG members were also particularly focused on how to resolve traffic congestion in the PGD, and suggested widening streets or creating a Main Street exit off the I-5 freeway to relieve congestion at the Palomar Street exit. Presentations by planners from SANDAG on the 2030 Regional Comprehensive Plan and 2030 Regional Transportation Plan suggested that the future grade separation of the Trolley and overall improvements to the Trolley's Blue Line may also help reduce traffic congestion in the area.

As the planning process advanced, City staff sought to involve the SWWG in the selection of consultants to perform the traffic, market, and environmental studies for the PGDSP. Consultants often met with the SWWG as one of their initial steps in the process, and SWWG members provided valuable input on drafts of the market study and other documents, reflecting their day-to-day, practical experience with the PGD.

The finished PGDSP document bears the mark of this extensive public outreach process. City staff and SWWG members have worked hard to develop a plan that both allows transit-oriented development in the PGD, and at the same time does not overburden this already-congested area with additional auto trips. Ideally, SWWG efforts to balance the demands of this area would be supported by broader infrastructure changes that would allow the intensification of land uses within the PGD while still ensuring that it is a pleasant place to live, work, and enter the southwest area of Chula Vista.

3.3 Project Objectives

The preparation of the PGDSP follows the direction provided in the General Plan to prepare and adopt a more detailed vision, regulations, and guidelines for future development in the PGDSP area. The following are the primary objectives of the PGDSP:

- Objective 1: Create a vibrant, safe, pedestrian friendly live/work/play environment that emphasizes the area as a southern gateway to the City of Chula Vista.
- Objective 2: Achieve a compact pattern of development conducive to walking and bicycling.
- Objective 3: Encourage light rail transit use and convenient access to services and jobs.
- Objective 4: Allow for a mix of uses, designed to attract pedestrians.
- Objective 5: Maintain an adequate level of parking and access for automobiles and integrate automobile use safely with pedestrians, bicyclists, and other users.
- Objective 6: Provide sufficient density of employees, residents, and recreational users to support transit.
- Objective 7: Generate a relatively high percentage of trips serviceable by transit.

3.4 Project Characteristics

The PGDSP has been prepared as a neighborhood-level planning document which provides updated zoning regulations, land use and development regulations, and design guidelines to implement the planned land uses, as envisioned in the General Plan. In addition to being a land use regulatory document, the PGDSP also outlines the framework for the provision of urban amenities and other public

improvements associated with new development. The planning horizon for the PGDSP is year 2030, with provisions for periodic evaluation of progress in meeting plan goals.

All zoning-related portions of the PGDSP (i.e. land use matrix, permitted uses, and development regulations) would serve as regulatory provisions and supersede other City regulations and ordinances for the control of land use and development within the PGD. Other portions of the PGDSP, such as the development design guidelines, would provide direction for future planning and public improvement efforts. Future development projects, subdivisions, public improvement projects, and other implementing programs would be required to be consistent with the proposed PGDSP, once adopted.

3.4.1 PGDSP Land Use Build-Out

Based on the 2010 Census, the total population of Chula Vista is estimated at 243,916 persons (as of April 1, 2010). Taking into account the adopted General Plan, the City's population is projected to reach approximately 288,978 persons by year 2030 (SANDAG 2011). The General Plan includes intensification of retail, office, and residential uses with low emphasis on industrial uses in the western portion of the City. The General Plan also proposes the replacement of a significant amount of existing lower density commercial and residential development in western Chula Vista with mixed use and higher density residential uses.

The results of the market study prepared for the PGDSP, described in Section 3.3 above, helped to refine the overall projected development for the PGDSP build-out. The projected build-out of the PGD and its four sub-districts for the 20-year planning horizon is presented in Table 3-2. The four sub-districts are described in Sections 3.4.2.1 through 3.4.2.4 below.

Table 3-2 Projected Development for PGDSP Build-Out[1,2]

	Existing Development	Projected Additional Development	Total Estimated Build-Out	Estimated Build-Out by Sub-District			
				MU-1 (3.5 acres)	MU-2 (31.5 acres)	PRV (43.5 acres)	PNRC (1.5 acres)
Residential (Units)	400	1,300	1,700	150[3]	450[4]	700	--
Retail (Sq. Ft.)[5]	200,000	100,000	300,000	10,000	85,000	--	5,000
Office (Sq. Ft.)[5]	--	50,000	50,000	5,000	40,000	--	5,000
Industrial (Sq. Ft.)	30,000	--	--	--	--	--	--

(1) Numbers are approximations.
(2) Projected residential units and commercial square footages are based on the market study (Gafcon, Inc. 2011).
(3) Projected residential units for MU-1 Sub-district are based on the designated FAR with the proportional commercial development indicated in Note 5, below.
(4) Sub-districts MU-2 and PRV residential units were estimated proportional to the sub-district land area.
(5) Retail/Office square footages are assumed 10-percent/90-percent split of projected build-out between the MU-1/MU-2 Sub-districts, which is roughly proportional to the sub-district land area.
Source: PGDSP

It is difficult to ascertain the exact extent, timing, and sequence of infill development that may occur over the 20-year planning horizon due to a number of factors unique to urban revitalization, which include, but are not limited to, the following:

- Viability associated with newer construction that will likely not recycle over the life of the PGDSP;

- Longevity of other existing commercial uses and existing housing stock;
- Project-specific economics that result in less than maximum build-out on a parcel; and
- Increased development costs associated with acquisition, demolition, and cleanup of urbanized land.

The PGDSP is not a static document and as such will be evaluated on an on-going basis to assess progress towards build-out projections, priority rankings of important public improvements, and other issues that may arise. A series of checks and balances will be part of that process, including review under the City's Growth Management Ordinance, the bi-annual budgetary and Capital Improvements Program (CIP) cycle, and five-year assessment of the PGDSP. Additional planning and environmental review would be required if the build-out projections are approached and achieved prior to the 20-year planning horizon.

3.4.2 Land Use and Development Regulations

Chapter 3 of the PGDSP establishes the appropriate distribution, mix, intensity, physical form, and functional relationships of land uses within the PGD. The proposed PGDSP land use and development regulations are intended to encourage and facilitate infill development, mixed uses, pedestrian scale, urban amenities, transit use, creative design, and the general revitalization of the PGD. The PGDSP contains several land use categories including residential, public/quasi-public and institutional, commercial office, commercial-service oriented, commercial-retail, and accessory uses.

For the mixed use designations, the PGDSP development regulations and associated design guidelines utilize a "form based" approach. This approach places primary emphasis on the physical form of the built environment, focusing on where and how the buildings are placed rather than the use occupying the buildings. This is especially important to allow flexibility in uses in order to be responsive to market demands while still ensuring a clear vision of what the built environment should look like. For areas designated for multi-family residential development, the PGDSP utilizes the City's existing R-3 (Apartment Residential Zone) zoning regulations. For the small neighborhood-serving commercial area located in the southeast corner of the PGD, the PGDSP utilizes the City's existing C-N (Neighborhood Commercial Zone) zoning regulations.

The proposed land uses and development regulations identified in the PGDSP would replace the provisions of CVMC Chapters 19.26, 19.30, 19.36, 19.40, and 19.44, and the provisions of the San Diego County Zoning Ordinance C36 and S94 use regulations. Where the CVMC conflicts with the development standards or other provisions of the PGDSP, the PGDSP would apply; where the PGDSP is silent, the CVMC would apply. The definitions found in CVMC Chapter 19.04 would apply to the PGDSP, except where specific definitions are provided in the PGDSP.

The PGD is divided into the following four sub-districts based on similar building and use types (see Figure 3-2, Location Map):

1. Palomar Transit Plaza (MU-1)
2. Palomar Mixed Use Corridor (MU-2)
3. Palomar Residential Village (PRV)
4. Palomar Neighborhood Retail Cluster (PNRC)

The following discussion provides a summary of the proposed land uses and development regulations identified in the PGDSP for the four sub-districts. Table 3-3 identifies the permitted land uses for the four sub-districts as proposed in the PGDSP. Table 3-4 summarizes the development regulations for the four sub-districts as proposed in the PGDSP, including new permitted land uses, FARs, building heights, building setbacks, building stepbacks, street wall frontage, open space requirements, and parking regulations. Upon approval of the PGDSP, future development projects within all four sub-districts would be designed, constructed, and established in compliance with the development standards, regulations, and design guidelines proposed in the PGDSP.

3.4.2.1 Palomar Transit Plaza Sub-District (MU-1)

The Palomar Transit Plaza Sub-District is located at the southeast corner of the Palomar Street and Industrial Boulevard intersection, encompassing an area of approximately 3.3 acres (see Figure 3-2, Location Map). The purpose of the Palomar Transit Plaza Sub-District is to enhance and improve the land uses in this area and the functions of the Palomar Transit Station. The PGDSP proposes the following permitted land uses within this sub-district: transit center (trolley/bus station), public open space (plaza/piazza/courtyard), residential, retail, office, and civic. The proposed land uses would create a multi-use transit plaza that would serve transit users, residents, and shoppers and would contain public open space including a plaza, piazza, or courtyard that would connect with an active/passive open space park. Figure 3-3, Development Standards for Palomar Transit Plaza Sub-district (MU-1), identifies the new permitted land uses, FAR, building heights, building setbacks, open space requirements, and parking regulations proposed for the Palomar Transit Plaza Sub-District.

3.4.2.2 Mixed Use Corridor Sub-District (MU-2)

The Mixed Use Corridor Sub-District includes properties generally located along Palomar Street, extending from the I-5 freeway to a point mid-block between Industrial Boulevard and Broadway, and includes properties located on the west side of Walnut Street and Frontage Road (see Figure 3-2, Location Map). This sub-district encompasses an area of approximately 31.5 acres. The purpose of the Mixed Use Corridor Sub-District is to encourage the development and mixture of residential and commercial (retail and/or office) elements, to create, in conjunction with the Palomar Transit Plaza, the transit-oriented, multi-use district envisioned by the General Plan. The development regulations for this sub-district would afford the flexibility to allow development of residential and commercial projects as determined by market conditions. While market and property ownership decisions will ultimately drive the development and redevelopment of individual parcels in this sub-district, consideration should be given to develop the vacant parcel on the south side of Palomar Street (formerly known as the “pumpkin patch” site) with educational office uses such as an educational annex of a local college or university, or other private educational facilities, as allowed pursuant to the land use matrix (see Table 3-3). Figure 3-4, Development Standards for Mixed Use Corridor Sub-District (MU-2), identifies the new permitted land uses, FAR, building heights, building setbacks, street wall frontage, open space requirements, and parking regulations proposed for the Mixed Use Corridor Sub-District.

Table 3-3 PGDSP Land Use Matrix

Land Use	Palomar Transit Plaza Sub-district (MU-1)	Mixed Use Corridor Sub-district (MU-2)	Palomar Residential Village Sub-district (PRV)	Palomar Neighborhood Retail Cluster Sub-district (PNRC)
P = Permitted; CUP = Conditional Use Permit required; -- = Prohibited				
Residential				
Dwellings - Garden Apartments	--	P	P	--
Dwellings - Townhomes	P	P	P	--
Dwellings - Apartment Complexes	P	P	P	--
Live/work units	P	P	--	--
Mixed Residential/Commercial Projects	P	P	--	--
Senior Housing Development	CUP	CUP	CUP	--
Shopkeeper Unit	P	P	--	--
Nursing Homes	CUP	CUP	CUP	--
Residential Care Facilities	CUP	CUP	CUP	--
Public/Quasi-Public and Institutional				
Ambulance services	CUP	CUP	--	CUP
Civic facilities	P	P	--	--
Community service facilities	P	P	--	--
Court facilities	P	P	--	--
Court-supported facilities	P	P	--	--
Educational Facilities – Schools, professional, business and technical (not requiring outdoor facilities)	CUP	CUP	--	--
Fire stations	P	P	--	--
Health care facilities (including 24 hour facilities)	CUP	CUP	--	--
Libraries	P	P	--	--
Museums	P	P	--	--
Non-commercial recreation centers (indoor)	P	P	--	--
Non-commercial recreation centers (outdoor)	CUP	CUP	--	--
Parks (public and private), including urban parks and plazas	P	P	P	P
Police stations	P	P	--	--
Post office	P	P	--	--
Public utility uses and structures	CUP	CUP	CUP	CUP
Religious facilities	CUP	CUP	CUP	CUP
Social and fraternal organization facilities	P	P	--	--
Telecommunications facilities	CUP	CUP	CUP	CUP
Radio and television broadcasting	CUP	CUP	--	CUP
Youth center	P	P	--	--

Table 3-3 continued

Land Use	Palomar Transit Plaza Sub-district (MU-1)	Mixed Use Corridor Sub-district (MU-2)	Palomar Residential Village Sub-district (PRV)	Palomar Neighborhood Retail Cluster Sub-district (PNRC)
P = Permitted; CUP = Conditional Use Permit required; -- = Prohibited				
Commercial – Office[1]				
Administrative/Executive Offices	P	P	--	P
Financial Offices	P	P	--	P
Medical and Dental Offices/Clinics	P	P	--	P
Medical/Dental Laboratory	CUP	CUP	--	CUP
Professional Offices (e.g. architectural, engineering, law)	P	P	--	P
Real Estate Offices	P	P	--	P
Research and Development Offices	P	P	--	P
Veterinary Clinics/Animal Hospitals	CUP	CUP	--	CUP
Commercial – Service Oriented[1]				
Athletic/health clubs	P	P	--	--
Auto Service Station	--	CUP	--	CUP
Bank	P	P	--	P
Barbershop and beauty shop	P	P	--	P
Bicycle repair	P	P	--	P
Body art/tattoo/piercing salon	CUP	CUP	--	--
Carpentry shops	CUP	CUP	--	CUP
Catering halls (with full-time, full-service restaurants, operating after hours)	CUP	CUP	--	--
Catering Services	CUP	CUP	--	--
Check cashing establishments	--	--	--	--
Cobbler (shoe repair)	P	P	--	P
Coin-operated laundry	P	P	--	P
Day nursery (child care facility)	CUP	CUP	--	CUP
Day spa	P	P	--	P
Drycleaners	CUP	CUP	--	--
Financial services	P	P	--	P
Jewelry and watch repair	P	P	--	P
Locksmiths	P	P	--	P
Manicure and pedicure shops	P	P	--	P
Massage parlor	--	--	--	--
Pawn Shops	--	--	--	--

[1] Any other commercial - service use which the Zoning Administrator finds to be similar and of the same general character as the uses listed. Such uses may be permitted as "P" or "CUP" as determined by the Zoning Administrator.

Table 3-3 continued

Land Use	Palomar Transit Plaza Sub-district (MU-1)	Mixed Use Corridor Sub-district (MU-2)	Palomar Residential Village Sub-district (PRV)	Palomar Neighborhood Retail Cluster Sub-district (PNRC)
P = Permitted; CUP = Conditional Use Permit required; -- = Prohibited				
Pet grooming	P	P	--	P
Photocopying and blueprinting services	P	P	--	--
Photography studios	P	P	--	P
Postal stores	P	P	--	P
Printing and publishing services	P	P	--	--
Service and Repair Shops, Minor (e.g. appliance, plumbing, electrical, heating and cooling, except auto-related)	P	P	--	--
Tailor shops	P	P	--	P
Ticket/Travel agencies	P	P	--	--
Commercial – Retail[1]				
Adult-oriented entertainment	--	--	--	--
Amusement facilities	CUP	CUP	--	CUP
Bait and tackle shops	P	P	--	P
Bakery	P	P	--	P
Bed and breakfast	P	P	--	--
Bona fide antique shops, but not including secondhand or junk stores	P	P	--	P
Bookstore	P	P	--	P
Cocktail lounge (subject to the provisions of CVMC Section 19.58.075)	CUP	CUP	--	--
Coffeehouse/café	P	P	--	P
Commercial recreation facilities (indoor) e.g. bowling alleys, skating rinks, laser tag	P	P	--	--
Commercial recreation facilities (outdoor) e.g. miniature golf	CUP	CUP	--	--
Convenience stores	P	P	--	P
Delicatessen/sandwich shop	P	P	--	P
Department stores	P	P	--	--
Farmer's market	CUP	CUP	--	CUP
Florist	P	P	--	P
Galleries (photography, art)	P	P	--	P
Grocery, fruit, or vegetable sales	P	P	--	P
Hardware stores (up to 5,000 sq. ft.)	P	P	--	P
Hardware stores (over 5,000 sq. ft.)	P	P	--	--
Home furnishing stores	P	P	--	--
Handicraft shops	P	P	--	P
Ice cream/yogurt shop	P	P	--	P

Table 3-3 continued

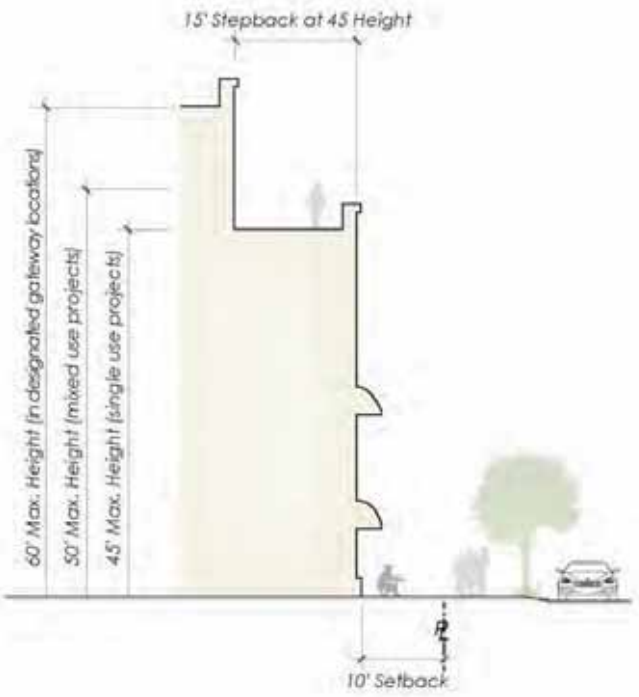
Land Use	Palomar Transit Plaza Sub-district (MU-1)	Mixed Use Corridor Sub-district (MU-2)	Palomar Residential Village Sub-district (PRV)	Palomar Neighborhood Retail Cluster Sub-district (PNRC)
P = Permitted; CUP = Conditional Use Permit required; -- = Prohibited				
Liquor stores (subject to the provisions of CVMC Section 19.58.430)	CUP	CUP	--	--
Live entertainment (excluding adult-oriented entertainment)	CUP	CUP	--	--
Meat sales	P	P	--	P
Newsstands	P	P	--	P
Pawn shops	--	--	--	--
Pet shops	P	P	--	P
Pool and spa supplies (no outdoor storage)	P	P	--	--
Prescription pharmacy	P	P	--	P
Produce stands	P	P	--	P
Restaurants, fast food	P	P	--	--
Restaurants, full-service	P	P	--	--
Taverns (subject to the provisions of CVMC Section 19.58.075)	CUP	CUP	--	--
Theaters, live or movie (no adult theaters)	CUP	CUP	--	--
Accessory Uses				
Accessory uses or buildings customarily appurtenant to permitted or conditional uses subject to the requirements of CVMC Section 19.58.020	P	P	P	P
Home occupations subject to the provisions of CVMC Section 19.14.490	--	P	P	--
Recycling Collection Center pursuant to CVMC Section 19.58.345 (A) and (B)				

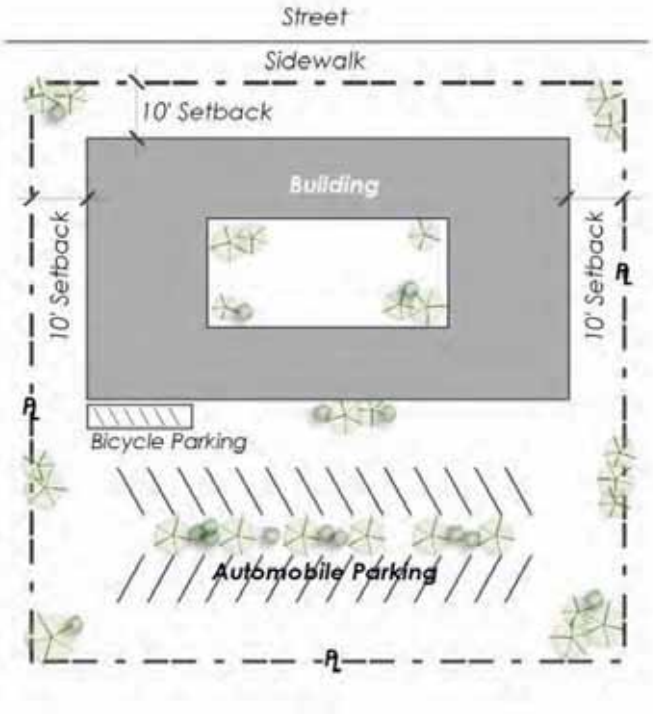
Source: PGDSP

Table 3-4 Summary of PGDSP Development Regulations

	Palomar Transit Plaza Sub-district (MU-1)	Mixed Use Corridor Sub-district (MU-2)	Palomar Residential Village Sub-district (PRV)	Palomar Neighborhood Retail Cluster Sub-district (PNRC)
Permitted Land Uses	▪ Transit Center (Trolley/ Bus Station) ▪ Public Open Spaces (Plaza/Piazza/Courtyard) ▪ Residential ▪ Retail ▪ Office ▪ Civic	▪ Residential/Commercial Mixed Use (vertical/ horizontal) ▪ Commercial Retail ▪ Commercial Office	▪ Apartment Complexes ▪ Townhome Complexes ▪ Garden Apartment Complexes	▪ Commercial retail ▪ Commercial office
Floor Area Ratio	2.0	1.5	N/A	N/A
Building Height[(1)]	▪ 45 feet maximum for single use projects ▪ 50 feet maximum for vertical mixed use projects ▪ Up to 60 feet for projects in specially designated gateway locations	▪ 45 feet maximum for single use projects ▪ 50 feet maximum for vertical mixed use projects ▪ Up to 60 feet for projects in specially designated gateway locations	45 feet maximum	35 feet maximum
Building Setback	10 feet along property lines	10 feet along property lines	▪ Front and rear: 15 feet ▪ Side yard: 10 feet (with both interior) ▪ Corner lots: 10 feet exterior yard and 5 feet interior yard	15 feet
Building Stepback	15 feet for buildings higher than 50 feet	15 feet for buildings higher than 50 feet	N/A	N/A
Street Wall Frontage	N/A	50 percent maximum	N/A	N/A
Open Space Requirements	200 square feet per dwelling unit	200 square feet per dwelling unit	400 square feet per dwelling unit	N/A
Parking Locations	Any, except fronting on the street or building front	Any, except fronting on the street or building front	Any, except fronting on the street or building front	Any, except fronting on the street or building front
Residential Parking[(2)]	1 space per unit	▪ 1.5 spaces per unit for studios and 1 bedroom units ▪ 2 spaces per unit for units with 2 or more bedrooms	▪ 1.5 spaces per unit for studios and 1 bedroom units ▪ 2 spaces per unit for units with 2 or more bedrooms	N/A
Non-residential Parking	Minimum 2 spaces per 1,000 square feet of commercial space	Minimum 2 spaces per 1,000 square feet	N/A	▪ Retail: Generally, 1 space per 200 square feet ▪ Office: Generally, 1 space per 300 square feet
Bicycle Parking	Bicycle parking per CVMC Chapter 15.12	Bicycle parking per CVMC Chapter 15.12	N/A	Bicycle parking per CVMC Chapter 15.12

[(1)] The PGDSP identifies two gateways to the PGD which are located at the intersection of Palomar Street and Walnut Street/Frontage Road and at the intersection of Palomar Street and Industrial Boulevard. These locations may qualify for increased height of up to 15 feet in order to achieve enhanced architectural statements and iconic design.
[(2)] Parking regulations allow reductions within one-quarter mile of transit. In addition, the maximum number of spaces allowed shall not exceed 125 percent of the City requirement (see Section 3.4.4 of the PDGSP).
Source: PGDSP





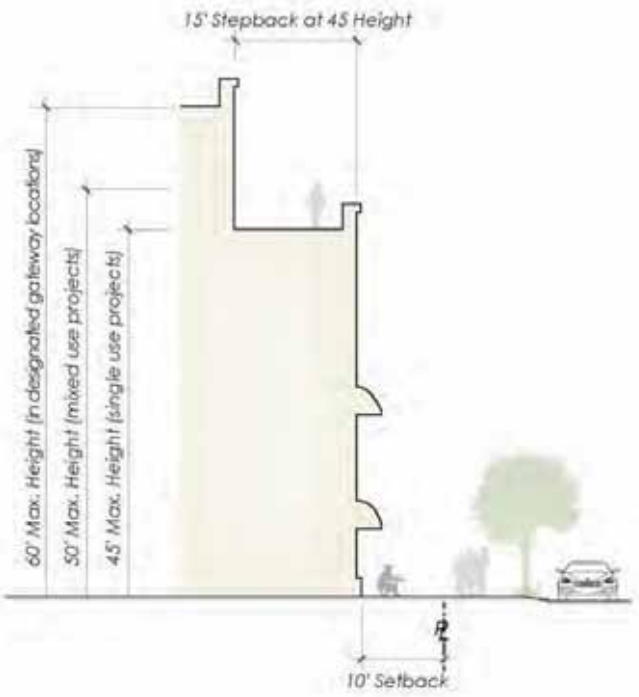
Development Regulations

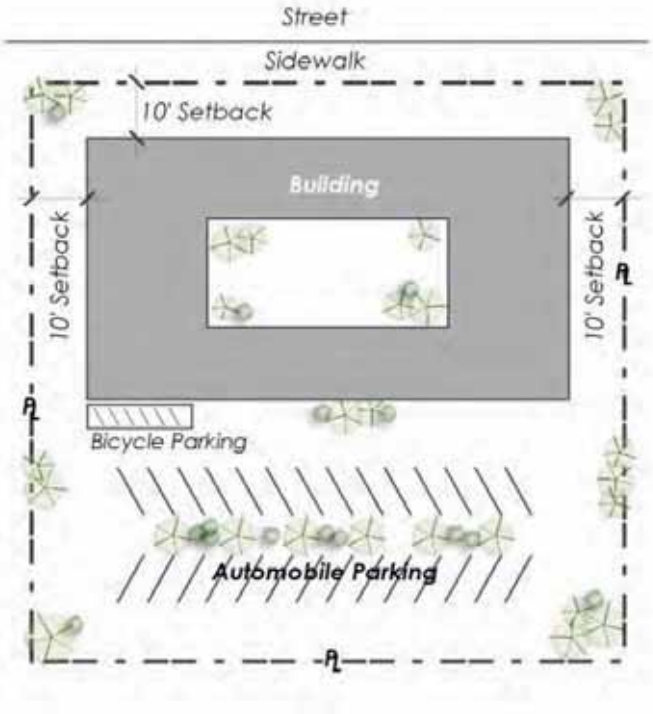
1. Permitted Land Uses:
   - Transit Center (Trolley/Bus Station)
   - Public Open Spaces (Plaza/Piazza/Courtyard)
   - Residential
   - Retail
   - Office
   - Civic
2. Floor Area Ratio: 2.0
3. Building Height:
   a) 45 feet maximum for Single Use Projects;
   b) 50 feet maximum for Vertical Mixed Use Projects;
   c) Up to 60 feet for Projects in specially designated Gateway locations
4. Building Setback: 10 feet along property lines
5. Building Stepback: 15 feet for buildings higher than 50 feet
6. Open Space Requirements: 200 sq. ft. per dwelling unit
7. Parking Regulations
   - Parking Locations: Any, except fronting on the street or in front of buildings
   - Residential Parking: 1 space per unit
   - Non-residential Parking: Minimum 2 spaces per 1,000 sq. ft. of commercial space
   - Bicycle parking per CVMC 15.12 (Green Building Standards), as may be amended from time to time.

Source: City of Chula Vista 2011

No Scale

DEVELOPMENT STANDARDS FOR PALOMAR TRANSIT PLAZA SUBDISTRICT (MU-1)
FIGURE 3-3





Development Regulations

1. Permitted Land Uses:
   - Residential/Commercial Mixed-Use (vertical or horizontal)
   - Commercial Retail
   - Commercial Office
2. Floor Area Ratio: 1.5
3. Building Height:
   a) 45 feet maximum for Single Use Projects;
   b) 50 feet maximum for Vertical Mixed Use Projects;
   c) Up to 60 feet for Projects in specially designated Gateway locations
4. Building Setback: 10 feet along property lines
5. Building Stepback: 15 feet for buildings higher than 50 feet
6. Street Wall Frontage: 50% Min.
7. Open Space Requirements: 200 sq. ft. per dwelling unit
8. Parking Regulations
   - Parking Locations: Any, except fronting on the street or in front of buildings
   - Residential Parking: As required per CVMC 19.62, as may be amended from time to time.
     a) 1.5 spaces per unit for studios and one bedroom units
     b) 2 spaces per unit for units with two or more bedrooms
   - Non-residential Parking: Minimum 2 spaces per 1,000 sq. ft.
   - Bicycle parking per CVMC 15.12 (Green Building Standards), as may be amended from time to time.

Source: City of Chula Vista 2011

No Scale

DEVELOPMENT STANDARDS FOR MIXED USE CORRIDOR SUBDISTRICT (MU-2)
FIGURE 3-4

3.4.2.3 Palomar Residential Village Sub-District (PRV)

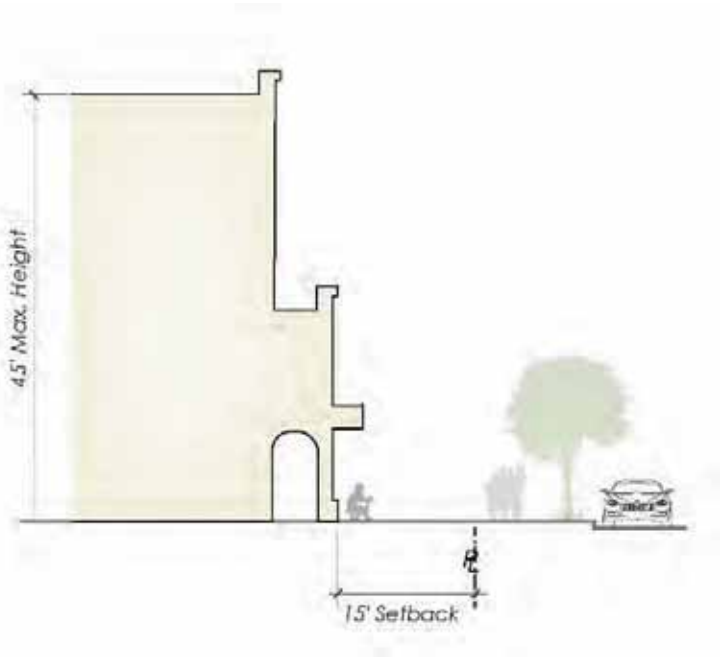
The Palomar Residential Village Sub-District includes all of the properties bounded by Ada Street (north and south side), Industrial Boulevard, Frontage Road, and Anita Street, except the properties located at the northwest corner of Industrial Boulevard and Anita Street, which are designated commercial (see Figure 3-2, Location Map). This sub-district encompasses an area of approximately 43.5 acres. The purpose of the Palomar Residential Village Sub-District is to enhance the residential characteristics of the area while allowing intensification to provide additional housing opportunities, support regional transit, and support commercial uses in the vicinity. This sub-district is currently developed with residential land uses and would continue to provide residential uses under the PGDSP, although at a higher density than currently exists. The PGDSP proposes the following permitted land uses within this sub-district: apartment complexes, townhome complexes, and garden apartment complexes. The development regulations for this sub-district would promote and encourage an intensively developed residential environment, with amenities such as open space areas, landscaping, and off-street parking. Zoning for this sub-district would occur pursuant to CVMC Chapter 19.28, R-3 – Apartment Residential Zone, and would implement the High Residential designation of the General Plan. Figure 3-5, Development Standards for Palomar Residential Village Sub-District (PRV), identifies the new permitted land uses, FAR, building heights, building setbacks, open space requirements, and parking regulations proposed for the Palomar Residential Village Sub-District.

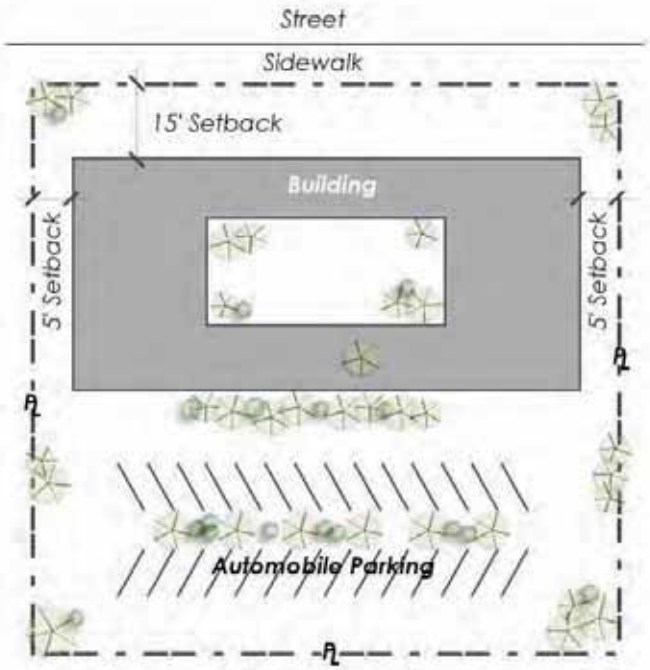
3.4.2.4 Palomar Neighborhood Retail Cluster Sub-District (PNRC)

The Palomar Neighborhood Retail Cluster Sub-District includes the properties located along the west side of Industrial Boulevard north of Belvia Lane and Anita Street, encompassing an area of approximately 1.5 acres (see Figure 3-2, Location Map). The purpose of the Palomar Neighborhood Retail Cluster Sub-District is to provide a commercial retail center to serve the adjacent residential neighborhood. The PGDSP proposes the following permitted land uses within this sub-district: commercial retail and commercial office. Zoning for this sub-district would occur pursuant to CVMC Chapter 19.34, C-N – Neighborhood Commercial Zone, and would implement the Retail Commercial designation of the General Plan. The development regulations for this sub-district would ensure that the character of the sub-district would complement and be compatible with the surrounding residential area. Figure 3-6, Development Standards for Palomar Neighborhood Retail Cluster Sub-District (PNRC), identifies the new permitted land uses, FAR, building heights, building setbacks, and parking regulations proposed for the Palomar Neighborhood Retail Cluster Sub-District.

3.4.3 Design Guidelines

Chapter 4 of the PGDSP contains design guidelines for future development within the PGD. The PGDSP design guidelines would apply to both new development and the rehabilitation of older structures, and would encourage an area that is economically stronger, more recognizable, and rich in sense of place and identity. Specific design guidelines for gateway corners, major arterials, areas adjacent to the I-5 freeway, and streetscape improvements are summarized in Table 3-5.





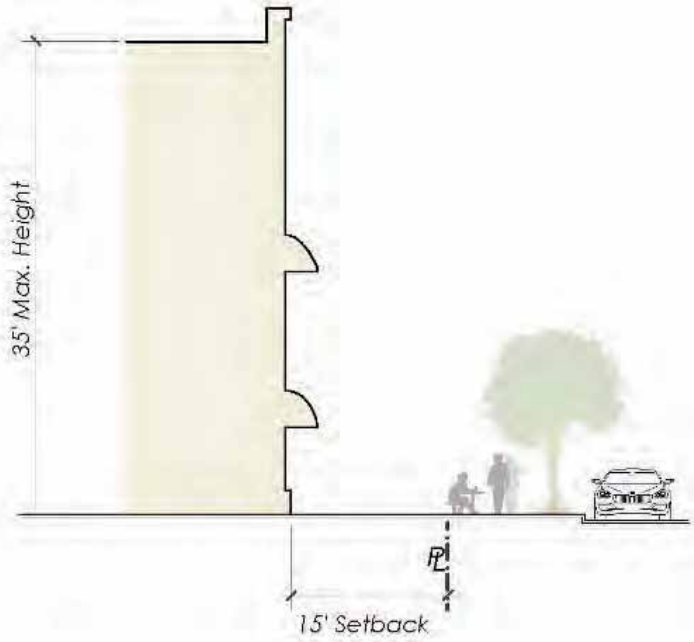
Development Regulations

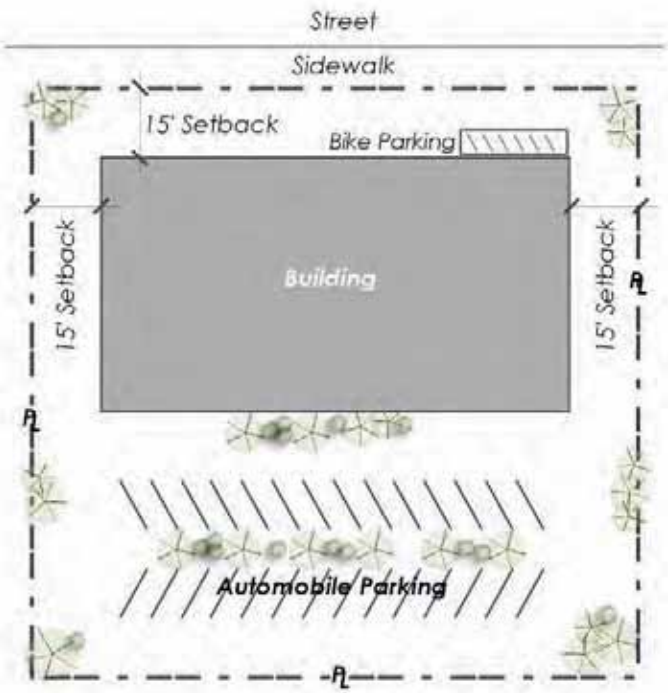
1. Permitted Land Uses:
   - Apartment Complexes
   - Townhome Complexes
   - Garden Apartment Complexes
2. Building Height: 45 feet maximum
3. Building Setback:
   - Front and rear: 15 feet
   - Side yard: 10 feet (with both interior)
   - Corner lots: 10 foot exterior yard, 5 foot interior yard
4. Parking Regulations
   - Parking Locations: Any, except fronting on the street or in front of buildings
   - Residential Parking: As required per CVMC 19.62, as may be amended from time to time.
     a) 1.5 spaces per unit for studios and one bedroom units
     b) 2 spaces per unit for units with two or more bedrooms

Source: City of Chula Vista 2011

No Scale

DEVELOPMENT STANDARDS FOR PALOMAR RESIDENTIAL VILLAGE SUBDISTRICT (PRV)
FIGURE 3-5





Development Regulations

1. Permitted Land Uses:
   - Commercial retail
   - Commercial office
2. Building Height: 35 feet maximum
3. Building Setback: 15 feet
4. Parking Regulations
   - Parking Locations: Any, except fronting on the street or in front of buildings
   - Retail: Generally 1 space per 200 sq. ft.
   - Office: Generally 1 space per 300 sq. ft.
   - Other: As required per CVMC 19.62, as may be amended from time to time.
   - Bicycle parking per CVMC 15.12 (Green Building Standards), as may be amended from time to time.

Source: City of Chula Vista 2011

No Scale

DEVELOPMENT STANDARDS FOR PALOMAR NEIGHBORHOOD RETAIL CLUSTER SUBDISTRICT (PNRC)
FIGURE 3-6

Source: SanGIS, 2011; CASIL, 2011

0 200 400
Feet

N

GATEWAY INTERSECTIONS
FIGURE 3-7

Table 3-5 Summary of PGDSP Design Guidelines

Gateway Corner/ Major Arterial	Design Guidelines
Northwest Corner of Palomar Street and Industrial Boulevard	▪ Primary vehicular access from Industrial Boulevard ▪ Provide strong connection with the transit center ▪ Buildings lining Palomar Street should maintain strong architectural design standards, use high-quality building materials, and emphasize corner building design elements ▪ Buildings that front Palomar Street and/or Industrial Boulevard should orient windows and business toward these streets ▪ Residential entrances should be setback with stoops and porches ▪ Streetscape should include outdoor dining areas and plazas or other open spaces
Northeast Corner of Palomar Street and Industrial Boulevard	▪ Primary vehicular access from Palomar Street or Oxford Street ▪ Strong connection with the transit center and Harborside Park ▪ Buildings should orient windows and business toward Palomar Street ▪ Residential entrances should be set back with stoops and porches ▪ Incorporate active plazas or other open space elements ▪ Buildings lining Palomar Street should maintain strong architectural design standards, use high-quality building materials, and emphasize corner building design elements
Southeast Corner of Palomar Street and Industrial Boulevard	▪ Vehicular access from Palomar Street ▪ Emphasize iconic corner building design elements ▪ Buildings lining Palomar Street should maintain strong architectural design standards and use high-quality building materials ▪ Public plaza or piazza as a focal point and gathering place ▪ Strong connection with the transit center, new commercial uses, and public spaces and parks ▪ Buildings should orient windows and business toward Palomar Street ▪ Residential entrances should be setback with stoops and porches
Southwest Corner of Palomar Street and Industrial Boulevard	▪ Primary vehicular access from Industrial Boulevard ▪ Paseo connecting Palomar Street to the residential neighborhood to the south ▪ Connections with existing streets ▪ Access roads should be consistent with the scale and amenities of streets in adjacent residential neighborhoods ▪ Buildings lining Palomar Street should maintain strong architectural design standards, use high-quality building materials, and emphasize corner building design elements ▪ Retail building(s) should orient storefronts and entrances toward Palomar Street and Industrial Boulevard ▪ Residential uses should set back entrances with stoops and porches ▪ Plazas, outdoor dining, kiosks, benches, and other street furniture are encouraged
Southwest and Southeast Corner of Palomar Street and Frontage Road	▪ Primary vehicular access from Frontage Road ▪ Allow for vehicular and pedestrian connections with existing streets ▪ Principal access roads should be consistent with the scale and amenities of streets in adjacent residential neighborhoods ▪ Buildings lining Palomar Street should maintain strong architectural design standards, use high-quality building materials, and emphasize corner building design elements ▪ Retail buildings should orient storefronts and entrances to Palomar Street and Frontage Road ▪ Residential uses should set back entrances with stoops and porches
Northwest and Northeast Corner of Palomar Street and Walnut Avenue	▪ Primary vehicular access from Walnut Avenue ▪ Allow for connections with existing streets ▪ Improve the street layout to provide a better circulation between Walnut and Trenton Avenue ▪ Principal access roads should be consistent with the scale and pedestrian amenities of streets in adjacent residential neighborhoods ▪ Buildings lining Palomar Street should maintain strong architectural design standards, use high-quality building materials, and emphasize corner building design elements

Table 3-5 continued

Gateway Corner/ Major Arterial	Design Guidelines
	▪ Retail building(s) should orient storefronts and entrances to Palomar Street and Walnut Avenue ▪ Any residential uses along Palomar Street should set back entrances with stoops and porches
Palomar Residential Village	▪ New multi-family residential uses should provide a strong connection to the Palomar Transit Plaza and other commercial uses along Palomar Street ▪ Principal access roads into new development areas off Ada Street, Dorothy Street and Anita Street should harmonize with the scale and pedestrian amenities of adjacent residential neighborhoods ▪ Orient new residential uses to the street with landscaped setbacks. Entrances should incorporate stoops and porches, to maintain "eyes on the street" ▪ Place parking in the rear ▪ New development should use strong architectural design standards and high-quality building materials, and provide varied interest in building design elements ▪ Site design for new development between Ada and Dorothy Streets adjacent to the existing drainage area should preserve and enhance the drainage area as a passive open space element, to the extent feasible ▪ Where new multi-story development is adjacent to existing single family residential uses, consideration should be given to maintaining privacy through the use of design measures such as stepbacks, landscaping and window orientation
Northwest Corner of Anita Street and Industrial Boulevard	▪ Neighborhood-serving uses are strongly encouraged ▪ Primary businesses should be oriented to Industrial Boulevard and the corner at Anita Street ▪ Neighborhood transition elements, such as landscaping, wall treatments, setbacks and shielded lighting should be incorporated into project design to minimize spillover onto the adjacent residential village
Site Design Considerations Adjacent to I-5[(1)]	▪ No new or expanded schools or day care ▪ Avoid siting of new residential uses within 350 feet of the centerline of I-5 ▪ Non-sensitive uses (e.g., commercial, retail, and office) sited closest to I-5 ▪ Residential uses located on the upper stories and tiered back from I-5 ▪ For residential uses in the area between 350 feet and 500 feet from the centerline of I-5, every effort should be made to consolidate parcels to create more flexibility in site design with a goal of minimizing residential uses within this area ▪ Mechanical and structural measures, such as air conditioning with special filters, etc., should be incorporated into building design and construction techniques
Streetscape Improvements	▪ Coordinated streetscape design elements such as street trees, street furniture, and lighting ▪ Distinct, "international" image ▪ Cobble textured paving for crosswalks, landscaping, and a roundabout ▪ Gateway signage at the southeast corner of Palomar Street and Frontage Road ▪ New bus pull-out lane adjacent to the transit center ▪ Six-foot bikeways, pedestrian lighting, and parkways between the sidewalk and travel lanes on Palomar Street ▪ Bike locker storage, landscaping, and lighting at the Palomar Transit Station ▪ Pedestrian-friendly plaza at the southwest corner of Palomar Street and Industrial Boulevard

[(1)] Site design measures must be considered in conjunction with the advisory recommendations in Air Quality and Land Use Handbook (California Air Resources Board 2005).

Note: Some buildings may be considered for additional height to provide strong architectural elements at gateway corners.

Source: PGDSP

In addition to the specific design guidelines provided in the PGDSP, future development within the PGD would be subject to the design guidelines identified in the City of Chula Vista Design Manual (City of Chula Vista 2011b). The City's Design Manual provides design guidelines for mixed use and single use projects, and includes guidance for the following elements of project design: Neighborhood Context; Site Design/Siting and Orientation; Building Design; Parking; Energy Conservation and Landscaping; Resource Conservation; and Water Conservation.

Urban designers, architects, and reviewers of future development projects within the PGD should refer to the City's Design Manual, in particular the Multi-Family Residential, Commercial, Mixed Use, and Conservation Design Guidelines, for general design guidance.

3.4.4 Infrastructure and Public Facilities

Chapter 5 of the PGDSP describes the infrastructure and public facilities applicable to future development within the PGD, including water supply, sewer, drainage, solid waste disposal, law enforcement and emergency services, schools, parks and recreation facilities, energy and telecommunications, and other public improvements such as streets, sidewalks, and street furnishings. As part of its overall facilities planning and maintenance activities, the infrastructure and public facilities related to the PGD were studied during the City's General Plan effort. Since the PGDSP implements the General Plan, these studies and the resulting citywide implementation strategies provide the basis for public services and utilities needed to serve the PGD. This chapter of the PGDSP also includes a list of commonly used mechanisms to fund public facilities.

3.4.5 Plan Implementation and Administration

Chapter 6 of the PGDSP describes plan implementation and administration strategies, including guidelines for specific plan administration, previously conforming uses, exemptions, site-specific variances, development exceptions, specific plan amendments, and specific plan review. A summary of PGDSP implementation and administration strategies for subsequent project design review, subsequent project environmental review, and specific plan review is provided below.

3.4.5.1 Subsequent Projects Design Review

In general, all developments within the PGD that are not otherwise exempt would require submittal and approval of a Design Review Permit. In order to obtain Design Review Permit approval, development projects would be required to comply with the land use and development regulations and the design guidelines identified in the PGDSP. For development projects in designated gateways that propose increased building height, the building design would be required to reflect a unique, signature architecture and create a positive Chula Vista landmark. Any proposed development projects would also be required to adhere to the existing CVMC regulations and processes for other discretionary review, such as those for conditional use permits, variances, and subdivisions.

3.4.5.2 Subsequent Environmental Review

Future development within the PGD, proposed in accordance with the PGDSP, will be viewed in light of the Final EIR for the PGDSP pursuant to CEQA Guidelines Sections 15168, 15182, and 15183. Unless exempt from CEQA review under CEQA Guidelines Section 15061, as each new development project is proposed, a Secondary Study will be prepared to determine if the Final EIR adequately addresses the

potential environmental impacts of the proposed development. No additional environmental documentation will be required for subsequent projects if the Secondary Study determines that the potential environmental effects have been adequately addressed in the Final EIR and/or the proposed development would implement appropriate mitigation measures identified in the MMRP accompanying the Final EIR. In such cases, the Final EIR would be referenced in approving the required discretionary actions.

If the Secondary Study identifies new impacts or a substantial change in circumstances, additional environmental documentation would be required. The form of this documentation would depend upon the nature of the impacts of the proposed development being considered. Should a development project result in new or substantially more severe significant impacts that are not adequately covered in this EIR, or there is a substantial change in circumstances that would require a major revision to this EIR, or new information comes to light which was not known at the time this EIR was certified, a Subsequent or Supplemental EIR would be prepared in accordance with CEQA Guidelines Sections 15162 and 15163. If potential new significant impacts can be fully mitigated, a Mitigated Negative Declaration would be prepared. If some changes or additions to this EIR are necessary, but none of the conditions described above calling for the preparation of a Subsequent or Supplemental EIR have occurred, the Lead Agency or Responsible Agency would prepare an Addendum to this EIR. Unlike a Supplemental or Subsequent EIR, an Addendum to a previously certified EIR need not be circulated for public review and can be included in or attached to the Final EIR in accordance with CEQA Guidelines Section 15164. More detailed development-specific studies conducted as part of the subsequent environmental review process would further quantify environmental impacts and generate project-specific mitigation measures to avoid or minimize significant environmental impacts of specific development projects.

3.4.5.3 Specific Plan Review

Conducting periodic reviews of the PGDSP is important to ensure proper functioning and implementation over time. A review every five years will offer an opportunity to make sure the PGDSP is on track, check in on the implementation process to ensure that the goals and objectives are being achieved, and make changes in case they are not. Over the lifetime of the PGDSP, the changing landscape of the PGD may impact the effectiveness of the implementing actions. Thus, a five-year review cycle allows adjustments to be made the PGDSP as necessary. Items of particular importance to consider during each five-year review include:

- Reviewing the total amount of development against the thresholds established in the PGDSP.
- Evaluating the need for planned improvements based on development patterns and programs in the CIP.
- Reviewing the various incentive programs to evaluate if these elements are providing the intended results.

3.5 Discretionary Actions

Approval of the PGDSP would require the approval of discretionary actions. Consistent with CEQA Guidelines Sections 15050 and 15367, the City of Chula Vista is designated as the Lead Agency for the proposed PGDSP. No Responsible or Trustee Agencies have been identified. Table 3-6 lists the discretionary actions that would be required to adopt and implement the PGDSP.

Table 3-6 Discretionary Actions Required for PGDSP Adoption and Implementation

Action	Agency	Purpose
PGDSP Adoption	Chula Vista City Council	To implement the objectives and policies of the City of Chula Vista General Plan
PGDSP Final EIR Certification	Chula Vista City Council	To comply with state-required environmental review of the proposed PGDSP

Future development proposed in accordance with the PGDSP would require discretionary approvals. The Final EIR for the PGDSP would be used by the City for discretionary actions associated with subsequent development and other activities within the PGD which require CEQA review. Such future discretionary actions are anticipated to include (but are not be limited to) the following: Design Review Permits, Conditional Use Permits, Tentative Maps, Demolition Permits, and Grading Permits. For these future discretionary actions environmental review would be conducted pursuant to Section 3.4.5.2 above.

Chapter 4 Environmental Setting

A brief discussion of the environmental setting, including location, climate, topography, and other contextual physical characteristics of the PGD, is provided in this chapter. A more detailed description of existing environmental conditions is provided at the beginning of each issue-specific discussion contained in Chapter 5, Environmental Impact Analysis. Consistent with CEQA Guidelines Section 15125(a), the environmental setting and existing conditions addressed throughout this EIR are those which existed at the time that the NOP for the PGDSP EIR was published in November 2011.

4.1 Location

The PGD is located within the southwestern portion of the City of Chula Vista, County of San Diego, California, near the interchange of Palomar Street and I-5, approximately four miles north of the border with Mexico (see Figure 3-1, Regional Location Map). Maps contained in the PGDSP (and replicated in this EIR) identify the boundaries of the PGD as the approximately 100-gross acre area surrounding the Palomar Transit Station at the intersection of Palomar Street and Industrial Boulevard (see Figure 3-2, Location Map). The MTS operates San Diego Trolley Blue Line light rail service from the Palomar Transit Station, while the Palomar Street/I-5 freeway interchange is considered one of the busiest traffic interchanges in Chula Vista. The PGD is considered the major southern gateway to the City for visitors entering both from I-5 and from the San Diego Trolley.

The PGD includes areas north of Palomar Street around Walnut Street, Trenton Street, and Industrial Boulevard. Farther east, the PGD also extends north from Palomar Street to Oxford Street. South of Palomar Street, the PGD extends along Industrial Boulevard and Frontage Road to Anita Street.

4.2 Climate

The climate of San Diego County is characterized by warm, dry summers and mild, wet winters. Clear skies predominate for much of the year due to a semi-permanent high-pressure cell located over the Pacific Ocean. This high-pressure cell also drives the dominant onshore circulation and helps create subsidence and radiation temperature inversions. Subsidence inversions occur during the warmer months when descending air associated with the high-pressure cell comes in contact with cool marine air. Radiation inversions typically develop on winter nights with low wind speeds when air near the ground cools by radiation and the air aloft remains warm.

Records from the nearest climatological monitoring station to the PGD, which is located in downtown Chula Vista on F Street, indicate that the high daily maximum temperature is 74.1 degrees Fahrenheit in

August and the low daily minimum temperature is 43.9 degrees Fahrenheit in January (Western Regional Climate Center 2012). The mean precipitation is approximately 9.75 inches annually, occurring primarily from November through March, while the remainder of the year is typically dry. Prevailing winds in Chula Vista are from the west.

4.3 Topography

The topography of the PGD is relatively flat, with elevations that range from approximately 36 to 60 feet (11 to 18 meters) above mean sea level (MSL). The lower elevations generally occur along the western boundary of the PGD and increase slightly in elevation toward the eastern boundary. There are no prominent land features that occur within the PGD. The PGD is situated approximately 0.5 mile inland (east) of the southern reach of San Diego Bay. The bay extends approximately 1.5 miles west from the Chula Vista coastline to the Silver Strand of the Coronado Peninsula, which is bounded to the west by the Pacific Ocean. A single contiguous drainage feature occurs within the PGD. This drainage feature is moderately incised and runs along a small, shallow east/west-trending gully that occurs between Industrial Boulevard and Frontage Road. In addition, two shallow man-made swales occur within the northern and eastern portions of the PGD, respectively.

4.4 Land Use Characteristics

The PGD is mostly developed, consisting of a variety of existing land uses that include residential, commercial, and industrial uses. Residential development is the dominant land use primarily concentrated south of Palomar Street, with densities ranging from approximately 5 to 20 dwelling units per acre. There are currently about 400 residential units in the PGD, including 67 rooms related to two hotels. Land uses to the north of Palomar Street include a mix of industrial and multi-family residential housing, with a major commercial area at the northeast corner of Palomar Street and Industrial Boulevard that attracts shoppers and employees from the surrounding communities. Land uses south of Palomar Street include single and multi-family residential housing, industrial, and vacant land, with the Palomar Transit Station on the southeast corner of the Palomar Street and Industrial Boulevard intersection.

The areas surrounding the PGD are also developed with a variety of existing land uses that include residential, commercial, industrial, and recreational uses. I-5 runs along the western boundary of the PGD, with commercial and residential uses on the west side of I-5 in the West Fairfield District. A mobile home park lies along the northern boundary of the PGD west of Industrial Boulevard. Oxford Street forms the northern boundary of the PGD east of Industrial Boulevard, with the County of San Diego Health and Human Services Agency facility, Harborside Park, and a commercial retail center on the north side of Oxford Street. Commercial retail centers lie along the eastern boundary of the PGD on both the north and south sides of Palomar Street. Industrial Boulevard forms the eastern boundary of the PGD south of the Palomar Transit Station, with industrial uses on the east side of Industrial Boulevard. Anita Street runs along the southern boundary of the PGD, with industrial uses on the south side of Anita Street.

Chapter 5 Environmental Impact Analysis

This chapter of the EIR addresses the potential environmental impacts that may occur as a result of project implementation. Issue areas subject to detailed analysis include those that were identified as having potentially significant environmental impacts by the City of Chula Vista and in response to the City's NOP and scoping meeting. The analysis presented in this chapter of the EIR identifies potential impacts associated with the proposed PGDSP, and develops appropriate mitigation, where possible, for impacts that have been determined to be significant. Each issue section below is formatted to summarize the existing conditions, list the criteria for the determination of significance, analyze any potential impacts, list any required mitigation measures, and summarize the level of significance after mitigation. For the purposes of the CEQA analysis, the PGD is considered the proposed project area. The PGD is designated as one of five "areas of change" within the southwest portion of Chula Vista for which the PGDSP proposes new zoning, development standards, and design guidelines to accommodate the anticipated revitalization envisioned in the City of Chula Vista General Plan (City of Chula Vista 2005a). The following environmental impact analysis focuses on the potential environmental effects that would arise within and adjacent to the PGD as a result of redevelopment and new infill development pursuant to the PGDSP regulatory provisions.

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5.1 Land Use, Planning, and Zoning

The analysis in this section of the EIR addresses the potential impacts associated with land use, planning, and zoning that would result from implementation of the PGDSP. Consideration of land use effects falls into two main areas: 1) conformance to, or conflicts with established plans, policies, and regulations; and 2) effects on established communities. There are numerous other issues associated with land use decisions, such as aesthetics, noise, biological and cultural resource conservation, which are addressed in their respective sections of this EIR.

5.1.1 Existing Conditions

5.1.1.1 Land Use Characteristics

A. On-Site Land Uses

The approximately 100-gross-acre PGD is currently comprised of a variety of land uses that include residential, commercial, and industrial uses (see Figure 3-2, Location Map). Residential development is the dominant land use, primarily concentrated south of Palomar Street, with densities ranging from approximately 5 to 20 dwelling units per acre. There are currently about 400 residential units in the PGD, including 67 rooms related to two hotels. Land uses to the north of Palomar Street include a mix of industrial and multi-family residential housing, with a major commercial area on the northeast corner of Palomar Street and Industrial Boulevard that attracts shoppers and employees from surrounding communities. Land uses south of Palomar Street include single and multi-family residential housing, industrial, and vacant land, with the Palomar Transit Station located at the southeast corner of Palomar Street and Industrial Boulevard.

B. Surrounding Land Uses

The areas surrounding the PGD are also developed with a variety of existing land uses that include residential, commercial, industrial, and recreational uses. The I-5 freeway corridor extends along the western boundary of the PGD, with commercial and residential uses on the west side of I-5 in the West Fairfield District. A mobile home park lies along the northern boundary of the PGD west of Industrial Boulevard. Oxford Street forms the northern boundary of the PGD east of Industrial Boulevard, with the County of San Diego Health and Human Services Agency facility, Harborside Park, and a commercial retail center on the north side of Oxford Street. Commercial retail centers lie along the eastern boundary of the PGD on both the north and south sides of Palomar Street. Industrial Boulevard forms the eastern boundary of the PGD south of the Palomar Transit Station, with industrial uses on the east side of Industrial Boulevard. Anita Street extends along the southern boundary of the PGD, with industrial uses on the south side of Anita Street.

5.1.2 Regulatory Framework

5.1.2.1 Regional

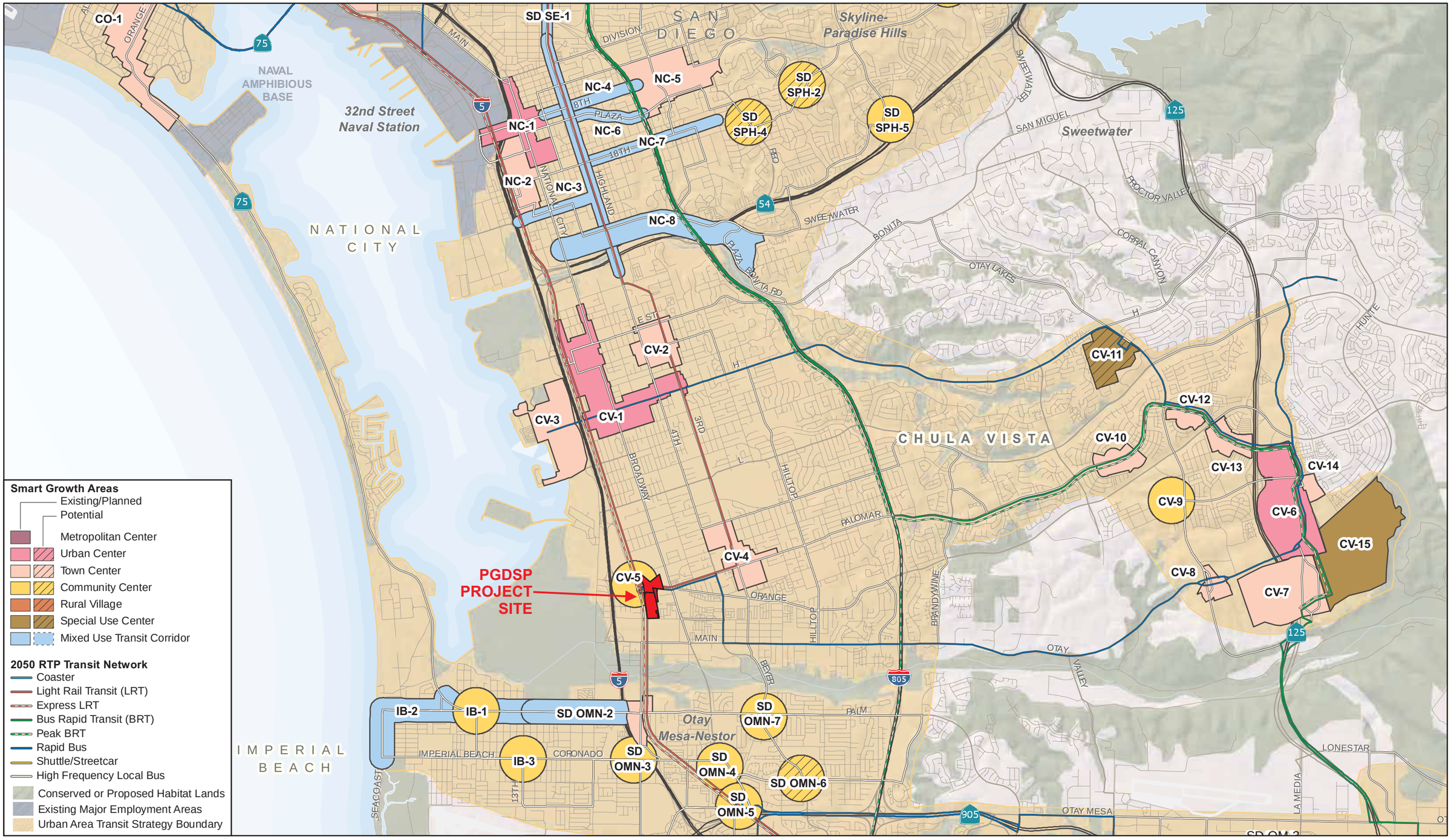
A. San Diego Association of Governments Regional Comprehensive Plan

SANDAG is the San Diego region's primary public planning, transportation, and research agency, providing the public forum for regional policy decisions regarding population growth, transportation planning and transit construction, environmental management, housing, open space, energy, public safety, and bi-national topics. SANDAG directors are mayors, council members, and a supervisor from each of the region's 18 cities and county government.

The RCP for the San Diego Region (SANDAG 2004) is a long-range planning document which establishes a strategic planning framework for decision-making with respect to anticipated regional growth, and the effect of regional growth on housing, economics, transportation, environmental planning, and overall quality of life needs. The RCP balances regional population, housing, and employment growth with habitat preservation, agriculture, open space, and infrastructure needs. The goal of the RCP is to increase the region's sustainability and encourage "Smart Growth" while preserving natural resources and limiting urban sprawl. Basic "Smart Growth" principles designed to strengthen land use and transportation integration include the following:

- Mix of compatible land uses;
- Take advantage of compact building design;
- Create a range of housing opportunities 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.

A key implementation action of the RCP has been the development of a "Smart Growth Concept Map" illustrating the location of existing, planned, and potential smart growth areas. As shown in Figure 5.1-1, the Smart Growth Concept Map identifies the PGD as a Community Center, which is a designated smart growth area that draws from the nearby community and neighborhoods, and is characterized by residential and commercial uses, including mixed use, as well as possible community-serving civic uses. Community Centers are intended to consist of low- to mid-rise buildings with 20 to 45 dwelling units per acre within 0.25 mile of a transit station; be served by at least one corridor or regional transit line; be served by arterials and/or collector streets; have high frequency corridor/regional transit services; and provide one or more on-street transit stations. Progress towards transforming the PGD into a smart growth Community Center is already underway; $2.1 million of street enhancements along Palomar Street and Industrial Boulevard were completed in the fall of 2009 through funding from the 2005 Transnet Smart Growth Incentive Program, which is funded by SANDAG through a half-cent sales tax program.



Source: SANDAG 2012

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SANDAG SMART GROWTH CONCEPT MAP
FIGURE 5.1-1

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B. SANDAG Regional Transportation Plan

The 2050 Regional Transportation Plan (RTP) (SANDAG 2011a), developed by SANDAG, is the blueprint for a regional transportation system that further enhances our quality of life, promotes sustainability, and offers more mobility options for people and goods by developing an integrated, multimodal transportation system. The RTP is a long-range plan built on a set of integrated public policies, strategies, and investments to maintain, manage, and improve the transportation system so it meets the diverse mobility needs of our changing region through 2050. The goals of the RTP are structured into two overarching themes: 1) Quality of Travel and Livability, and 2) Sustainability. Quality of Travel and Livability relates to how the transportation system functions from the customers' perspective, and focuses on providing mobility, reliability, and system preservation and safety. Sustainability relates to making progress simultaneously in promoting social equity, a healthy environment, and a prosperous economy from a regional perspective. The RTP's vision for transportation supports the region's comprehensive strategy to promote smarter, more sustainable growth. On December 3, 2012, the San Diego Superior Court found the 2050 RTP to be inadequate with respect to the analysis of greenhouse gas emissions. The 2050 RTP and 2050 RTP EIR may be revised based on this ruling.

C. San Diego County Regional Air Quality Strategy

The San Diego Air Pollution Control District (SDAPCD) and SANDAG are responsible for developing and implementing the clean air plan for attainment and maintenance of the ambient air quality standards in the San Diego Air Basin (SDAB). The San Diego County Regional Air Quality Strategy (RAQS) was initially adopted in 1991, and is updated on a triennial basis. The RAQS was updated in 1995, 1998, 2001, 2004, and most recently in April 2009. The RAQS outlines the SDAPCD's plans and control measures designed to attain the more stringent California Ambient Air Quality Standard (CAAQS) for ozone. The SDAPCD has also developed the SDAB's input to the California State Implementation Plan (SIP), which is required under the federal Clean Air Act (CAA) for pollutants that are designated as being in non-attainment of National Ambient Air Quality Standards (NAAQS) for the basin.

D. San Diego Basin Plan

The Water Quality Control Plan for the San Diego Basin (San Diego RWQCB 1994), known as the San Diego Basin Plan, is designed to preserve and enhance water quality and protect the beneficial uses of all regional waters. Specifically, the San Diego Basin Plan: 1) designates beneficial uses for surface and ground waters, 2) sets narrative and numerical objectives that must be attained or maintained to protect the designated beneficial uses and conform to the state's anti-degradation policy, 3) describes implementation programs to protect the beneficial uses of all waters in the region, and 4) describes surveillance and monitoring activities to evaluate the effectiveness of the San Diego Basin Plan.

5.1.2.2 Local

A. City of Chula Vista General Plan

The adopted City of Chula Vista General Plan (City of Chula Vista 2005a), known as Vision 2020, provides a long-term strategy to address planning issues for the growth and development of Chula Vista and outlines the community's shared vision for the future. Whereas a previous 1989 General Plan update focused on the newly annexed, developing eastern portions of Chula Vista, the 2005 General Plan update instead applies key principles of "Smart Growth" (described above) by focusing planning efforts on the City's currently developed areas, in particular the western portions of Chula Vista. The General

Plan functions as the constitution for all future development in Chula Vista; thus, any decision by the City affecting land use and development must be consistent with the General Plan.

The General Plan is comprised of the following six elements, which are discussed below: Land Use and Transportation, Economic Development, Public Facilities and Services, Growth Management, Environmental, and Housing.

1. Land Use and Transportation Element

The Land Use and Transportation Element of the General Plan establishes the City's land use categories, roadway classifications, and generalized land use patterns for development in Chula Vista, while focusing on the following themes: 1) strong community character and image; 2) strong and safe neighborhoods; and 3) improved mobility. The Land Use and Transportation Element establishes plans and policies to identify the general distribution of housing, businesses, industry, open space (including parks), education facilities, and public buildings. Standards for population density and building intensity in each land use classification are also provided.

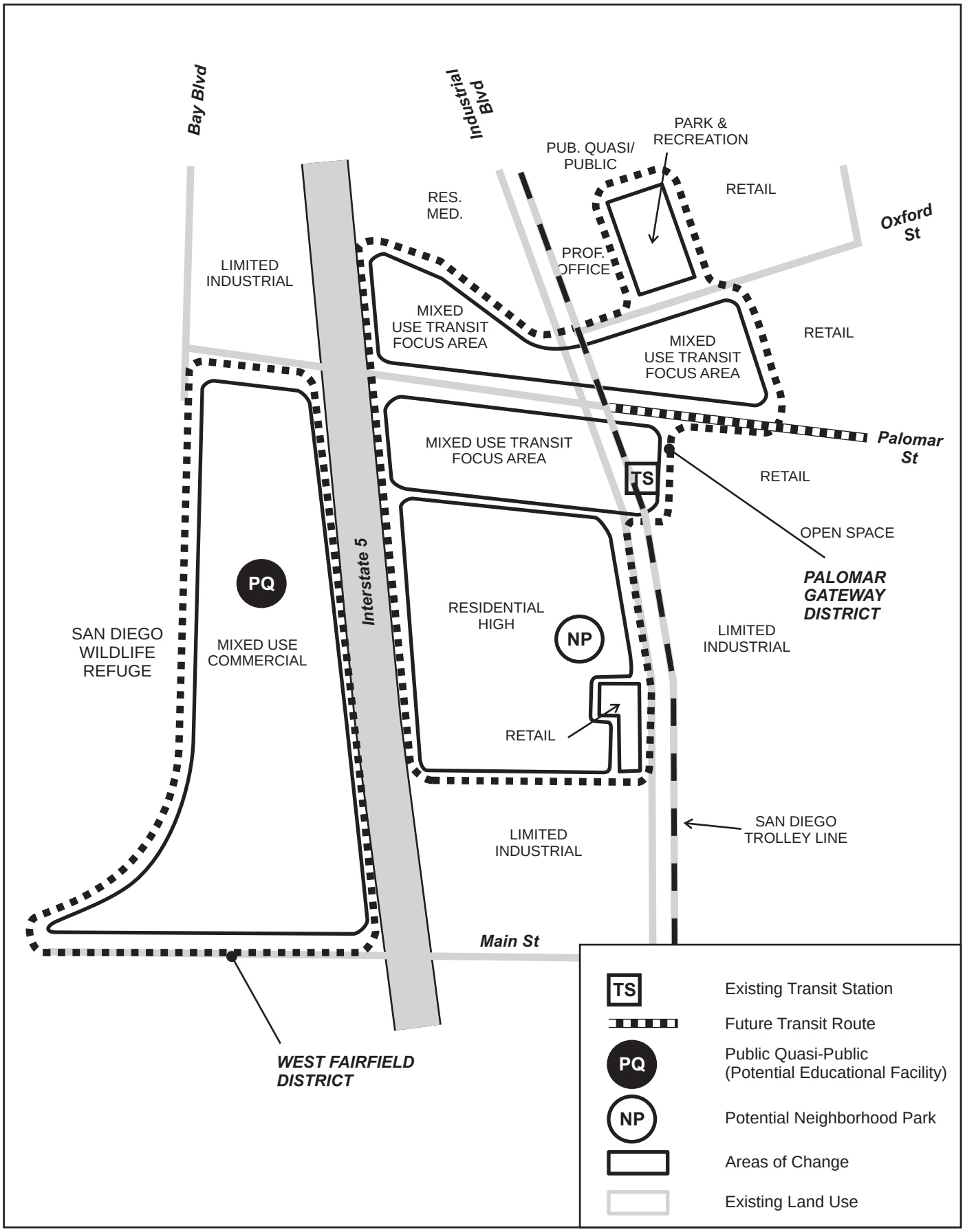
The Land Use and Transportation Element separately addresses the City's geographic areas, including the PGD, which is located in the General Plan's Southwest Planning Area. The PGD is identified as one of five "areas of change" within this planning area that would need to go through a more detailed planning process. As depicted in Figure 5.1-2, the General Plan objective for the PGD is to help transition the area from a low-density, auto-focused interchange into a Mixed Use Transit Focus Area surrounding the Palomar Transit Station. The vision for the Mixed Use Transit Focus Area includes higher intensity residential uses, as well as mixed use developments that offer a combination of pedestrian-friendly residential, office, and retail uses with strong linkages to the Palomar Transit Station. A mix of retail and office uses would be located along Palomar Street with residential uses above and/or behind the retail and office uses. Table 3-1 in Chapter 3 identifies the adopted General Plan land use designations and build-out conditions for the PGD. The land use designations in the PGD include High Residential, Mixed Use Transit Focus Area, Retail Commercial and Parks and Recreation. Refer to Sections 3.2.3.1 through 3.2.3.4 of Chapter 3 for a discussion of each of these land use designations.

2. Economic Development Element

The Economic Development Element establishes policies to ensure the long-term vitality of the local economy. The purpose of the Economic Development Element is to help develop and guide employment and business ownership opportunities for City residents, and encourage appropriate economic and business development in Chula Vista. It promotes a sustainable local economy to benefit present and future generations without detrimentally affecting resources. Employment land, or land designated for commercial, industrial, and other non-residential or open space use, is concentrated in three principal areas of Chula Vista: the tideland area, the Montgomery area, and the Otay Valley area. The PGD, which is located in the Montgomery area, is included in the General Plan's Employment Land Areas.

3. Public Facilities and Services Element

The Public Facilities and Services Element establishes the City's plan to provide and maintain infrastructure and public services for future growth, without diminishing services to existing development. The overall goal of the Public Facilities and Services Element is to provide and maintain public facilities and services within Chula Vista through abundant public infrastructure and community services that support and enhance the well being of the City and its residents.



Source: Chula Vista General Plan 2005

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GENERAL PLAN MAP SHOWING PALOMAR GATEWAY DISTRICT
FIGURE 5.1-2

4. Growth Management Element

The purpose of the Growth Management Element is to guide future development in Chula Vista based on the following principles: 1) rapid population growth and development have the potential to cause a variety of problems and impact the well being of a city and its residents, and 2) impacts can be mitigated by balancing competing demands for growth and development through the adoption of comprehensive objectives and policies. The General Plan establishes the vision for the type of community Chula Vista will become. The Growth Management Element serves as the assurance that the vision is achieved, without sacrificing the quality of life enjoyed in the community. The Growth Management Element establishes a framework for directing new development, redevelopment, and community enhancement, and provides the guidance to realize the City's vision.

5. Environmental Element

The Environmental Element establishes the policy framework for improving sustainability through the stewardship of the City's natural and cultural resources, promotion of environmental health, and protection of persons and property from environmental hazards and noise. Sustainable development is identified as a means of balancing current growth and economic progress with protection of future resources.

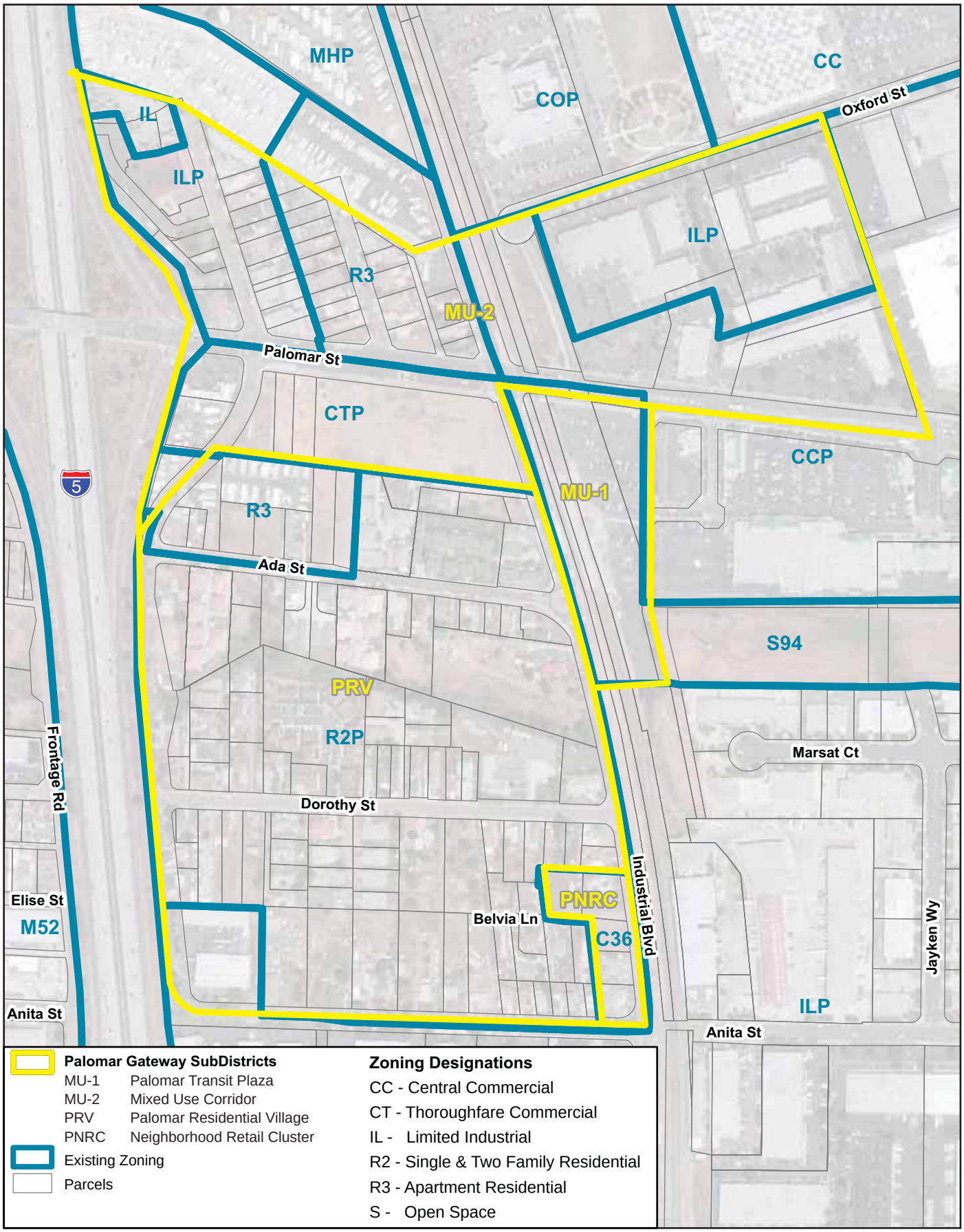
6. Housing Element

The Housing Element details a five-year strategy for enhancement and preservation of the City's character; identifies strategies for expanding housing opportunities for the City's various economic segments; and provides policy guidance for local decision-making related to housing. The focus of the Housing Element is to 1) maintain and enhance the quality of housing and residential neighborhoods in Chula Vista, 2) support housing opportunities to meet the City's diverse needs, and 3) fund and implement services that provide vital community resources for lower income residents. Inclusionary policies of the Housing Element require 10 percent affordable ("inclusionary") housing, including 5 percent low-income and 5 percent moderate-income, for projects consisting of 50 or more dwelling units.

B. City of Chula Vista Zoning Code

The City of Chula Vista Zoning Code (CVMC Title 19) is intended to implement the General Plan land use designations through adoption of specific plans or other zoning ordinances. The Zoning Code includes descriptions and allowed uses for each of the City's zone classifications, which provide for residential, commercial, industrial, and open space uses in conformance with General Plan land use designations as required by law. The PGD includes six of the City's zone classifications along with two San Diego County zoning classifications. Figure 5.1-3 and Table 5.1-1 identify the existing zone classifications within the PGD, which are defined as follows:

- <u>R-2—One- and Two-Family Residence Zone.</u> The purpose of the R-2 zone is to provide a density level commensurate with the density allowable under the most restrictive multiple-family zone, but to retain the fundamental characteristics found in the R-1 zone, such as building height, private yards and patios, individual recreational facilities, privately maintained open space, and privacy and self-containment of dwelling units. The basic use permitted in the R-2 zone is the lowest density of multiple dwelling units, namely the duplex.



Source: CASIL 2011; SanGIS 2011; Chula Vista 2012

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EXISTING CITY ZONING MAP SHOWING PALOMAR GATEWAY DISTRICT
FIGURE 5.1-3

Table 5.1-1 Existing Zoning Classifications for Palomar Gateway District[1]

Zoning Classification	Zoning Description	Zoning Regulation	District Area[2] (acres)	Existing Units	
				Residential Units	DU/AC[3]
R-2	One- and Two-Family Residence Zone	CVMC Chapter 19.26	37	236	6
R-3	Apartment Residential Zone	CVMC Chapter 19.28	7	78	11
C-O	Administrative and Professional Office Zone	CVMC Chapter 19.30	5	--	--
C-C	Central Commercial Zone	CVMC Chapter 19.36	6	--	--
C-T	Thoroughfare Commercial Zone	CVMC Chapter 19.40	6	49	8
I-L	Limited Industrial Zone	CVMC Chapter 19.44	17	37	2
C36	General Commercial Zone	San Diego County Zoning Ordinance Section 2360-2369	1	5	3
S94	Transportation and Utility Corridor Zone	San Diego County Zoning Ordinance Section 2940-2949	5	--	--
Total			**84**	**400**	**5**

[1] All values are approximate and have been rounded off.

[2] Approximately 15 acres of land within the PGD are designated as Transportation Corridors and Rights-of-Way.

[3] DU/AC = dwelling units per acre

Source: PGDSP Existing Conditions Summary Report

- R-3—Apartment Residential Zone. The purpose of the R-3 zone is to provide appropriate locations where apartment house neighborhoods of varying degrees of density may be established, maintained, and protected. The R-3 zone permits, in accordance with the respective density districts, multiple dwellings ranging from garden apartments to multi-story apartment houses, and necessary public services and activities subject to proper controls. Also permitted, subject to special control, are certain retail and service activities intended for the convenience and service of the residents of the district.
- C-O—Administrative and Professional Office Zone. The purpose of the C-O zone is to provide appropriate locations where professional and administrative office uses may be established, maintained and protected. The regulations of the C-O zone are designed to promote a quiet and dignified environment for business administration, professional, and government activities, free from the congestion and traffic of the usual retail business district. To this end, the regulations permit office buildings and medical and financial facilities; appropriate commercial facilities primarily for the service of the occupants of the district are permitted subject to special controls. The intensity of development of the C-O zone is intended to reflect its environmental setting with building height and coverage generally similar to and harmonious with those of neighboring districts.
- C-C—Central Commercial Zone. The purpose of the C-C zone is to stabilize, improve, and protect the commercial characteristics of the community's business centers and commercial corridors, and integrate mixed use development (commercial with residential) to increase the urban vibrancy of these areas. The C-C zone designation is applied in the general location of such

business centers and commercial corridors, as well as in mixed use residential areas as designated in the General Plan.

- C-T—Thoroughfare Commercial Zone. The purpose of the C-T zone is to provide for areas in appropriate locations adjacent to thoroughfares where activities dependent upon or catering to thoroughfare traffic may be established, maintained, and protected. The regulations of the C-T zone are designed to encourage the centers for retail, commercial, entertainment, automotive, and other appropriate highway-related activities. C-T zones are established in zones of 1 acre or larger, and located only in the immediate vicinity of thoroughfares, or the service drives thereof.
- I-L—Limited Industrial Zone. The purpose of the I-L zone is to encourage sound limited industrial development by providing and protecting an environment free from nuisances created by some industrial uses and to ensure the purity of the total environment of Chula Vista and San Diego County and to protect nearby residential, commercial, and industrial uses from any hazards or nuisances.
- C36—General Commercial (San Diego County Zone). The C36 zone use regulations are intended to create and enhance commercial areas where a wide range of retail goods and services are permitted. Typically, the C36 zone would be applied where central area commercial facilities were desired in association with administrative and office uses. Various applications of the C36 zone with appropriate development designators can create community or regional shopping complexes, central business districts, or small but highly diverse commercial developments.
- S94 –Transportation and Utility Corridor (San Diego County Zone). The S94 zone use regulations are intended to create and protect corridors for existing or future highways; railways; pipelines; other modes of transportation; and facilities for transmission of electricity, gas, water, and other materials and forms of energy. The uses permitted in the S94 zone are those which will not detract from the corridor's primary purpose, will not involve large permanent concentrations of people, and will not adversely affect surrounding residents and properties. Various applications of the S94 zone with appropriate development designators can preserve future corridors while allowing appropriate interim uses, and permit suitable uses of land under powerlines, over buried pipelines, or alongside railroads or highways.

C. City of Chula Vista Multiple Species Conservation Program Subarea Plan

The MSCP is a comprehensive, long-term habitat conservation plan which addresses the needs of multiple species and the preservation of natural vegetation communities in San Diego County. The MSCP addresses the potential impacts of urban growth, loss of natural habitat, and species endangerment, and creates a plan to mitigate for the potential loss of Covered Species and their habitat due to the direct, indirect, and cumulative impacts of future development of both public and private lands within the MSCP area. The San Diego MSCP Subregional Plan, developed under the California Natural Community Conservation Planning (NCCP) Act of 1991, covers an area encompassing twelve jurisdictions and 582,243 acres. The San Diego MSCP Subregional Plan is implemented through local subarea plans prepared by participating jurisdictions.

The City of Chula Vista MSCP Subarea Plan (City of Chula Vista 2003a) serves as a blueprint for habitat conservation within Chula Vista and its sphere of influence. The Subarea Plan generally identifies lands within Chula Vista for the purposes of conserving sensitive plant and wildlife species habitat. The Subarea Plan establishes a Preserve system within Chula Vista that encompasses habitat located within existing public and private lands that are already in preservation, as well as lands that will be acquired

through the development entitlement process. The goals of the Chula Vista MSCP Subarea Plan include the following:

- To conserve Covered Species and their habitats through the conservation of interconnected significant habitat cores and linkages.
- To delineate and assemble a Preserve using a variety of techniques including public acquisition, on- and off-site mitigation, and land use regulations.
- To provide a Preserve management program that, together with the federal and state management activities, will be carried out over the long term, further ensuring the conservation of Covered Species.
- To provide necessary funding for a Preserve management program and biological monitoring of the Preserve.
- To reduce or eliminate redundant federal, state, and local natural resource regulatory and environmental review of individual projects by obtaining federal and state authorizations for 86 species.

The boundaries of the City's MSCP Subarea Plan include the PGD. The PGD area is designated as Development Areas Outside of Covered Projects and outside of the Preserve area. As such, the PGD is not designated for habitat preservation in the MSCP Subarea Plan.

D. City of Chula Vista Historic Preservation Ordinance

The City of Chula Vista Historic Preservation Ordinance (CVMC Title 21) establishes regulations for the identification, recognition, preservation, protection, and adaptive reuse of historical resources. The purpose and intent of the Historic Preservation Ordinance is to serve, protect, and enhance the public health, safety, and welfare through the following (CVMC Section 21.02.020):

A. Serve as the regulatory document of the City's historic preservation program (HPP);

B. Promote and accomplish the historic preservation goals, policies, and strategies of the City's General Plan;

C. Promote the recognition, preservation, protection and use of historical resources through historical resource surveys and the designation of historical resources;

D. Preserve and enhance those historical resources that give Chula Vista its identity by utilizing the Secretary of the Interior's Standards for the Treatment of Historic Properties;

E. Honor Chula Vista's rich history and heritage by designating significant historical resources and historic preservation districts that are associated with important historical events, persons, significant architecture, and landscape elements;

F. Provide strong and safe neighborhoods by encouraging harmony as to style, form, proportion, and material between historical resources and new construction that are located within designated historic preservation districts;

G. Provide for a sustainable environment through the preservation and protection of resources and neighborhoods that have historical significance;

H. Carry out the provisions of the National Historic Preservation Act and the certified local government program established under said Act;

I. Establish the use of incentives and benefits for the protection, retention, and preservation of historical resources; and

J. Promote the recognition, preservation, protection and use of historical resources through education and an HPP that is maintained, up to date and valid.

E. City of Chula Vista Controlled Residential Development Ordinance

In the late 1980s, a citizen's initiative, referred to as the Cummings Initiative, was passed by a majority vote of the electorate and was incorporated as CVMC Chapter 19.80, Controlled Residential Development (Ord. 2309 Initiative 1988). The purpose and intent of the City of Chula Vista Controlled Residential Development Ordinance are as follows (CVMC Section 19.80.020):

A. Chula Vista has experienced and continues to experience uncontrolled rapid residential growth. This unprecedented growth is having a serious impact on the city's traffic flow, schools, street maintenance, water and sewer services, environmental quality and the city's overall quality of life today and in the foreseeable future. The purpose of this measure is to qualify an effective growth management ordinance by initiative petition of the voters, one that will control growth and protect quality of life. This measure is not designed to halt quality growth, but ensure that rampant, unplanned development does not overtax facilities and destroy the quality and home town character of Chula Vista.

B. It is the intent of the people of the city to better plan for and control the rate of residential growth in the city in order that the services provided by the city, school, park, utility and/or service agencies operating in the city can be properly and effectively staged in a manner which will not overextend existing facilities, and in order that deficient services may be brought up to required and necessary standards while minimizing, by means of long-range financial planning, the avoidable problems of shortsighted piecemeal growth. In order to accomplish this, this ordinance will guarantee that any fees collected for drainage, schools, streets, utilities, parks and recreation facilities shall be collected or assured by the developers in advance of development impacts and shall be properly utilized and spent by the city or agency in a timely manner to ensure that the impact of the development will not have a negative impact on the residents of Chula Vista.

C. It is the intent of the people of the city to establish control over the quality and rate of growth of the city in the interest of: preserving the character of the community; protecting the open space of the city; protecting the quality of life in the city; ensuring the adequacy of city facilities, school facilities, recreation and park facilities and services; ensuring the balanced development of the city; preventing further the significant deterioration of environmental quality; ensuring that the future traffic demands do not exceed the capacity of streets; ensuring the character of the city's existing neighborhoods are preserved; ensuring the adequacy of fire and police and paramedic protection; and ensuring adequate water and sanitary sewer systems.

Since the passage of the Cummings Initiative, many quality of life issues are now addressed during the City's development review process. The City has established Quality of Life Threshold Standards via the Growth Management Ordinance (described below) that are regularly evaluated through the

environmental review process as projects are proposed and developed. In addition, Development Impact Fees have been put in place to require new development to provide a proportionate contribution to public services and facilities.

F. City of Chula Vista Growth Management Ordinance

Adopted in 1991, the City of Chula Vista Growth Management Ordinance (CVMC Chapter 19.09) sets forth threshold standards related to public facilities and services. The purpose and intent of the Growth Management Ordinance (CVMC Chapter 19.09) is to:

1) Provide quality housing opportunities for all economic sections of the community;

2) Provide a balanced community with adequate commercial, industrial, recreational, and open space areas to support the residential areas of the City;

3) Ensure that public facilities, services, and improvements meeting City standards exist or become available concurrent with the need created by new development;

4) Provide that all development is consistent with the General Plan;

5) Prevent growth unless adequate public facilities and improvements are provided in a phased and logical fashion as required by the General Plan;

6) Control the timing and location of development by tying the pace of development to the provision of public facilities and improvements to conform to the City's Quality of Life Threshold Standards and to meet the goals and objectives of the growth management program;

7) Provide that the air quality of the City of Chula Vista improves from existing conditions; and

8) Provide that the City of Chula Vista conserves water so that an adequate supply is maintained to serve the needs of current and future residents.

The Growth Management Ordinance includes a Growth Management Program to implement the General Plan and ensure that development does not occur unless facilities and improvements are available to support that development. In order to ensure that public facilities and services, government and other utility services, and improvements are adequate to meet the present and future needs of the City, the Growth Management Ordinance adopts Quality of Life Threshold Standards for the following public facilities and services: air quality, drainage, fire and emergency services, fiscal, libraries, parks and recreation, police, schools, sewer, traffic and water. The Threshold Standards include the following:

- Air Quality—Annual report required from Air Pollution Control District on impact of growth on air quality.
- Fiscal—Annual report required to evaluate impacts on growth on city operations, capital improvements, and development impact fee revenues and expenditures.
- Police—Respond to 81% of the Priority I emergency calls within 7 minutes and maintain average response time of 5.5 minutes. Respond to 57% of Priority II urgency calls within 7 minutes and maintain average response time of 7.5 minutes.
- Fire/Emergency Management Services—Respond to calls within 7 minutes in 80% of all cases.

- Schools—Annual report required to evaluate school district's ability to accommodate new growth.
- Library—An additional 60,000 gross square feet of library space to be phased to maintain a ratio of 500 square feet of library space adequately equipped and staffed per 1,000 population.
- Parks and Recreation—Maintain 3 acres of neighborhood and community parkland with appropriate facilities per 1,000 residents east of Interstate 805.
- Water—Annual report from water service agencies on impact of growth and future water availability.
- Sewer—Sewage flows and volumes shall not exceed City Engineering Standards. Annual report from Metropolitan Sewer Authority on impact of growth on sewer capacity.
- Drainage—Storm flows and volume shall not exceed City Engineering Standards. Annual report reviewing performance of city's storm drain system.
- Traffic—Maintain Level of Service (LOS) "C" or better as measured by observed average travel speed on all signalized arterial streets, except, that during peak hours, an LOS "D" can occur for no more than any 2 hours of the day.

Adherence to these citywide threshold standards is intended to preserve and enhance both the environment and quality of life of residents as growth occurs. The Growth Management Oversight Commission (GMOC) annually reviews the Growth Management Program and prepares an annual report to the Planning Commission and City Council that assesses whether compliance is being maintained with the threshold standards for both the current and forecasted conditions.

G. City of Chula Vista Design Manual

The City of Chula Vista Design Manual established the principles and guidelines for Design Review of proposed projects. The manual includes specifications for different types of land use designations including requirements for grading, building placement, architecture, equipment screening, parking, privacy, and compatibility. The Design Manual includes requirements specifically for mixed use development. The primary design issues related to mixed use projects are the need to successfully balance the requirements of residential uses, such as the need for privacy and security, with the needs of commercial uses for access, visibility, parking, loading, and possibly extended hours of operation. The guidelines for mixed use projects are intended to:

1) Encourage development, which is sensitive to the character and scale of surrounding development, with particular attention to transition areas wherein multiple family projects and commercial projects may coexist for years or even decades;
2) Promote an attractive and functional arrangement of buildings and ample open spaces which are sensitive to the physical characteristics of the site, and which provide a high standard of visual quality and livability for the residents; and
3) Incorporate within the project architecture a sense of harmony and human scale, while providing for visual interest and individual unit identity, as well as privacy and security for each resident and the project as a whole.

H. City of Chula Vista Parkland Dedication Ordinance

CVMC Chapter 17.10, Parkland and Public Facilities, establishes regulations for the dedication of land; specifications for park development improvements; criteria for area to be dedicated; procedures for in lieu fees for land dedication and/or park development improvements; and other requirements regarding park development and collection and distribution of fees. The Parkland Dedication Ordinance requires that "every subdivider, or developer of new residential developments, shall, for the purpose of providing neighborhood and community park and recreational facilities directly benefiting and serving the residents of the regulated subdivision, or in the case of a development not requiring a subdivision of land, benefiting and serving the residents of those new developments, dedicate a portion of the land and develop improvements thereon or in lieu thereof pay fees for each dwelling unit in the subdivision or residential development, or do a combination thereof, as required by the City in accordance with this chapter" (CVMC Section 17.10.010). Table 5.1-2 shows the amount of parkland dedication required for various residential development types, which is based on a standard of 3 acres per 1,000 persons. In addition to the dedication of land, the subdivider or building permit applicant is responsible for developing all or a portion of such land for neighborhood or community park purposes, including grading, improvements, and utilities.

Table 5.1-2 Parkland Dedication Requirements for Residential Developments

Residential Development Type	Persons per Unit	Standard Dedication Requirement	Area to be Dedicated
Single-Family Dwelling Units	3.52	3 acres per 1,000 persons	460 SF per unit = 1 acre per 95 units
Multiple-Family Dwelling Units	2.61		341 SF per unit = 1 acre per 128 units
Mobilehomes	1.64		214 SF per unit = 1 acre per 203 units
Residential and Transient Motels/Hotels	1.50		196 SF per unit = 1 acre per 222 units

Source: CVMC Section 17.10.040

I. City of Chula Vista Parks and Recreation Master Plan

The City of Chula Vista Parks and Recreation Master Plan serves as the blueprint for the City's park system. The Parks and Recreation Master Plan establishes goals for the creation of a comprehensive parks and recreation system that meets the needs of the public by effectively distributing park types and associated recreational facilities and programs throughout Chula Vista. The City is currently in the process of updating the 2002 Parks and Recreation Master Plan (City of Chula Vista 2002b) in response to the expanded 2030 development forecast identified in the 2005 General Plan Update, and has released a draft of the 2010 Parks and Recreation Master Plan Update (City of Chula Vista 2010a) for review by the public. The 2010 Parks and Recreation Master Plan Update identifies a future five-acre neighborhood park to be developed in the PGD in the 2015 to 2025 timeframe.

J. City of Chula Vista Greenbelt Master Plan

The Chula Vista Greenbelt is described in the General Plan as a circumferential greenbelt that will utilize existing developed and undeveloped open space and potential new open space linkages to create a continuous 28-mile open space and park system around the City. The Greenbelt system is divided into a series of open space segments that roughly follow the boundaries of Chula Vista along the Sweetwater

River, Salt Creek and Otay Lakes, Otay River Valley, and San Diego Bay, and will be connected by a multi-use trail extending through each segment. The City of Chula Vista Greenbelt Master Plan (Chapin Land Management, Inc. 2003) is a flexible, comprehensive, and long-range planning document that serves as a guide for identifying significant open space areas and potential multi-use trails, and as a tool for developing and maintaining the entire Greenbelt system. The primary purpose of the Greenbelt Master Plan is to provide goals and policies, trail design standards, and implementation tools that guide the creation of the Greenbelt segments and connecting system of multi-use trails. There are no existing or proposed Greenbelt open spaces, parks, or trails identified in the PGD.

5.1.3 Criteria for Determination of Significance

According to Appendix G of the CEQA Guidelines, a significant impact related to land use, planning, and zoning would occur if implementation of the proposed project would:

- Criterion 1: Physically divide an established community (incompatibility with on-site and surrounding land uses).
- Criterion 2: Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.

5.1.4 Impacts

5.1.4.1 Community Character and Land Use Compatibility

Criterion 1: Would the project physically divide an established community (incompatibility with on-site and surrounding land uses)?

The PGDSP would apply new zoning to an “area of change” identified in the General Plan and would accommodate infill and redevelopment in the PGD, which includes existing residential, commercial, and industrial development. The 2005 General Plan EIR provides an evaluation of the community character impacts associated with the change in land use designations under the General Plan, including the PGD, and concludes that the policies and objectives outlined in the General Plan would limit impacts on community character, but are dependent on future zoning or specific plans. As an implementing document of the General Plan, the PGDSP would provide the intended development standards, design guidelines, land use plan and design review process which limit potential land use conflicts. The PGDSP does not propose any new roadways, railroad lines, or other features that would create a physical barrier between areas within or surrounding the PGD. The PGDSP envisions pedestrian-friendly development and street improvements, such as the installation of bulb-outs at busy street corners to provide pedestrian safety, which would enhance connections between areas of the PGD and would serve to integrate the community rather than physically divide it.

Land use incompatibility may result at the interface of different types and forms of land uses. Some land use types are generally understood to be incompatible, such as heavy industry adjacent to residential. Specific sources of incompatibility between proposed PGDSP uses and adjacent existing land uses that may result in physical environmental impacts, such as noise, shading/lighting, circulation/access, and public safety, are addressed in other sections of this EIR. The discussion below provides a program-level

analysis of general land use compatibility of the proposed PGDSP land use designations with existing development.

Implementation of the proposed PGDSP would result in the adoption of new zoning for the PGD that would permit development or redevelopment of up to 1,700 (or 1,300 net new) dwelling units, 300,000 (or 100,000 net new) square feet of commercial retail space, and 50,000 square feet of new commercial office space upon build-out of the PGDSP over the next 20 years. New development/redevelopment would proceed incrementally over the 20-year planning horizon of the PGDSP. The exact timing, extent and sequencing of individual future projects is unknown at this time. The PGDSP proposes new mixed use zoning classifications to replace existing single-use zoning classifications, in order to allow for the integration of residential and commercial uses in the same structure and neighborhood.

The land use types proposed for the PGD are similar to the existing residential and commercial uses in the area; however, the projected increase in population in the PGD would be accommodated by substantial intensification of existing land uses. The allowable building heights and building intensity included in the PGDSP would allow taller and more massive structures to be built in the PGD. As an example, low-rise commercial single-use structures would be replaced with mixed use and multi-story residential structures primarily up to 45 feet in height (three stories) with heights up to 60 feet allowed in limited gateway locations (see Figure 3-7, Gateway Intersections).

The built environment permitted through the PGDSP land use and development regulations (Chapter 3 of the PGDSP) and development design guidelines (Chapter 4 of the PGDSP) is one that builds upon the principles of Smart Growth, consistent with the General Plan and SANDAG vision for the PGD. These regulations and guidelines are intended to ensure that development throughout the PGD would be compatible with existing and proposed land uses. The proposed land use and development regulations and design guidelines are described below.

A. Land Use and Development Regulations

The purpose of the land use and development regulations is to establish the appropriate distribution, mix, intensity, physical form, and functional relationships of land uses within the PGD. These regulations are intended to encourage and facilitate infill development, mixed uses, pedestrian scale, urban amenities, transit use, creative design, and the general revitalization of the PGD. The land use and development regulations contained in Chapter 3 of the PGDSP are summarized in the Project Description of this EIR, Section 3.4.2. Table 3-4 in Chapter 3 summarizes the development regulations for each of the PGDSP's four planning sub-districts (MU-1, MU-2, PRV and PNRC), including FAR, building heights, primary land uses, and required setbacks and stepbacks. The following is a general description of the potential building form that could result from the proposed land use and development regulations in the PGDSP.

1. Palomar Transit Plaza Sub-District (MU-1)

Existing development in the Palomar Transit Plaza Sub-district consists of the Palomar Transit Station, which includes a parking lot and rider amenities such as benches and shade. It is adjacent to an existing shopping center. The land uses proposed in the PGDSP for this sub-district would create a multi-use transit plaza that would serve transit users, residents, and shoppers and would contain public open space including a plaza, piazza, or courtyard that would connect with an active/passive open space park. Figure 3-3, Development Standards for Palomar Transit Plaza Sub-district (MU-1), in Chapter 3 identifies the permitted land uses and regulations proposed for the Palomar Transit Plaza Sub-district. Building

heights of primarily 45-50 feet, up to 60 feet in the gateways, and a FAR of up to 2.0 would be allowed, which would be a substantial change from the existing parking lot and station platform. However, the proposed land uses would continue to be transit-oriented and would provide support services for the transit station. The proposed land uses would not be incompatible with the existing land uses in this sub-district, and the new commercial development would not conflict with the adjacent existing commercial development. These building forms and heights are consistent with the building intensity and heights outlined in the General Plan.

2. Mixed Use Corridor Sub-District (MU-2)

The Mixed use Corridor Sub-District (MU-2) is currently developed with a shopping center to the east of the trolley line and industrial land uses and residences to the west of the trolley line. This area would transition to a high-intensity mixture of residential and commercial (retail and/or office) elements, to create, in conjunction with the Palomar Transit Plaza, the transit-oriented, multi-use district envisioned by the General Plan. Figure 3-4, Development Standards for Mixed Use Corridor Sub-District (MU-2), in Chapter 3 identifies the new permitted land uses, FAR, building heights of primarily 45-50 feet (60 feet in gateway areas), building setbacks, street wall frontage, open space requirements, and parking regulations proposed for the Mixed Use Corridor Sub-District. Building heights of up to 60 feet and a FAR of up to 1.5 would be allowed, which would be a substantial increase in heights and intensity compared to the existing detached, one- to two-story development. However, even at a higher intensity, activities associated with the new residential and commercial development would be similar to existing development. Additionally, the PGDSP Development Design Guidelines (Chapter 4 of the PGDSP) include measures for new development adjacent to existing development to ensure compatibility between uses. For example, access roads into new development areas should harmonize with the scale and pedestrian amenities of streets in adjacent residential neighborhoods. Therefore, new development would not conflict with existing land uses.

3. Palomar Residential Village Sub-District (PRV)

The Palomar Residential Village Sub-district is primarily developed with single-family residences with some multi-family, hotel, and mobile residences. This sub-district would continue to provide residential uses under the PGDSP, although at a higher density than currently exists. The purpose of the Palomar Residential Village Sub-district is to enhance the residential characteristics of the area while allowing intensification to provide additional housing opportunities, support regional transit, and support commercial uses in the vicinity. The PGDSP proposes an intensively developed residential environment, with amenities such as open space areas, landscaping, and off-street parking. Figure 3-5, Development Standards for Palomar Residential Village Sub-District (PRV), in Chapter 3 identifies the new permitted land uses and regulations proposed for the Palomar Residential Village Sub-District. Zoning for this sub-district would occur pursuant to CVMC Chapter 19.28, R-3—Apartment Residential Zone, and would implement the High Residential designation of the General Plan. Building heights in this sub-district would be a maximum of 45 feet, which is similar to existing multi-story residential buildings. Additionally, the PGDSP Development Design Guidelines (Chapter 4 of the PDGSP) include measures for new development adjacent to existing development to ensure compatibility between uses. For example, where new multi-story development is adjacent to existing single family residential uses, consideration should be given to maintain privacy through the use of design measures such as stepbacks, landscaping and window orientation. Therefore, no land use conflicts would result from intensification of residential uses in this neighborhood, which already includes a variety of housing types.

4. Palomar Neighborhood Retail Cluster Sub-District (PNRC)

The Palomar Neighborhood Retail Cluster Sub-district currently consists of single-family residences, a small commercial development, and vacant land. The purpose of the Palomar Neighborhood Retail Cluster Sub-district is to provide a commercial retail center to serve the adjacent residential neighborhood, similar to the existing commercial development. The PGDSP proposes the following permitted land uses within this sub-district: commercial retail and commercial office. Zoning for this sub-district would occur pursuant to CVMC Chapter 19.34, C-N—Neighborhood Commercial Zone, and would implement the Retail Commercial designation of the General Plan. The development regulations for this sub-district would ensure that the character of the sub-district would complement and be compatible with the surrounding residential area. Figure 3-6, Development Standards for Palomar Neighborhood Retail Cluster Sub-District (PNRC), provided in Chapter 3 identifies the new permitted land uses and regulations proposed for the Palomar Neighborhood Retail Cluster Sub-district. Building heights would be limited to 35 feet, which is the lowest maximum building height in the PGD.

B. Development Design Guidelines

The proposed PGDSP Development Design Guidelines (Chapter 4 of the PDGSP) specify requirements for new development and rehabilitation of older structures in the PGD, as well as for the improvement of the streetscape. The guidelines are intended to encourage a district of compatible uses that is economically stronger, more recognizable, and rich in sense of place and identity. The Development Design Guidelines are summarized in Table 3-5, Summary of PGDSP Design Guidelines, in Chapter 3 of the EIR. The guidelines include requirements for vehicular access, orientation of buildings, streetscapes, and connections between uses to ensure compatibility between uses.

Development in the PGD would also be subject to the City's Design Manual, which includes requirements to ensure land use compatibility in mixed use areas. For example, the manual states that buildings should be designed to have similar heights, massing, and design characteristics as surrounding buildings. Structures should be sited in a manner that compliments adjacent structures. Development should incorporate the area's typical landscape treatments into the site design to connect new development to the existing context.

In summary, existing land uses in the PGD would change from primarily low-rise commercial and residential development, to higher intensity commercial and residential development, including primarily low-rise, mixed use, commercial-residential uses. Some mid-rise mixed use structures up to 60 feet in height would be allowable in gateway areas. The Palomar Residential Village Sub-district and Palomar Neighborhood Retail Cluster Sub-district would experience intensified land uses, but building heights would be similar to existing multi-story buildings. The Palomar Transit Plaza Sub-district and Mixed Use Corridor Sub-district would experience an increase in intensity and building heights of up to 60 feet in an area currently dominated by single-story development. Although intensities would be increased, the land uses in this area of the PGD would remain commercial and residential. Additionally, proposed building heights would transition from the tallest structures in the gateway area at the Palomar Street intersection, to lower building heights away from Palomar Street in the existing residential area. The proposed land use regulations and design guidelines are intended to ensure compatibility with existing development. Additionally, implementation of the proposed project would enhance connectivity between areas of the PGD and would not result in any features that would physically divide the community. Therefore, impacts would be less than significant.

5.1.4.2 Applicable Land Use Plan, Policy, or Regulation

Criterion 2: Would the project conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

The following section provides an analysis of the PGDSP's consistency with the following applicable land use plans, policies and regulations: SANDAG RCP, SANDAG RTP, Chula Vista General Plan, Chula Vista Zoning Code, Chula Vista MSCP Subarea Plan, Chula Vista Historic Preservation Ordinance, Chula Vista Controlled Residential Development Ordinance, Chula Vista Growth Management Ordinance, Chula Vista Design Manual, Chula Vista Parkland Dedication Ordinance, Chula Vista Parks and Recreation Master Plan, and Chula Vista Greenbelt Master Plan.

A. SANDAG Regional Comprehensive Plan

The RCP establishes a strategic planning framework with the goal of increasing the region's sustainability and encouraging "Smart Growth" while preserving natural resources and limiting urban sprawl. The Smart Growth Concept Map identifies the PGD as a Community Center, which is a designated smart growth area that draws from the nearby community and neighborhoods, and is characterized by residential and commercial uses, including mixed use, as well as possible community-serving civic uses. Community Centers are intended to consist of low- to mid-rise buildings with 20 to 45 dwelling units per acre within 0.25 mile of a transit station; be served by at least one corridor or regional transit line; be served by arterials and/or collector streets; have high frequency corridor/regional transit services; and provide one or more on-street transit stations.

Consistent with the RCP's basic "Smart Growth" principles and Community Center designation, the PGDSP proposes to establish a Mixed Use Transit Focus Area (TFA) surrounding the Palomar Transit Station. The vision for the Mixed Use TFA includes higher intensity residential uses, as well as mixed use developments that offer a combination of pedestrian-friendly residential, office, and retail uses with strong linkages to the Palomar Transit Station. The PGDSP proposes the highest density mixed use areas along Palomar Street, adjacent to the existing transit station. The transit station is located in proposed sub-district MU-1, which is the highest density sub-district and would include a mix of retail, office, and residential uses. The land uses are intended to create a multi-use plaza to serve residents and transit uses and would provide a link between the transit stop and surrounding area. The design guidelines in the PGDSP are intended to promote cohesive development across the PGD to create a sense of place and connect sub-district MU-1 and the transit station to the surrounding sub-districts. For example, development across the PGD would include similar building heights, would be subject to the same signage regulations, and would be oriented toward the same major roadways, regardless of sub-district. Transportation improvements that would provide links to the transit station throughout the PGD would also result in increased pedestrian safety, such as use of parking and planters to provide a buffer between pedestrians and moving vehicles, new sidewalk connections, and repairs of existing disintegrated sidewalks; increased bicycle amenities, such as new bicycle lanes and bicycle parking; and increased transit amenities such as illuminated bus shelters. Therefore, the proposed PGDSP would not conflict with the RCP. Impacts would be less than significant.

B. SANDAG Regional Transportation Plan

The 2050 RTP identifies two planned transportation facilities in the PGD: extension of Bus Rapid Transit route 635 to the Palomar Trolley station via Main Street, and trolley line rail grade separation. The PGDSP does not propose any changes to the existing circulation network that would conflict with future implementation of these transit improvements. The PGDSP proposes enhanced pedestrian and bicycle facilities that would support these improvements by encouraging transit use. Therefore, the proposed PGDSP would not conflict with the RTP.

C. San Diego County Regional Air Quality Strategy

The project's consistency with the RAQS is addressed in Section 5.4.4.1, Applicable Air Quality Plans. As discussed in this section, the PDGSP would be consistent with the RAQS because it would result in population growth consistent with the growth anticipated by the General Plan and would be consistent with all applicable transportation and area source control measures proposed in the RAQS to reduce emissions in the region. See Table 5.4-3, Project Consistency with RAQS Control Measures, for additional information. Therefore, the proposed PGDSP would not conflict with the RAQS.

D. San Diego Basin Plan

The San Diego Basin Plan relies on existing federal, state, and local regulations to protect water quality from pollutants in storm water runoff from construction and operation of the proposed project. The PGDSP's consistency with applicable water quality regulations, including the National Pollutant Discharge Elimination System (NPDES) Construction General Permit, the Chula Vista Development Storm Water Manual, and City's Storm Water Management and Discharge Control Ordinance (CVMC Chapter 14.20) is discussed in Section 5.10.4.1, Water Quality Degradation. As discussed in this section, compliance with applicable regulatory requirements must be demonstrated to the satisfaction of the City Engineer prior to project approval. Implementation of construction best management practices (BMP) would maintain downstream water quality in accordance with Regional Water Quality Control Board standards, such that construction of future PGDSP development projects would not violate any water quality standards or waste discharge requirements and would not otherwise substantially degrade water quality. Therefore, the proposed PGDSP would not conflict with the San Diego Basin Plan.

E. City of Chula Vista General Plan

The 2005 General Plan largely focuses on the revitalization and redevelopment of the western portion of Chula Vista. Section 8.0 of the Land Use and Transportation Element of the General Plan outlines the vision for the PGD and objectives and policies to implement the vision. The PGD is identified as one of five "areas of change," which are areas where more intensive development, revitalization and/or redevelopment is proposed to occur. The General Plan vision for PGD includes a TFA on and surrounding the Palomar Transit Station, higher residential intensity, a neighborhood park and retail to the south of the TFA. The goal is to provide additional housing and mixed uses (residential and commercial) that take advantage of a major transit station within walking distance. The PGDSP has been prepared pursuant to the General Plan as an implementing regulatory document and thus serves as the primary source for policies, guidelines, and regulations that implement the community's vision for the PGD. A comparison of the PGDSP to the General Plan policies related to the PGD is provided in Table 5.1-3. As shown in this table, the PGDSP would be consistent with the General Plan objectives and policies for the PGD.

Table 5.1-3 PGDSP Consistency with General Plan Policies

General Plan Objective or Policy	PGDSP Consistency
Objective LUT 5: Designate opportunities for mixed use areas with higher density housing that is near shopping, jobs, and transit in appropriate locations throughout the City. **Policy LUT 5.4:** Develop the following areas as mixed use centers: Urban Core; Palomar Trolley Station; Eastern Urban Center; and Otay Ranch Village Cores and Town Centers.	**Consistent.** The PGDSP land use designations would accommodate new, higher density housing, shopping, and office development, including mixed use, surrounding the Palomar Transit Station. The Mixed Use Corridor Sub-district would accommodate community-serving and neighborhood uses along the major transportation facilities in the PGD, including Palomar Street and the Palomar Transit Station.
Objective LUT 17: Plan and coordinate development to be compatible and supportive of planned transit. **Policy LUT 17.2:** Direct higher intensity and mixed use developments to areas within walking distance of transit, including San Diego Trolley stations along E, H, and Palomar Streets, and new stations along future transit lines, including Bus Rapid Transit.	**Consistent.** The PGDSP would accommodate higher intensity, mixed use development surrounding the Palomar Trolley Station. The PGDSP includes a Mobility Plan that outlines pedestrian and bicycle improvements for the PGD to provide safe and efficient connections between the trolley station and surrounding land uses.
Objective LUT 19: Coordinate with the regional transportation planning agency, SANDAG, and transit service providers such as the Metropolitan Transit System, to develop a state-of-the-art transit system that provides excellent service to residents; workers; students; and the disabled, both within the City, and with inter-regional destinations. **Policy LUT 19.5:** Plan for and promote improved access between the Palomar Street, E Street and H Street light rail stations and land uses east of those stations and to the Bayfront. This may involve the construction of separate bridges or ramps connecting Chula Vista streets to transit facilities and/or a deck over Interstate 5 to the Bayfront.	**Consistent.** SANDAG has been involved in the development of the PGDSP, including the provision of funding. The PGDSP provides a land use plan that promotes and improves access between the Palomar Transit Station and PGDSP land uses to the east of the station. The PGDSP includes a Mobility Plan that outlines pedestrian and bicycle improvements for the PGD to provide safe and efficient connections between the trolley station and surrounding land uses. No connections over I-5 are proposed as part of the PGDSP. The City is preparing an I-5 transit study that addresses connections and crossings over I-5 as part of a separate effort.
Objective ED 9: Develop community-serving and neighborhood uses to serve residents and visitors alike. **Policy ED 9.1:** Provide for community and neighborhood commercial centers in areas convenient to residents. These centers should complement and meet the needs of the surrounding neighborhood through their location; size; scale; and design. The neighborhood concept of providing pedestrian, bicycle, and other non-motorized access should be encouraged. **Policy ED 9.4:** Develop specific plans, which include an economic component, for areas of the City, including, but not necessarily limited to, the West Main Street; Broadway; South Third Avenue; North Fourth Avenue/Third Avenue "gateway"; E Street; West H Street; and Palomar Street areas. More than one area may be addressed in a single plan, such as the Urban Core Specific Plan. **Policy ED 9.5:** Encourage clustered commercial uses to prevent and discourage strip development. Locate commercial uses at focal points along major arterial streets or expressways and in village core areas. **Policy ED 9.6:** Encourage clustered, smaller scale office and professional uses along major streets and in neighborhood centers in a variety of areas dispersed throughout the community to meet the needs of nearby neighborhoods.	**Consistent.** The proposed project is a specific plan that would encourage economic development in the PGD. The PGDSP proposes a land use plan that would accommodate the development of community-serving and neighborhood commercial uses. The Palomar Neighborhood Retail Cluster Sub-district would specifically accommodate resident-serving commercial uses. The sub-district is located adjacent to the primary residential area in the PGD and would have reduced building heights and intensity compared to the proposed mixed use commercial sub-districts. The Mixed Use Corridor Sub-district would accommodate community-serving and neighborhood uses along the major transportation facilities in the PGD, including Palomar Street and the Palomar Transit Station. The highest intensities would be clustered in the designated gateway locations at the intersections of Palomar Street and Walnut Street/Frontage Road and Palomar Street/Industrial Boulevard. The PGDSP includes a Mobility Plan that outlines pedestrian and bicycle improvements for the PGD to provide safe and efficient connections between uses and encourage use of non-motorized modes of transportation.

Table 5.1-3 continued

General Plan Objective or Policy	PGDSP Consistency
Objective LUT 43: Establish a Mixed Use Transit Focus Area surrounding the Palomar Trolley Station. **Policy LUT 43.1:** The City shall prepare, or cause to have prepared, a specific plan, master plan, or other regulatory document to guide the coordinated establishment of a Mixed Use Transit Focus Area within the Palomar Gateway District on properties north and south of Palomar Street, within walkable distance of the Palomar Trolley Station. The specific plan or other regulatory document shall include guidelines and zoning-level standards for the arrangement of land uses that include plans for adequate pedestrian connections and support services for residents, as well as those using the transit station.	**Consistent.** The proposed project would implement a specific plan for the PGD to guide the development of a Transit Focus Area. The PGDSP includes guidelines and zoning-level standards for the arrangement of land uses, includes a Mobility Plan for adequate pedestrian connections, and would accommodate a variety of support services for residents, as well as those using Palomar Transit Station.
Policy LUT 43.2: Provide for a five-acre neighborhood park within the Palomar Gateway District.	**Consistent.** The PGDSP identifies 5.8 acres of potential park areas in the PGD, including a 4.5-acre neighborhood park south of the Palomar Transit Station, and a 1.3-acre urban park north of Palomar Street.
Uses **Policy LUT 43.3:** Strive for a distribution of uses within the areas designated as Mixed Use Transit Focus Area along Palomar Street to include retail, offices, and residential, as generally shown on the following chart: **Policy LUT 43.4:** Provide a mix of uses with a focus on retail and some office uses along Palomar Street in the Mixed Use Transit Focus Area, with residential uses above and/or behind the retail and offices uses. **Policy LUT 43.5:** Provide a mix of local-serving retail and office uses near the Palomar Trolley Station and at the gateways into the Palomar Gateway District.	**Consistent.** Residential development would continue to be the dominant land use in the PGD with implementation of the PGDSP. Up to 1,300 new residential units would be accommodated in the area, for a total of 1,700 units. A total of 150,000 square feet of new commercial and office use could be developed, for a total of 350,000 square feet. Mixed use development would be concentrated along Palomar Street, which includes two gateways, and the Palomar Transit Station, with additional residential development provided in the Palomar Residential Village Sub-district.
Intensity/Height **Policy LUT 43.6:** In the Palomar Gateway District, residential densities within the Mixed Use Transit Focus Area designation are intended to have a district-wide gross density of 40 dwelling units per acre. **Policy LUT 43.7:** In the Palomar Gateway District, the commercial (retail and office) portion of the Mixed Use Transit Focus Area designation is intended to have a focus area-wide aggregate FAR of 1.0. Subsequent specific plans or zoning ordinance regulations will establish parcel-specific FARs that may vary from the district-wide aggregate (refer to Section 4.9.1, Interpreting the Land Use Diagram, for a discussion of district-wide versus parcel-specific FAR). **Policy LUT 43.8:** Building heights in the Palomar Gateway District Mixed Use Transit Focus Area shall be low-rise, with some mid-rise buildings. **Policy LUT 43.9:** Building heights in the Residential High designated area shall be low-rise buildings.	**Consistent.** The Mixed Use Transit Focus Area designation would apply to development within approximately 0.25 mile of the Palomar Transit Station. This area would have an average residential density of 40 dwelling units per acre. The PGDSP uses an equivalency factor to translate dwelling units per acre to FAR. A density of 40 dwelling units per acre would result in an area-wide aggregate FAR of 1.0. The FAR includes commercial and residential development. Maximum building heights in the PGD would range from low-rise, up to 35 feet, in the Palomar Neighborhood Retail Cluster Sub-district, to low-rise, primarily 45-50 feet, in the Palomar Transit Plaza and Mixed Use Corridor Sub-districts. Some buildings with a maximum height of 60 feet would be allowable in gateway areas. The Residential High designation would apply to the Palomar Residential Village Sub-district, which would be limited to a maximum building height of 45 feet. The Retail Commercial designation would apply to the Palomar Neighborhood Retail Cluster Sub-district, which would be limited to low-rise, lower intensity development.

Table 5.1-3 continued

General Plan Objective or Policy	PGDSP Consistency
Policy LUT 43.10: In the Palomar Gateway District, permit a maximum floor area ratio of 0.5 and low-rise buildings in the Retail Commercial designated area on Industrial Boulevard adjacent to the area designated as Residential High.	
Design **Policy LUT 43.11:** The specific plan or other regulatory document for the Palomar Gateway District shall establish design and landscape guidelines for the improvement of Palomar Street as a gateway to the City. **Policy LUT 43.12:** Provide for safe, effective, and aesthetic pedestrian crossings and improvements to Palomar Street and Industrial Boulevard.	**Consistent.** The PGDSP includes specific design and landscape guidelines for Palomar Street at the designated gateways in Chapter 4 of the PGDSP, Design Guidelines. The PGDSP applies urban design treatment and a streetscape palette that identifies and coordinates elements such as street trees, street furniture and lighting. Guidelines for sidewalk design and lighting provide for safe, effective, and aesthetic pedestrian crossings. Intersection bulb-outs are encouraged at busy intersections, such as Palomar Street and Industrial Boulevard, to provide safety for pedestrians. Additional guidelines include decorative sidewalk and lighting features, buffers between pedestrians and moving vehicles, smooth and slip-resistant surfaces, consistent light fixtures and posts, and a combination of streetlights and pedestrian-level lights.
Amenities **Policy LUT 43.13:** Community amenities to be considered for the Palomar Gateway District as part of any incentive program should include, but not be limited to those listed in Policy LUT 27.1. **Policy LUT 43.14:** Provide for the development of one Neighborhood Park within or near the Palomar Gateway District. **Policy LUT 43.15:** Establish a community/cultural center near Palomar Street and Third Avenue.	**Consistent.** The PGDSP encourages and includes guidelines for the amenities listed in Policy 27.1 in Chapter 4 of the PGDSP, Design Guidelines, including public plazas, water features, public art, streetscape improvements, pedestrian path improvements, enhanced pedestrian connections, upper-level setbacks for buildings more than 30 feet above grade, parking concealed by occupiable space, additional on-site structured parking for adjacent commercial or residential uses, transit station access and improvements, bicycle parking facilities, and streetfront facades/windows. A neighborhood park is proposed south of the trolley station. The Palomar Street/Third Avenue intersection is outside of the PGDSP; however, the proposed mixed use areas and neighborhood park would accommodate community/cultural amenities.

F. City of Chula Vista Zoning Code

The existing zoning for the PGD was established 30 years ago and is presently out of conformance with the adopted General Plan (City of Chula Vista 2005a). In order to comply with state law and bring zoning into conformance with the General Plan, the PGDSP proposes new zoning for the four sub-districts in the PGD. The new zoning includes provisions for land uses, building intensity, form, mass, and height as recommended in the General Plan. The proposed land uses and development regulations identified in the PGDSP would replace the provisions of CVMC Chapters 19.26, 19.30, 19.36, 19.40, and 19.44, and the provisions of the San Diego County Zoning Ordinance C36 and S94 use regulations. Where the CVMC conflicts with the development standards or other provisions of the PGDSP, the PGDSP would apply; where the PGDSP is silent, the CVMC would apply. The definitions found in CVMC Chapter 19.04 would apply to the PGDSP, except where specific definitions are provided in the PGDSP. The zoning amendments that would occur as a result of PGDSP would improve consistency between City planning

documents and, once adopted, would be the applicable zoning code for the PGD. Therefore, the PGDSP would not conflict with applicable zoning regulations.

G. City of Chula Vista Multiple Species Conservation Program Subarea Plan

Project consistency with the Chula Vista MSCP Subarea Plan is addressed Section 5.9.5.5, Local Policies, Ordinances, and Adopted Conservation Plans, under Criterion 6 (conflicts with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan). With implementation of mitigation measures 5.9-1, 5.9-3, 5.9-4, 5.9-5, 5.9-6, and 5.9-7 identified in Section 5.9.7, as applicable to individual development projects, implementation of the PGDSP would not conflict with the Chula Vista MSCP Subarea Plan.

H. City of Chula Vista Historic Preservation Ordinance

The City of Chula Vista Historic Preservation Ordinance (CVMC Title 21) establishes regulations for the identification, recognition, preservation, protection, and adaptive reuse of historical resources. The project's compliance with the Historic Preservation Ordinance is addressed in Section 5.7.4.1, Historical Resources. The project would have the potential to result in the demolition, alteration, or other adverse change to resources subject to the Historic Preservation Ordinance. Mitigation measure 5.7-1 establishes a historical resources mitigation program that would reduce potential impacts so that implementation of the PGDSP would not conflict with the Historic Preservation Ordinance.

I. City of Chula Vista Controlled Residential Development Ordinance

The Controlled Residential Development Ordinance (CVMC Chapter 19.80) requires staged provision of public services and facilities commensurate with growth. CVMC Section 19.80.040 provides that discretionary approvals for any development project shall assume all funds necessary to meet Public Service and Facility Element needs and assure developer's participation in the timely construction and financing of facilities. Chapter 5 of the PGDSP includes an analysis of the infrastructure and public facilities needs to support the land uses envisioned by the PGDSP, and Section 5.12, Public Services and Utilities, of this EIR identifies mitigation measures to ensure that the provision of public services and facilities coincides with projected population growth and associated increased demand for public services and facilities. Thus, consistent with the Controlled Residential Development Ordinance, future development associated with PGDSP build-out would be required to provide adequate public services and facilities commensurate with their impact. Additionally, as discussed in further detail in Section 5.1.4.2.H below, this EIR includes an evaluation of the Quality of Life Threshold Standards at a programmatic level and identifies mitigation measures that would be applied on a project-by-project basis as development occurs over the next 20 years.

With the approval of new land use designations under the 2005 General Plan, new zoning regulations, in particular mixed use and transit focus area zoning districts, are required to be developed to ensure systematic implementation of the General Plan. This requirement to have zoning consistent with the adopted General Plan is established in CVMC Section 19.06.030. The PGDSP proposes the rezoning of lands zoned for commercial and industrial uses to mixed use, as well as lands designated as One- and Two-Family Residential Zone (R-2) to Apartment Residential Zone (R-3). Because the PGDSP includes a rezoning action, the provisions of CVMC Sections 19.80.070 must be evaluated to ensure that the PGDSP meets the purpose and intent of the Controlled Residential Development Ordinance. As demonstrated by the following analysis, the proposed PGDSP complies with the provisions of the zoning code modification requirements in CVMC Sections 19.80.070.A and 19.80.070.D.

1. One- and Two-Family Residential Zone (R-2) to Apartment Residential Zone (R-3)

With respect to the rezoning of property designated for residential development, CVMC Section 19.80.070.A states:

> "Rezoning of property designated for residential development under the city's zoning code shall be permitted only to the next highest residential density category in any two year period according to the following schedule:
>
> A Agricultural Zone
> R-E Residential Estates Zone
> R-1 Single Family Residential Zone
> R-2 One- and Two-Family Residential Zone
> R-3 Apartment Residential Zone
>
> Property in the county pre-zoned for annexation as part of a planned community shall be deemed in compliance with this section regardless of the county zoning approved for the property. Property in the city zoned or proposed to be rezoned as part of a planned community shall be deemed in compliance with this section. This section shall not apply to rezones from a residential to a residential agricultural category."

The PGDSP would be consistent with the Controlled Residential Development Ordinance because it proposes rezoning to the next highest residential density category (i.e., from R-2 to R-3).

2. Commercial Zone to Mixed Use Zone

In terms of rezoning commercial or industrial property to a residential zone, CVMC Section 19.80.070.D states:

> "Rezoning commercial or industrial property to a residential zone shall be permitted only to the maximum residential density corresponding to the potential traffic generation that was applicable prior to the rezoning to residential. In addition, property which is rezoned from residential to commercial or industrial may not be rezoned to a residential category of higher density than that which was applicable prior to the rezoning to commercial or industrial. This provision shall apply only to rezones approved after the effective date of this ordinance."

The rezoning from commercial to mixed use in the PGDSP would result in less potential traffic generation than a commercial development. For the proposed rezone, a comparison has been made between the potential traffic generation associated with future redevelopment under the existing commercial zones (C-O, C-C, and C-T) and the corresponding maximum residential density that could be permitted. Based on standard traffic generation rates (SANDAG 2002), commercial and office uses generate significantly greater traffic than single or multi-family residential uses. For example, based on the existing development standards for the C-T zone, which allow 50 percent lot coverage and up to a three-story height limit, one acre (43,560 square feet) of land would have the potential to develop up to a 65,340-square foot building (43,560 square feet × 50 percent lot coverage × 3 stories = 65,340 square feet). Using SANDAG's standard traffic generation rates for commercial uses (40 trips per 1,000 square feet), a total of 2,614 trips would be generated from a potential commercial building of that size on a one-acre lot.

Based on the criteria in CVMC Section 19.80.070.D, the maximum residential density shall not be more than the potential traffic generated by the commercial use (i.e., 2,614 trips per acre). By comparison, using SANDAG's standard traffic generation rates for multi-family residential development, this level of trip generation would equate to up to 436 dwelling units on a one-acre site (2,614 trips per acre ÷ 6 trips per multi-family dwelling unit = 436 dwelling units per acre). A mixed use project developed pursuant to the MU-1 and MU-2 zone in the PGDSP would be limited to a net residential density of approximately 44 dwelling units per acre (approximately 264 trips), resulting in significantly less traffic generation than would occur as a result of one acre of commercial development. Because commercial and office uses generate significantly greater traffic than residential uses, a zone change from commercial to a mixed use/multi-family residential category would result in lower traffic generation under the multi-family zone than the corresponding potential traffic generation under the original commercial zone. Therefore, zone changes from commercial to mixed use development would not conflict with the Controlled Residential Development Ordinance.

Any future mixed use projects developed under the MU-1 and MU-2 zone in the PGDSP would be required to contribute their fair share towards the improvement of public services and facilities through payment of the City's Development Impact Fees and other conditions of approval. These include existing public facilities Development Impact Fees, park acquisition and development fees, sewer fees, traffic signal fees, and the Western Transportation Development Impact Fee.

3. Industrial Zone to Mixed Use Zone

The rezoning from industrial to mixed use development in the PGDSP would result in less potential traffic generation than a commercial development. For the proposed rezone, a comparison has been made between the potential traffic generation associated with future redevelopment under the existing industrial zone (I-L) and the corresponding maximum residential density that could be permitted. Based on standard traffic generation rates (SANDAG 2002), industrial uses generate significantly greater traffic than single or multi-family residential uses. For example, based on the existing development standards for the I-L zone, which allow 50 percent lot coverage and up to a three-story height limit, one acre (43,560 square feet) of land would have the potential to develop up to a 65,340-square foot building (43,560 square feet × 50 percent lot coverage × 3 stories = 65,340 square feet). Using SANDAG's standard traffic generation rates for industrial uses (16 trips per 1,000 square feet), a total of 1,045 trips would be generated from a potential industrial building of that size on a one-acre lot.

Based on the criteria in CVMC Section 19.80.070.D, the maximum residential density shall not be more than the potential traffic generated by the industrial use (i.e., 1,045 trips per acre). By comparison, using SANDAG's standard traffic generation rates for multi-family residential development, this level of trip generation would equate to up to 174 dwelling units on an one-acre site (1,045 trips per acre ÷ 6 trips per multi-family dwelling unit = 174 dwelling units per acre). A mixed use project developed pursuant to the MU-2 zone in the PGDSP would be limited to a net residential density of approximately 44 dwelling units per acre (approximately 264 trips), resulting in significantly less traffic generation than would occur as a result of one acre of industrial development. Because industrial uses generate significantly greater traffic than residential uses, a zone change from industrial to a mixed use/multi-family residential category would result in lower traffic generation under the multi-family zone than the corresponding potential traffic generation under the original industrial zone. Therefore, a zone change from industrial to mixed use that allows residential development would not conflict with the Controlled Residential Development Ordinance.

Any future mixed use projects developed under the MU-2 zone in the PGDSP would be required to contribute its fair share towards the improvement of public services and facilities through payment of the City's Development Impact Fees and other conditions of approval. These include existing public facilities Development Impact Fees, park acquisition and development fees, sewer fees, traffic signal fees, and the Western Transportation Development Impact Fee.

J. City of Chula Vista Growth Management Ordinance

The Growth Management Ordinance adopts Quality of Life Threshold Standards for the following facilities and improvements: police services; fire and emergency medical services; schools; libraries; parks and recreation areas; water; sewer; drainage; traffic; and air quality. The project's consistency with the Threshold Standards is provided in Table 5.1.4 below. As shown in this table, with implementation of the mitigation measures identified in other sections of this EIR, the PGDSP would be consistent with the Quality of Life Threshold Standards.

Table 5.1-4 PGDSP Consistency with Quality of Life Threshold Standards

Threshold Standard	PGDSP Consistency
Air Quality—Annual report required from Air Pollution Control District on impact of growth on air quality.	Implementation of the PGDSP would not interfere with the City's ability to prepare and submit the annual air quality report. Additionally, the growth that would be accommodated in the PGD is consistent with the General Plan growth projections. Project consistency with air quality standards is further addressed in Section 5.4, Air Quality.
Fiscal—Annual report required to evaluate impacts on growth on city operations, capital improvements, and development impact fee revenues and expenditures.	Implementation of the PGDSP would not interfere with the City's ability to meet this Threshold Standard. Future development projects in the PGD would be required to pay appropriate development impact fees, which would contribute to the City's revenue stream. Individual development projects may be required to make public improvements as determined by subsequent project review.
Police—Respond to 81% of the Priority I emergency calls within 7 minutes and maintain average response time of 5.5 minutes. Respond to 57% of Priority II urgency calls within 7 minutes and maintain average response time of 7.5 minutes.	The project's consistency with the Quality of Life Threshold Standard for police services is addressed in Section 5.12, Public Services and Utilities. Implementation of mitigation measure 5.12-2 identified in this section would ensure that the PGDSP would not conflict with the Quality of Life Threshold Standard for police services.
Fire/Emergency Management Services—Respond to calls within 7 minutes in 80% of all cases.	The project's consistency with the Quality of Life Threshold Standard for fire and emergency management services is addressed in Section 5.12, Public Services and Utilities. Implementation of mitigation measure 5.12-1 identified in this section would ensure that the PGDSP would not conflict with the Quality of Life Threshold Standard for fire and emergency management services.
Schools—Annual report required to evaluate school district's ability to accommodate new growth.	Implementation of the PGDSP would not interfere with the City's ability to prepare and submit the annual schools report. Additionally, the growth that would be accommodated in the PGD is consistent with the General Plan growth projections. The project's potential impact to schools is further discussed in Section 5.12, Public Services and Utilities. Implementation of mitigation measure 5.12-3 identified in this section would ensure that the PGDSP would not conflict with the Quality of Life Threshold Standard for schools.

Table 5.1-4 continued

Threshold Standard	PGDSP Consistency
Library—An additional 60,000 gross square feet of library space to be phased to maintain a ratio of 500 square feet of library space adequately equipped and staffed per 1,000 population.	The project's consistency with the Quality of Life Threshold Standard for libraries is addressed in Section 5.12, Public Services and Utilities. Implementation of mitigation measure 5.12-4 identified in this section would ensure that the PGDSP would not conflict with the Quality of Life Threshold Standard for libraries.
Parks and Recreation—Maintain 3 acres of neighborhood and community parkland with appropriate facilities per 1,000 residents east of Interstate 805.	The project's consistency with the Quality of Life Threshold Standard for parks and recreation is addressed in Section 5.12, Public Services and Utilities. Implementation of mitigation measure 5.12-5 identified in this section would ensure that the PGDSP would not conflict with the Quality of Life Threshold Standard for parks and recreation.
Water—Annual report from water service agencies on impact of growth and future water availability.	Implementation of the PGDSP would not interfere with the City's ability to prepare and submit the annual water service report. Additionally, the growth that would be accommodated in the PGD is consistent with the General Plan growth projections. The project's potential impact to water is further discussed in Section 5.12, Public Services and Utilities. As discussed in this section, Sweetwater Authority has determined that adequate water supplies exist to serve the PGDSP's projected demand in addition to existing and planned commitments. Therefore, the PGDSP would not conflict with the Quality of Life Threshold Standard for water.
Sewer—Sewage flows and volumes shall not exceed City Engineering Standards. Annual report from Metropolitan Sewer Authority on impact of growth on sewer capacity.	Implementation of the PGDSP would not interfere with the Metropolitan Sewer Authority's ability to prepare the annual wastewater report. Additionally, the growth that would be accommodated in the PGD is consistent with the General Plan growth projections. The project's potential impact to wastewater is further discussed in Section 5.12, Public Services and Utilities. Implementation of mitigation measures 5.12-6 and 5.12-7 identified in this section would ensure that the PGDSP would not conflict with the Quality of Life Threshold Standard for wastewater.
Drainage—Storm flows and volume shall not exceed City Engineering Standards. Annual report reviewing performance of city's storm drain system.	Implementation of the PGDSP would not interfere with the City's ability to prepare the annual storm drain system report. The project's potential impact to the City's storm drainage system is further discussed in Section 5.10, Hydrology and Drainage. As discussed in this section, the proposed project would be required to comply with all applicable regulations, such as NPDES Municipal Permit and Chula Vista Development Storm Water Manual, which would ensure that off-site flows do not exceed the capacity of the City's storm water drainage system. Therefore, the PGDSP would not conflict with the Quality of Life Threshold Standard for drainage.
Traffic—Maintain LOS) "C" or better as measured by observed average travel speed on all signalized arterial streets, except, that during peak hours, an LOS "D" can occur for no more than any 2 hours of the day.	The project's consistency with the Quality of Life Threshold Standard for traffic is addressed in Section 5.3, Transportation, Circulation and Access. Implementation of mitigation measures 5.3-1 through 5.3-4 identified in this section would ensure that the PGDSP would not conflict with the Quality of Life Threshold Standard for traffic.

K. City of Chula Vista Design Manual

Individual future development projects in the PGD would be required to demonstrate compliance with the City's Design Manual during the project review process. Any developments that conflict with the manual would not be approved. Additionally, the PGDSP encourages development consistent with the overall guidelines for mixed use areas. As discussed in Section 5.1.4.1 above, the PGDSP proposes a land use plan that takes into account the existing land uses in the PGD and would not result in land use incompatibilities. The proposed PGDSP Development Design Guidelines (Chapter 4 of the PDGSP) specify requirements for new development and rehabilitation of older structures in the PGD that would promote an attractive and functional arrangement of buildings to provide a high standard of visual quality and livability for the residents, and would create a sense of harmony and human scale, provide for visual interest and individual unit identity, and protect the privacy and security for each resident and the PGD as a whole. The Development Design Guidelines are summarized in Table 3-5, Summary of PGDSP Design Guidelines, in Chapter 3 of the EIR. The guidelines include requirements for vehicular access, orientation of buildings, streetscapes, and connections between uses to ensure compatibility between uses. Therefore, the proposed PGDSP would not conflict with the City's Design Manual.

L. Parkland Ordinances and Plans

The project's consistency with the City of Chula Vista Parkland Dedication Ordinance and City of Chula Vista Parks and Recreation Master Plan is addressed in Section 5.12.5, Parks and Recreation, with regard to its ability to meet the City's adopted threshold of providing 3 acres of neighborhood and community park land with appropriate facilities per every 1,000 persons in the population. Implementation of mitigation measure 5.12-5 identified in this section would ensure that future development in the PGDSP would be consistent with the Parkland Dedication Ordinance and Parks and Recreation Master Plan.

Implementation of the PGDSP would not affect development of the Greenbelt system because there are no existing or proposed Greenbelt open spaces, parks, or trails identified in the PGD. Therefore, the proposed PGDSP would not conflict with the Greenbelt Master Plan.

5.1.5 Level of Significance Prior to Mitigation

5.1.5.1 Community Character and Land Use Compatibility

Implementation of the PGDSP would not physically divide an established community or result in incompatible land uses. Therefore, impacts related to land use compatibility would be less than significant.

5.1.5.2 Applicable Land Use Plan, Policy, or Regulation

Implementation of the PGDSP would not result in any conflicts with applicable land use plans, policies, or regulations with implementation of the mitigation measures identified in Section 5.3, Transportation, Circulation, and Access; Section 5.9, Biological Resources; and Section 5.12, Public Services and Utilities.

5.1.6 Mitigation Measures

5.1.6.1 Community Character and Land Use Compatibility

No mitigation measures are required.

5.1.6.2 Applicable Land Use Plan, Policy, or Regulation

With implementation of the mitigation measures identified in Section 5.3, Transportation, Circulation, and Access; Section 5.9, Biological Resources; and Section 5.12, Public Services and Utilities, the PGDSP would be consistent with the Quality of Life Threshold Standards. No further mitigation measures are required.

5.1.7 Level of Significance after Mitigation

With implementation of mitigation measures identified in Section 5.3, Transportation, Circulation, and Access; Section 5.9, Biological Resources; and Section 5.12, Public Services and Utilities, impacts related to land use, planning and zoning would be reduced to below a level of significance.

5.2 Landform Alteration/Aesthetics

The analysis in this section of the EIR addresses the potential impacts associated with landform alteration and aesthetics that would result from implementation of the PGDSP. Aesthetics refers to visual qualities within a given field of view and may include such considerations as size, shape, color, texture, and general composition, as well as the relationships between these elements. Aesthetic features often consist of unique or prominent natural or man-made attributes or several small features that, when viewed together, create a whole that is visually interesting or appealing. Public views refers to visual access to aesthetic features. Public views, or the extent of a given view, are typically defined by landscape elements and building locations. Existing public views may be partially obstructed or entirely blocked by modification of the environment. Conversely, modifications to the natural or man-made landscape of an area may create or enhance view opportunities.

5.2.1 Existing Conditions

5.2.1.1 Scenic Vistas and Resources

The topography of the PGD is relatively flat and there are no prominent on-site land features that constitute scenic resources. The Chula Vista General Plan identifies the City's valued scenic vistas and open space, which include the Otay River and Sweetwater River Valleys, Upper and Lower Otay Lakes, Sweetwater Reservoir, San Miguel/Mother Miguel Mountains, and the San Diego Bay. These scenic vistas generally cannot be viewed from within the PGD. In addition, the General Plan identifies City-designated scenic roadways, where views of unique natural features and roadway characteristics, such as enhanced landscaping, adjoining natural slopes, or special design features, make traveling a pleasant visual experience. There are no City-designated scenic roadways in the vicinity of the PGD. Furthermore, the PGD does not lie along the corridor of a designated or eligible state scenic highway.

5.2.1.2 Visual Character

Visual character is created by both natural and man-made features, such as views, open space, city entryways, primary or secondary gateways, streetscapes, buildings, parks, and plazas. The PGD is mostly developed, consisting of a variety of existing land uses that include residential, commercial, and industrial uses. Residential development is the dominant land use primarily concentrated south of Palomar Street, with densities ranging from approximately 5 to 20 dwelling units per acre. There are currently about 400 residential units in the PGD, including 67 rooms related to two hotels. Land uses to the north of Palomar Street include a mix of industrial and multi-family residential housing, with a major commercial area on the northeast corner of Palomar Street and Industrial Boulevard that attracts shoppers and employees from the surrounding communities. Land uses south of Palomar Street include single- and multi-family residential housing, industrial, and vacant land, with the Palomar Transit Station on the southeast corner of the Palomar Street and Industrial Boulevard intersection. Due to the high level of development, the visual character of the PGD is dominated by the built environment, which is described below in terms of the areas corresponding to the four sub-districts and two gateways as proposed in the PGDSP.

A. Palomar Transit Plaza Sub-District (MU-1)

The area corresponding to the Palomar Transit Plaza Sub-District is located at the southeast corner of the Palomar Street and Industrial Boulevard intersection. The existing built environment of this sub-district consists of a covered waiting area, benches, and parking lot associated with the Palomar Transit

Station. In addition, recent street and safety improvements have been completed along the roadways bordering this area, including landscaped medians, enhanced paving, sidewalks, tree-lined parkways, and bike lanes along Palomar Street and Industrial Boulevard. Traffic calming facilities consisting of a landscaped roundabout were also installed at the intersection of Industrial Boulevard and Ada Street. These improvements, which were part of the $2.1 million Palomar Gateway Enhancement project funded by the SANDAG Smart Growth Incentive Program, contribute to the development of transit amenities and help create an inviting gateway to the City, as well as provide a foundation/catalyst for future development within the PGD. Photos representative of the existing conditions in the MU-1 sub-district are shown in Figure 5.2-1.

B. Mixed Use Corridor Sub-District (MU-2)

The area corresponding to the Mixed Use Corridor Sub-District includes properties generally located along Palomar Street, extending from I-5 to a point mid-block between Industrial Boulevard and Broadway, and includes properties located on the west side of Walnut Street and Frontage Road. East of Industrial Boulevard, the existing built environment in this sub-district is characterized by a mixture of retail, warehousing, and wholesaling uses in large multi-tenant buildings. The built-environment along Trenton Avenue is characterized by mostly single-family residences with several small multi-family buildings. The built-environment along Walnut Street is characterized by a mixture of residential, commercial, and industrial uses, including retail stores, an Arco gas station, auto towing and storage yard, and residences north of Palomar Street. Palomar Street serves as the entrance to Chula Vista from I-5. The Palomar Inn Motel is located on the southwest corner of the Palomar Street and Frontage Road intersection. The properties located on the south side of Palomar Street between Frontage Road and Industrial Boulevard are currently vacant. Photos representative of the existing conditions in the MU-2 sub-district are shown in Figure 5.2-2.

C. Palomar Residential Village Sub-District (PRV)

The Palomar Residential Village Sub-District includes all of the properties bounded by Ada Street (north and south side), Industrial Boulevard, Frontage Road, and Anita Street, except the properties located at the northwest corner of Industrial Boulevard and Anita Street. The existing built environment of this sub-district is characterized by a mix of single-family residential units and multi-family residential developments, as well as a limited number of undeveloped lots. There has been significant new development along Ada Street in the form of small projects in which single-family residential units are generally being replaced by multi-family residential development and group dwellings. There are also vacant and underutilized parcels along Ada Street which have potential for additional development. A San Diego County Housing Authority residential complex, Dorothy Street Manor (22 units), is located on Dorothy Street. There are also a significant number of large, deep lots along Dorothy Street that have the potential for single or multi-family residential development. House of Restoration, the only religious institution in the PGD, is also located on Dorothy Street. Anita Street serves as the interface between residential uses on the north side of the street and commercial/industrial uses on the south side of the street. The north side of Anita Street is predominantly residential, except for industrial development on the western-most lot adjacent to I-5. The south side of Anita Street consists primarily of industrial parks. There are predominantly residential properties on the east side of Frontage Road, with industrial uses at the southern end of the street and vacant lots at the northern end of the street. North of Ada Street, Frontage Road gently curves eastward away from the I-5, separating the Georgeanna Trailer Park into two parts. Photos representative of the existing conditions in the PRV sub-district are shown in Figure 5.2-3.

Photo 1 – View looking south along tracks from north end of Palomar Transit Station

Photo 2 – View looking north along tracks from south end of Palomar Transit Station

Photo 3 – Palomar Transit Station parking lot

Photo 4 – Roundabout at intersection of Industrial Boulevard and Ada Street

Source: Atkins 2012

N

EXISTING CONDITIONS IN PALOMAR TRANSIT PLAZA SUB-DISTRICT (MU-1)

FIGURE 5.2-1

Photo 1 - View looking east along Palomar Street from Frontage Road

Photo 2 -View looking west along Palomar Street from mid-block between Industrial Boulevard and Broadway

Photo 3 - Commerical uses on north side of Palomar Street east of Industrial Boulevard

Photo 4 - Vacant lot on south side of Palomar Street west of Industrial Boulevard

Source: Atkins 2012

N

EXISTING CONDITIONS IN MIXED USE CORRIDOR SUB-DISTRICT (MU-2)
FIGURE 5.2-2

Photo 1 - Multi-family residential uses at northwest corner of Industrial Boulevard and Ada Street

Photo 2 - Single-family and mobile home residential uses at northeast corner of Frontage Road and Ada Street

Photo 3 - Church and residential uses along Dorothy Street

Photo 4 - Industrial uses at northeast corner of Frontage Road and Anita Street

Source: Atkins 2012

N

EXISTING CONDITIONS IN PALOMAR RESIDENTIAL VILLAGE SUB-DISTRICT (PRV)
FIGURE 5.2-3

D. Palomar Neighborhood Retail Cluster Sub-District (PNRC)

The Palomar Neighborhood Retail Cluster Sub-District includes the properties located along the west side of Industrial Boulevard north of Belvia Lane and Anita Street, encompassing an area of approximately 1.5 acres of land. The existing built environment of this sub-district is characterized by residential properties on the west side of Industrial Boulevard and along Belvia Lane, with a small store between Anita Street and Belvia Lane. Photos representative of the existing conditions in the PNRC sub-district are shown in Figure 5.2-4.

E. Gateways

The PGDSP identifies two gateways where entry into the PGD occurs off I-5 (see Figure 3-7, Gateway Intersections): 1) intersection of Palomar Street and Walnut Avenue/Frontage Road; and 2) intersection of Palomar Street and Industrial Boulevard. Figure 5.2-5 shows the existing conditions at the four corners of the intersection of Palomar Street and Walnut Avenue/Frontage Road. Figure 5.2-6 shows the existing conditions at the four corners of the intersection of Palomar Street and Industrial Boulevard.

5.2.1.3 Light and Glare

The existing light and glare conditions of the PGD are those typical of a primarily residential area with areas of limited commercial and industrial activity. There are no existing sources of excessive light or glare in the PGD. Exterior lighting sources are limited to ornamental lighting, lighted signage, and security lighting. Glare resulting from reflective surfaces that are unshielded from the sun or artificial light sources is minimal.

5.2.2 Regulatory Framework

5.2.2.1 State

A. California Scenic Highway Law

The California Scenic Highway Law of 1963 created the California Scenic Highways Program to preserve and protect scenic highway corridors from change that would diminish the aesthetic value of adjacent lands. The State Scenic Highway System includes a list of highways that are either officially designated as scenic highways by the California Department of Transportation (Caltrans) or eligible for designation. Scenic highway nominations are evaluated using the following criteria:

- The proposed scenic highway is principally within an unspoiled native habitat and showcases the unique aspects of the landscape, agriculture, or man-made water features;
- Existing visual intrusions do not significantly impact the scenic corridor;
- Strong local support for the proposed scenic highway designation is demonstrated; and
- The length of the proposed scenic highway is not short or segmented.

Once a scenic highway is designated, the responsibility lies with the local jurisdiction to regulate development within the scenic highway corridor. As discussed above, the PGD does not lie along the corridor of a designated or eligible state scenic highway.

Photo 1 - Residential and commercial uses at northwest corner of Industrial Boulevard and Anita Street

Photo 2 - Commercial uses on west side of Industrial Boulevard between Anita Street and Belvia Lane

Photo 3 - Vacant lot and residential uses at southwest corner of Industrial Boulevard and Belvia Lane

Photo 4 - Residential uses on west side of Industrial Boulevard north of Belvia Lane

Source: Atkins 2012

N

EXISTING CONDITIONS IN PALOMAR NEIGHBORHOOD RETAIL CLUSTER SUB-DISTRICT (PNRC)
FIGURE 5.2-4

Photo 1: Northwest corner of Palomar Street and Walnut Avenue

Photo 2: Northeast corner of Palomar Street and Walnut Avenue

Photo 3: Southwest corner of Palomar Street and Frontage Road

Photo 4: Southeast corner of Palomar Street and Frontage Road

Source: Atkins 2012

N

EXISTING CONDITIONS AT PALOMAR STREET AND WALNUT AVENUE/FRONTAGE ROAD GATEWAY
FIGURE 5.2-5

Photo 1: Northwest corner of Palomar Street and Industrial Boulevard

Photo 2: Northeast corner of Palomar Street and Industrial Boulevard

Photo 3: Southwest corner of Palomar Street and Industrial Boulevard

Photo 4: Southeast corner of Palomar Street and Industrial Boulevard

Source: Atkins 2012

N

EXISTING CONDITIONS AT PALOMAR STREET AND INDUSTRIAL BOULEVARD GATEWAY
FIGURE 5.2-6

5.2.2.2 Local

A. City of Chula Vista General Plan

The Land Use and Transportation Element of the Chula Vista General Plan includes the following citywide objectives and policies regarding landform alteration and aesthetics:

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.

Policy 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.

Policy LUT 8.2: Emphasize certain land uses and activities, such as cultural arts, entertainment, specialty retail, or commercial recreation, to enhance or create the identity of specialized districts or Focus Areas in the City.

Policy LUT 8.3: Ensure that buildings are appropriate to their context and designed to be compatible with surrounding uses and enhance the desired character of their district.

Policy 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.

Policy 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 windows) and physical access for pedestrians;
- Ground floor residential and commercial entries that face and engage the street; and
- Pedestrian-oriented streetscape amenities.

Policy LUT 8.6: Develop a master plan for artwork in public places that would identify the types of art desired and establish appropriate settings for the display of art, including within public rights-of-way and landscaped medians.

Policy LUT 8.8: Encourage the upgrading, beautification, and revitalization of existing strip commercial areas and shopping centers.

Objective LUT 9

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

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

Policy LUT 9.2: The City will prepare, or cause to have prepared, entryway/gateway master plans for each of the identified entryways/gateways within the City to appropriately guide 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 will also include interim provisions for the processing of any projects within these areas prior to completion and adoption of the associated entryway/gateway master plan.

Policy LUT 9.3: As part of the approval process for projects within designated City entryway/gateway areas, the City shall confirm that the design conforms to applicable entryway/gateway design guidelines and standards.

Policy LUT 9.4: Cooperate with Caltrans to improve freeway landscaping, especially at on- and off-ramps and at freeway interchanges.

Objective LUT 10

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

Policy 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.

Policy LUT 10.2: The landscape designs and standards shall include a coordinated street furniture palette including waste containers and benches, to be implemented throughout the community at appropriate locations.

Policy LUT 10.3: Provide a well-designed, comfortable bus stop for use throughout the City.

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

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

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

Policy LUT 10.7: Work with utility providers to coordinate the design of utility facilities (e.g., substations, pump stations, switching buildings, etc.) 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.

Policy 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.

Policy 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.

Policy 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.

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

Policy LUT 11.5: Require a design review process for all public and private discretionary projects (which 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.

Policy 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.

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

In addition to citywide policies, the General Plan also contains the following district-specific policies which address the maintenance and preservation of the existing visual character of the PGD:

Policy LUT 43.6: In the PGD, residential densities within the Mixed Use Transit Focus Area designation are intended to have a district-wide gross density of 40 dwelling units per acre.

Policy LUT 43.7: In the PGD, the commercial (retail and office) portion of the Mixed Use Transit Focus Area designation is intended to have a focus area-wide aggregate FAR of 1.0. Subsequent specific plans or zoning ordinance regulations will establish parcel-specific FARs that may vary from the district-wide aggregate.

Policy LUT 43.8: Building heights in the PGD Mixed Use Transit Focus Area shall be low-rise, with some mid-rise buildings.

Policy LUT 43.9: Building heights in the Residential High designated area shall be low-rise buildings.

Policy LUT 43.10: In the PGD, permit a maximum FAR of 0.5 and low-rise buildings in the Retail Commercial designated area on Industrial Boulevard adjacent to the area designated as Residential High.

Policy LUT 43.11: The specific plan or other regulatory document for the PGD shall establish design and landscape guidelines for the improvement of Palomar Street as a gateway to the City.

Policy LUT 43.12: Provide for safe, effective, and aesthetic pedestrian crossings and improvements to Palomar Street and Industrial Boulevard.

B. City of Chula Vista Unnecessary Lights Ordinance

The Unnecessary Lights Ordinance (CVMC Chapter 17.28) outlines restrictions and limitations on the use of lighting in or near the residential zones to prevent lighting from creating a nuisance to residents. Specifically, it requires shielding of light sources associated with commercial and industrial operations from adjacent residential properties; prohibits residential lighting that spills over to adjacent properties during nighttime hours; and requires multi-family residential, commercial, and industrial developments to submit lighting plans to the City for approval. Lighting from any use which is unshielded or so directed as to focus the beams directly upon adjacent residential properties is prohibited at all times.

5.2.3 Criteria for Determination of Significance

According to CEQA Guidelines Appendix G, a significant impact related to landform alteration/aesthetics would occur if implementation of the proposed project would:

- Criterion 1: Have a substantial adverse effect on a scenic vista.
- Criterion 2: Substantially damage scenic resources, including, but not limited to, trees, and rock outcroppings, and historic buildings within a state scenic highway.
- Criterion 3: Substantially degrade the existing visual character or quality of the site and its surroundings.
- Criterion 4: Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

5.2.4 Impacts

5.2.4.1 Scenic Vistas and Resources

Criterion 1: Would the project have a substantial adverse effect on a scenic vista?

Criterion 2: Would the project substantially damage scenic resources, including, but not limited to, trees, and rock outcroppings, and historic buildings within a state scenic highway?

As discussed in Section 5.2.1.1 above, the PGD does not contain any on-site prominent land features that constitute scenic resources, nor can the City's valued scenic vistas be viewed from within the PGD. Thus, future PGDSP development projects would not obstruct scenic vistas and would not result in any major landform alterations that could damage scenic resources. In addition, there are no designated or eligible state scenic highways in the vicinity of the PGD. Although there are no existing scenic vistas or resources within the PGD, the PGDSP contains specific design guidelines to place architectural emphasis on two gateway areas that are intended to serve as scenic entrance features to the PGD, as described in further detail in Section 5.2.4.2 below. Therefore, impacts associated with scenic vistas and resources would be less than significant.

5.2.4.2 Visual Character

Criterion 3: Would the project substantially degrade the existing visual character or quality of the site and its surroundings?

The PGDSP contains land use and development regulations and design guidelines that outline allowable and recommended parameters for future development in the four sub-districts and two gateway intersections of the PGD. The future visual character of the PGD would be shaped by these development standards and design guidelines. The land uses permitted under the PGDSP are outlined in the PGDSP land use matrix (see Table 3-3, PGDSP Sub-District Land Uses and Permit Requirements, in Chapter 3), and the maximum allowable development is based on the FAR provided in the PGDSP development regulations (see Table 3-4, Summary of Development Regulations, in Chapter 3). The development regulations also set standards for building heights, building setbacks, building stepbacks, street wall frontage, open space requirements, and parking proposed for the four sub-districts (see Figure 3-3 through Figure 3-6 in Chapter 3).

The PGDSP design guidelines apply to both new development and the rehabilitation of older structures in the PGD, and would encourage an area that is economically stronger, more recognizable, and rich in a sense of place and identity. Specific design guidelines for gateway corners, residential neighborhoods, areas adjacent to the I-5 freeway, and streetscape improvements are identified in the PGDSP (see Table 3-5, Summary of PGDSP Design Guidelines, in Chapter 3). In addition to the specific design guidelines provided in the PGDSP, future development within the PGD would be subject to the design guidelines identified in the Chula Vista Design Manual (City of Chula Vista 2011b). The following discussion evaluates the anticipated changes in the visual character of the four sub-districts and two gateways that comprise the PGD, as allowed by the PGDSP development standards and design guidelines.

A. Palomar Transit Plaza (MU-1) Sub-District

As discussed in Section 5.2.1.2 above, the existing built environment of this sub-district consists of a covered waiting area, benches, and parking lot associated with the Palomar Transit Station. Under the PGDSP development regulations, the built environment of this sub-district would transition to a multi-use transit plaza that would serve transit users and residents, as well as shoppers. Compared to existing conditions, the PGDSP development regulations would establish an increased FAR (2.0) and building heights (up to 45 feet for single-use projects and 50 feet for vertical mixed use projects), which would allow for higher intensity development consisting of taller and more massive structures. In addition to the transit station, permitted land uses would include residential, commercial (retail and/or office), and civic development. New development would be required to adhere to the Chula Vista Design Manual such that visual changes would not be considered adverse. Furthermore, the PGDSP development regulations provide for public open space within this sub-district, including a plaza, piazza, or courtyard that would connect with an active/passive open space park. The provision of such amenities would serve to enhance the visual quality of the area surrounding the transit station.

As discussed in Section 5.2.1.2 above, recent street and safety improvements have been completed along the roadways bordering this area, including landscaped medians, enhanced paving, sidewalks, tree-lined parkways, and bike lanes along Palomar Street and Industrial Boulevard. Such streetscape improvements are consistent with the PGDSP design guidelines. The PGDSP design guidelines for streetscape improvements focus on improvements to public rights-of-way, sidewalks, public open space, and key intersections. The intent of these design guidelines is to create a unified and visually attractive environment that supports the PGDSP goals for beautification of the PGD. Because the condition of the streetscape is important for creating the desired image and identity of the PGD, as new development occurs in the PGD, the provision of urban amenities is needed to achieve the PGDSP vision for a well-balanced urban environment. Thus, improving the streetscape with urban amenities would serve to improve the overall visual quality of the PGD.

B. Mixed Use Corridor (MU-2) Sub-District

As discussed in Section 5.2.1.2 above, the existing built environment of this sub-district consists of a visually disjointed mixture of residential, commercial, and industrial uses, as well as a large vacant lot on the south side of Palomar Street between Frontage Road and Industrial Boulevard. Under the PGDSP development regulations, the built environment of this sub-district would transition to mixed use residential and commercial (retail and/or office) development, to create, in conjunction with the Palomar Transit Plaza, the transit-oriented, multi-use district envisioned by the General Plan. Compared to existing conditions, the PGDSP development regulations establish an increased FAR (1.5) and building heights (up to 45 feet for single-use projects and 50 feet for vertical mixed use projects), which would allow for higher intensity development consisting of taller and more massive structures. Thus, as redevelopment occurs, low-rise commercial single-use structures would generally be replaced with low to mid-rise mixed use structures. While these visual changes may be considered substantial, they would not be considered adverse given adherence to the Chula Vista Design Manual guidelines for mixed use development. For example, the manual states that buildings should be designed to have similar heights, massing, and design characteristics that are compatible with surrounding buildings. Structures should be sited in a manner that compliments adjacent structures. Development should incorporate the area's typical landscape treatments into the site design to connect new development to the existing context. In addition, as discussed above, the PGDSP design guidelines for streetscape improvements would serve to improve the overall visual quality of the PGD.

C. Palomar Residential Village (PRV) Sub-District

As discussed in Section 5.2.1.2 above, the existing built environment of the Palomar Residential Village Sub-District is characterized by a mix of single-family residential units and multi-family residential developments, as well as a limited number of undeveloped lots. Under the PGDSP development regulations, the built environment of this sub-district would continue to be residential, but at a higher intensity than under the existing conditions. The PGDSP development regulations for this sub-district are designed to promote and encourage an intensively developed residential environment, with appropriate amenities such as open areas, landscaping, and off-street parking. Specifically, residential development would transition to apartment complexes, townhome complexes, and garden apartment complexes with permitted building heights of up to 45 feet, which would allow for taller and more massive structures to be built. While these visual changes may be considered substantial, they would not be considered adverse given adherence to the Chula Vista Design Manual guidelines for multi-family development. As discussed above for the MU-2 Sub-district, the manual guidelines encourage new development to be designed and sited to harmonize with existing buildings. In addition, the PGDSP contains the following specific design guidelines for the Palomar Residential Village that are intended to further enhance the residential characteristics of the neighborhood and prevent adverse visual impacts such as those from parking:

- New multi-family residential uses should provide a strong connection to the Palomar Transit Plaza and other commercial uses along Palomar Street.
- Principal access roads into new development areas off Ada Street, Dorothy Street, and Anita Street should harmonize with the scale and pedestrian amenities of adjacent residential neighborhoods.
- Orient new residential uses to the street with landscaped setbacks. Entrances should incorporate stoops and porches to maintain “eyes on the street.”
- Place parking in the rear.
- New development should use strong architectural design standards and high-quality building materials, and provide varied interest in building design elements.
- Site design for new development between Ada and Dorothy Streets adjacent to the existing drainage area should preserve and enhance the drainage area as a passive open space element, to the extent feasible.
- Where new multi-story development is adjacent to existing single-family residential uses, consideration should be given to maintaining privacy through the use of design measures such as stepbacks, landscaping, and window orientation.

D. Palomar Neighborhood Retail Cluster (PNRC) Sub-District

As discussed in Section 5.2.1.2 above, the existing built environment of the Palomar Neighborhood Retail Cluster Sub-District is characterized by residential properties on the west side of Industrial Boulevard and along Belvia Lane, with a small store between Anita Street and Belvia Lane. Under the PGDSP development regulations, the built environment of this sub-district would be redeveloped with commercial uses, similar to the existing commercial uses. The PGDSP development regulations for this sub-district are designed to provide a commercial retail center for convenience shopping for the residents of the adjacent residential neighborhood while ensuring that the character of the neighborhood retail cluster would be compatible with and complement the surrounding residential area. New development would be required to adhere to the Chula Vista Design Manual such that visual

changes would not be considered adverse. As discussed above for the MU-2 Sub-district, the manual guidelines encourage new development to be designed and sited to harmonize with existing buildings. In addition, the PGDSP contains the following specific design guidelines for the northwest corner of the Anita Street and Industrial Boulevard intersection that are intended to place architectural emphasis on corner building design elements and prevent adverse visual impacts to the adjacent residential neighborhood:

- Neighborhood-serving uses are strongly encouraged.
- Primary businesses should be oriented to Industrial Boulevard and the corner at Anita Street.
- Neighborhood transition elements, such as landscaping, wall treatments, setbacks and shielded lighting should be incorporated into project design to minimize spillover onto the adjacent residential village.

E. Gateways

According to the Chula Vista General Plan, gateway areas are intended to be well-designed, attractive, and to exhibit a special character to enhance the City's image and pride. Special design treatments such as themed signage, landscaping, and architectural design enhancements, and other elements should be used to signify arrival into the City and progression to key destinations along gateway streets. The PGDSP identifies two gateways where entry into the PGD occurs off I-5 (see Figure 3-7, Gateway Intersections): 1) the intersection of Palomar Street and Walnut Avenue/Frontage Road and 2) the intersection of Palomar Street and Industrial Boulevard. The existing conditions at the gateway corners (see Figure 5.2-1 and Figure 5.2-2) currently lack the necessary aesthetic elements to meet the General Plan vision. In order to achieve enhanced architectural statements and iconic design at its two designated gateways, the PGDSP development regulations allow for increased building heights of up to 60 feet to place architectural emphasis at gateway corners. In addition, the PGDSP contains specific design guidelines for the gateway corners and street improvements along the Palomar Street corridor that are intended to reflect a unique, signature architecture and create a positive Chula Vista landmark, as summarized in Table 5.2-1. These specific design guidelines contain standards for strong architectural design, emphasis on corner building design elements, a high-quality pedestrian-scaled environment, and coordinated streetscape design elements, which would prevent adverse visual impacts and serve to enhance the scenic entrance features of the two designated gateways consistent with the General Plan vision.

F. Design Review

As described above, the development regulations and design guidelines outlined in the PGDSP would ensure that future development within the PGD would not result in architecture, urban design, landscaping, or landforms that negatively affect the visual character or quality of the PGD and surrounding areas. In general, all developments within the PGD that are not otherwise exempt would require submittal and approval of a Design Review Permit. In order to obtain Design Review Permit approval, development projects would be required to comply with the land use and development regulations and the design guidelines identified in the PGDSP. For development projects in designated gateways that propose increased building height, the building design would be required to reflect a unique, signature architecture and create a positive Chula Vista landmark. Any proposed development projects would also be required to adhere to the existing CVMC regulations and processes for other discretionary review, such as those for conditional use permits, variances, and subdivisions. By enforcing adherence to the PGDSP development regulations and design guidelines, as well as all other applicable

regulations, the design review process would ensure that future PGDSP development projects do not substantially degrade the existing visual character or quality of the site and its surroundings. Therefore, impacts associated with visual character would be less than significant.

Table 5.2-1 PGDSP Design Guidelines for Gateway Corners

Gateway Corner/ Corridor	Design Guidelines
Northwest Corner of Palomar Street and Industrial Boulevard	■ Primary vehicular access from Industrial Boulevard ■ Provide strong connection with the transit center ■ Buildings lining Palomar Street should maintain strong architectural design standards, use high-quality building materials, and emphasize corner building design elements ■ Buildings that front Palomar Street and/or Industrial Boulevard should orient windows and businesses toward these streets ■ Residential entrances should be setback with stoops and porches ■ Streetscape should include outdoor dining areas and plazas or other open spaces
Northeast Corner of Palomar Street and Industrial Boulevard	■ Primary vehicular access from Palomar Street or Oxford Street ■ Strong connection with the transit center and Harborside Park ■ Buildings should orient windows and business toward Palomar Street ■ Residential entrances should be set back with stoops and porches ■ Incorporate active plazas or other open space elements ■ Buildings lining Palomar Street should maintain strong architectural design standards, use high-quality building materials, and emphasize corner building design elements
Southeast Corner of Palomar Street and Industrial Boulevard	■ Vehicular access from Palomar Street ■ Emphasize iconic corner building design elements ■ Buildings lining Palomar Street should maintain strong architectural design standards and use high-quality building materials ■ Public plaza or piazza as a focal point and gathering place ■ Strong connection with the transit center, new commercial uses, and public spaces and parks ■ Buildings should orient windows and business toward Palomar Street ■ Residential entrances should be setback with stoops and porches
Southwest Corner of Palomar Street and Industrial Boulevard	■ Primary vehicular access from Industrial Boulevard ■ Paseo connecting Palomar Street to the residential neighborhood to the south ■ Connections with existing streets ■ Access roads should be consistent with the scale and amenities of streets in adjacent residential neighborhoods ■ Buildings lining Palomar Street should maintain strong architectural design standards, use high-quality building materials, and emphasize corner building design elements ■ Retail building(s) should orient storefronts and entrances toward Palomar Street and Industrial Boulevard ■ Residential uses should set back entrances with stoops and porches ■ Plazas, outdoor dining, kiosks, benches, and other street furniture are encouraged
Southwest and Southeast Corner of Palomar Street and Frontage Road	■ Primary vehicular access from Frontage Road ■ Allow for vehicular and pedestrian connections with existing streets ■ Principal access roads should be consistent with the scale and amenities of streets in adjacent residential neighborhoods ■ Buildings lining Palomar Street should maintain strong architectural design standards, use high-quality building materials, and emphasize corner building design elements ■ Retail buildings should orient storefronts and entrances to Palomar Street and Frontage Road ■ Residential uses should set back entrances with stoops and porches

Table 5.2 1 continued

Gateway Corner/ Corridor	Design Guidelines
Northwest and Northeast Corner of Palomar Street and Walnut Avenue	■ Primary vehicular access from Walnut Avenue ■ Allow for connections with existing streets ■ Improve the street layout to provide a better circulation between Walnut and Trenton Avenue ■ Principal access roads should be consistent with the scale and pedestrian amenities of streets in adjacent residential neighborhoods ■ Buildings lining Palomar Street should maintain strong architectural design standards, use high-quality building materials, and emphasize corner building design elements ■ Retail building(s) should orient storefronts and entrances to Palomar Street and Walnut Avenue ■ Any residential uses along Palomar Street should set back entrances with stoops and porches
Streetscape Improvements	■ Coordinated streetscape design elements such as street trees, street furniture, and lighting ■ Distinct, "international" image ■ Cobble textured paving for crosswalks, landscaping, and a roundabout ■ Gateway signage at the southeast corner of Palomar Street and Frontage Road ■ New bus pull-out lane adjacent to the transit center ■ Six-foot bikeways, pedestrian lighting, and parkways between the sidewalk and travel lanes on Palomar Street ■ Bike locker storage, landscaping, and lighting at the Palomar Transit Station ■ Pedestrian-friendly plaza at the southwest corner of Palomar Street and Industrial Boulevard

5.2.4.3 Light and Glare

Criterion 4: Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Light sensitive activities (e.g., sleeping) could potentially be adversely impacted by light or glare in excess of baseline conditions due to build-out of the PGDSP and intensification of land use. Existing light-sensitive uses within the PGD include approximately 400 single- and multi-family residences, as well as two hotels, in the Palomar Residential Village Sub-District and the western portion of the Palomar Mixed Use Corridor Sub-District. These existing light-sensitive uses, as well as future residential units developed in the PGD, could potentially be subject to nuisance lighting resulting from new sources of decorative lighting, parking lot lighting, or outdoor security lighting associated with future PGDSP development projects. In addition, new sources of glare would potentially arise from new infill development and redevelopment of existing structures with extensive glass or other unshielded reflective surfaces.

Various provisions in the PGDSP development regulations and design guidelines serve to control light and glare. Section 4.11.5 of the PGDSP, Lighting Design, requires that lighting within the PGD shall be an integral part of the planning and design of a project and shall be designed as part of an overall lighting plan rather than a single stand-alone element. Furthermore, the City's Unnecessary Lights Ordinance (CVMC Chapter 17.28), which regulates the use of lighting in or near the residential zones to prevent lighting from creating a nuisance to residents, requires shielding of light sources associated with commercial and industrial operations from adjacent residential properties; prohibits residential lighting that spills over to adjacent properties during nighttime hours; and requires multi-family residential, commercial, and industrial developments to submit lighting plans to the City for approval. Future PGDSP

development projects would be required to comply with the PGDSP development regulations and design guidelines and the City's Unnecessary Lights Ordinance, which would prevent significant light and glare impacts. Therefore, impacts associated with light and glare would be less than significant.

5.2.5 Level of Significance Prior to Mitigation

5.2.5.1 Scenic Vistas and Resources

The PGD does not contain any on-site prominent land features that constitute scenic resources, nor can the City's valued scenic vistas be viewed from within the PGD. Thus, future PGDSP development projects would not obstruct scenic vistas and would not result in any major landform alterations that could damage scenic resources. Therefore, impacts associated with scenic vistas and resources would be less than significant.

5.2.5.2 Visual Character

The development regulations and design guidelines outlined in the PGDSP would ensure that future development within the PGD would not result in architecture, urban design, landscaping, or landforms that adversely affect the visual character or quality of the PGD and surrounding areas. Therefore, impacts associated with visual character would be less than significant.

5.2.5.3 Light and Glare

Future PGDSP development projects would be required to comply with the PGDSP development regulations and design guidelines and the City's Unnecessary Lights Ordinance, which would prevent significant light and glare impacts. Therefore, impacts associated with light and glare would be less than significant.

5.2.6 Mitigation Measures

5.2.6.1 Scenic Vistas and Resources

No mitigation measures are required.

5.2.6.2 Visual Character

No mitigation measures are required.

5.2.6.3 Light and Glare

No mitigation measures are required.

5.2.7 Level of Significance after Mitigation

Implementation of the proposed PGDSP would not result in any significant impacts associated with scenic vistas and resources, visual character, or light and glare. No mitigation is required.

5.3 Transportation, Circulation, and Access

The analysis in this section of the EIR addresses the potential impacts associated with transportation, circulation, and access that would result from implementation of the PGDSP. The following discussion of transportation, circulation, and access within the PGD is based on the Mobility Study prepared by Linscott, Law & Greenspan, Engineers (LLG) (2012). The Mobility Study is provided as Appendix B of this EIR.

5.3.1 Existing Conditions

5.3.1.1 Roadway Network

A. Existing Facilities

The PGD is regionally accessed via I-5 and Palomar Street. A brief description of the principal roadways in the PGD, including the roadway classification, physical characteristics, and adjacent land uses, is provided below.

Palomar Street is classified as a six-lane Major Arterial between I-5 and Broadway in the Chula Vista Circulation Plan. Palomar Street is currently constructed as a four-lane roadway between the I-5 ramps, as a five-lane roadway between the I-5 northbound ramp and Walnut Avenue, and as a six-lane roadway between Walnut Avenue and Broadway. The posted speed limit is 35 miles per hour (mph) and street parking is prohibited. The Palomar Transit Station is located at the southeast quadrant of the Palomar Street/Industrial Boulevard intersection and includes an at-grade railroad crossing at this intersection. The land uses on Palomar Street include a variety of commercial and retail establishments between I-5 and Broadway. Between I-5 and Industrial Boulevard, the land uses on Palomar Street include an Arco gas station on the north side, Palomar Inn on the south side, and other retail uses. East of Industrial Boulevard, the primary land uses on Palomar Street are commercial/retail. Recent street and safety improvements in this area have been completed, consisting of landscaped medians, enhanced paving at the intersection of Palomar Street and Industrial Boulevard, and sidewalks and tree-lined parkways, including bike lanes along Palomar Street and Industrial Boulevard.

Ada Street is an unclassified east/west roadway in the Chula Vista Circulation Plan. Ada Street is currently constructed as a two-lane roadway. Ada Street is fully improved with sidewalks, curbs, and gutters, and parking is allowed on both sides of the street. The land uses on Ada Street include several new residential developments consisting of a mix of single and multi-family units. There are also vacant and underutilized parcels, which have potential for additional development. There has been significant new development along Ada Street such as the Trolley Terrace Townhomes (18 units) and Trolley Trestle Apartments (11 units). As part of calming traffic, a roundabout was recently constructed at the Ada Street/Industrial Boulevard intersection. These improvements were part of the $2.1 million Palomar Gateway Enhancement project funded by the SANDAG Smart Growth Incentive Program.

Dorothy Street is an unclassified east/west roadway in the Chula Vista Circulation Plan. Dorothy Street is currently constructed as a two-lane undivided roadway connecting Frontage Road to Industrial Boulevard. The adjacent land uses on Dorothy Street are residential units.

Industrial Boulevard is an unclassified north/south roadway in the Chula Vista Circulation Plan. Industrial Boulevard is currently constructed as a two-lane roadway north and south of Palomar Street. North of Palomar Street, Industrial Boulevard is developed with residential land uses on the west side bounded by the railroad tracks on the east. The speed limit on Industrial Boulevard is 40 mph.

Walnut Avenue is an unclassified north/south roadway in the Chula Vista Circulation Plan. Walnut Avenue, a two-lane undivided roadway, is currently built only on the north side of Palomar Street terminating into a cul-de-sac. Walnut Avenue is characterized by a mixture of uses, including residential, commercial, and industrial. Current uses include retail stores, an Arco gas station, auto towing and storage yard, the Palomar Motel, office building, and residences north of Palomar Street.

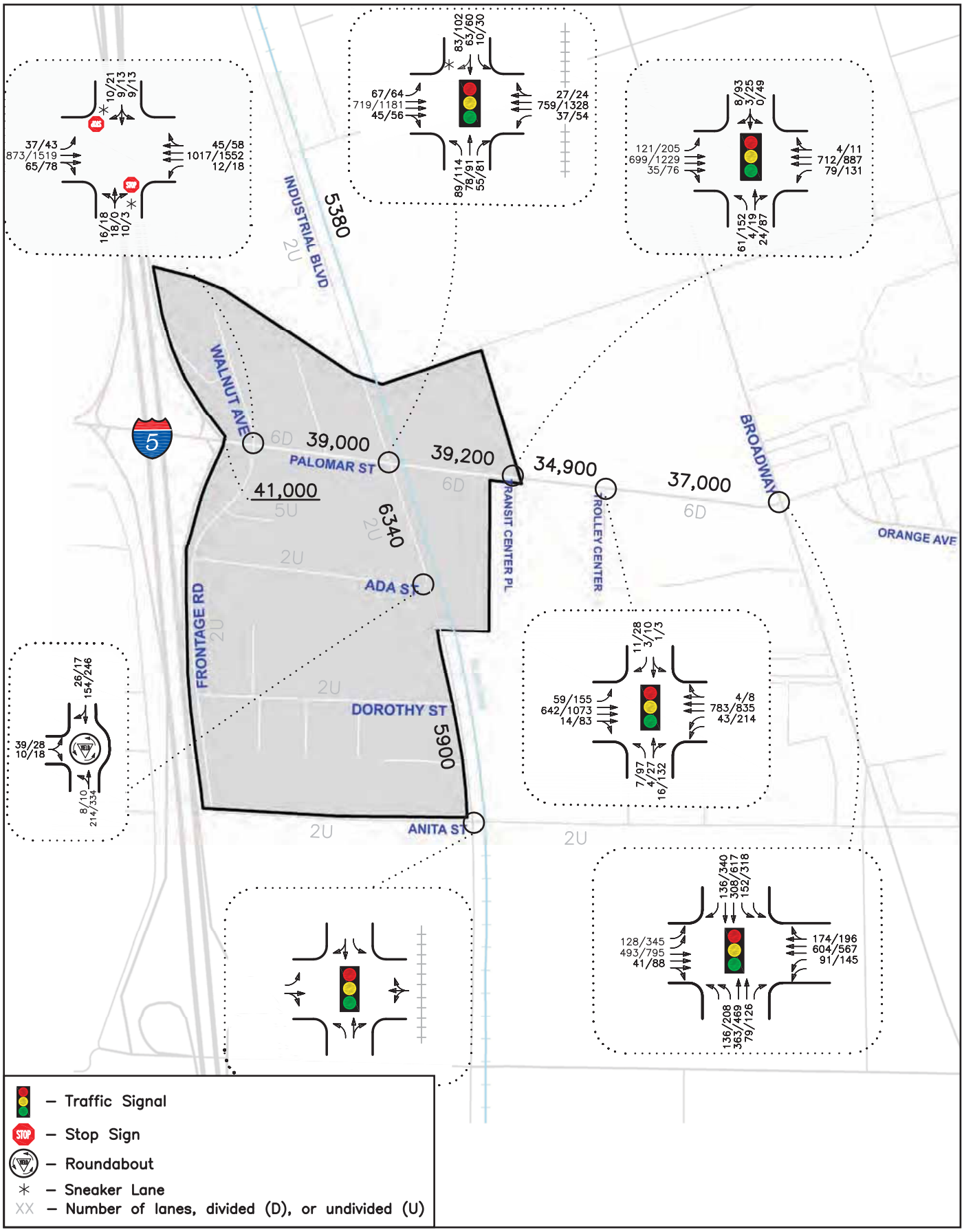
Frontage Road is an unclassified two-lane undivided roadway and constitutes an extension of Anita Street at the southerly end, along the western edge of the PGD parallel to I-5, and connects to Palomar Street at the northerly end. It is a narrow street without street improvements; an asphalt curb serves as the edge between the street and private property. Frontage Road provides access to the industrial uses at the corner of Anita Street and the residential properties that front it.

Trenton Avenue is an unclassified north/south roadway in the Chula Vista Circulation Plan. Trenton Avenue, a two-lane undivided roadway, is currently built on the north side of Palomar Street terminating in a cul-de-sac. The adjacent land uses are residential.

Anita Street is an unclassified two-lane undivided roadway and serves as the interface between residential uses on the north and commercial/industrial uses on the south side of the street. The north side is predominantly residential, except for industrial development on the most westerly lot, adjacent to I-5. There are no sidewalks, curbs, or gutters on the north side of the street. Anita Street has an at-grade railroad crossing, however, pedestrian facilities across the railroad tracks were observed to be deficient. The Metropolitan Transit System (MTS) plans to upgrade the Anita Street railroad crossing to improve roadway and pedestrian connections in Fiscal Year (FY) 2012/13.

B. Traffic Volumes

Weekday peak hour intersection and bi-directional daily traffic counts on the street segments were collected from several sources including City of Chula Vista counts, the Olson Bay Vista Walk Traffic Impact Study, and the Palomar Gas and Carwash Traffic Study (LLG 2012). The sources contained counts dating from 2005 to present. LLG conducted a count validation using a recent 2011 count at the Industrial Boulevard/Palomar Street intersection. Comparing traffic volumes for every movement at this intersection, the 2005 count was found to be generally higher than the 2011 count for both the AM and PM peak periods. As such, the 2005 counts for the study intersections were validated and used in this study as a conservative (worst-case) estimate. One exception to this was to use the recent 2011 count data for the Industrial Boulevard/Palomar Street intersection, as this represents the most current data for one of the most critical intersections in the study area. Slight adjustments were made to balance the 2011 counts with the 2005 counts at the adjacent intersections. When making adjustments, the traffic volumes were always increased to be conservative. Figure 5.3-1 contains the existing roadway conditions and traffic volumes for the study area.



Source: Linscott Law & Greenspan 2012

Not to Scale

N

EXISTING ROADWAY CONDITIONS AND TRAFFIC VOLUMES
FIGURE 5.3-1

C. Operations

Intersection capacity analyses were conducted for the study area intersections under existing conditions. Table 5.3-1 summarizes the existing intersection operations during peak hour conditions, which includes delays at the Palomar Street/Industrial Boulevard intersection associated with the trolley crossing. As shown in Table 5.3-1, all study intersections are calculated to operate at LOS D or better, with the exception of the Walnut Avenue/Palomar Street intersection, which is calculated to operate at LOS F during both AM and PM peak periods.

Table 5.3-1 Existing Intersection Operations

Intersection	Control	Peak Hour	Average Delay (seconds per vehicle)	LOS
Walnut Avenue/Palomar Street	Two-Way Stop Controlled[1]	AM PM	> 100 > 100	F F
Industrial Boulevard/Palomar Street (at-grade trolley)	Signal	AM PM	39.8[2] 44.4[2]	D D
Transit Center Place/Palomar Street	Signal	AM PM	10.3 22.8	B C
Trolley Center/Palomar Street	Signal	AM PM	8.0 13.4	A B
Broadway/Palomar Street	Signal	AM PM	22.5 27.3	C C
Ada Street/Industrial Boulevard	Roundabout	AM PM	0.18[3] 0.33[3]	A A

[1] Minor street left-turn delays reported.
[2] 24 seconds of delay added to account for the trolley crossing at this intersection.
[3] Synchro does not present vehicular delays at roundabouts; therefore, maximum volume to capacity ratio is reported.
Source: LLG 2012

To confirm existing traffic operations, LLG conducted field visits to the PGD. The intersection operation at Walnut Avenue/Palomar Street was validated, because the intersection is currently unsignalized and vehicles on Walnut Avenue experience excessive delays as they wait for a gap on six-lane Palomar Street. Further, excessive queues were also observed on Palomar Street during trolley crossings, especially during disabled loading/unloading maneuvers. To account for trolley delays, a delay factor was developed and added to the overall intersection delay.

Existing street segment analyses were conducted for roadways in the PGD. Table 5.3-2 summarizes existing street segment operations on a daily basis. During the arrival of the trolley, the gate closure time affects intersection capacity and thereby reduces the street segment throughput. Hence, to account for trolley delays, the street segment capacities on Palomar Street and Industrial Boulevard were reduced by 10 percent. As shown in Table 5.3-2, all street segments are calculated to operate at LOS D or better, with the exception of Palomar Street between I-5 and Walnut Avenue, which is calculated to operate at LOS E.

Table 5.3-2 Existing Street Segment Operations

Street Segment	Functional Classification	Capacity (LOS C)[1]	ADT	V/C	LOS
Palomar Street—I-5 to Walnut Avenue	5-Lane Major	35,000	41,000	1.171	E
Palomar Street—Walnut Avenue to Industrial Boulevard (at-grade trolley)	6-Lane Major	36,000[3]	39,000	1.083	D
Palomar Street—Industrial Boulevard to Transit Center Place (at-grade trolley)	6-Lane Major	36,000[3]	39,000	1.089	D
Palomar Street—Transit Center Place to Trolley Center	6-Lane Major	40,000	34,900	0.872	B
Palomar Street—Trolley Center to Broadway	6-Lane Major	40,000	37,000	0.925	C
Industrial Boulevard[2]—North of Palomar Street (at-grade trolley)	2-Lane Collector	10,500[3]	5,380	0.512	A
Industrial Boulevard[2]—Palomar Street to Ada Street (at-grade trolley)	2-Lane Collector	10,500[3]	6,340	0.603	A
Industrial Boulevard[2]—Ada Street to Anita Street	2-Lane Collector	12,000	5,900	0.491	A

[1] Capacities based on Chula Vista Roadway Classification Table.
[2] Industrial Boulevard analyzed using the Class II Collector roadway classification.
[3] To account for the at-grade trolley crossings, segment capacity has been reduced by 10 percent.
Source: LLG 2012

5.3.1.2 Pedestrian Facilities

A. Existing Facilities

A description of the existing pedestrian conditions at street segments and intersections in the PGD are provided below. The key features identified at the street segment level include the provision of contiguous sidewalks and their connectivity to adjacent intersections. At the intersection level, the provision of adequate Americans with Disabilities Act (ADA) accessible curb ramps and crosswalks were noted.

1. Street Segments (Sidewalks)

Palomar Street between Bay Boulevard and I-5 includes a sidewalk only on the north side. The I-5 overcrossing on Palomar Street includes a sidewalk only on the south side. With only one sidewalk on the bridge, there is limited pedestrian interaction between the east side and west side of I-5. The Palomar Street interchange ranks high among the improvements needed for I-5 interchanges in Chula Vista based on traffic volumes and level of service. Caltrans, SANDAG, and the City of Chula Vista participated in the development of the I-5 South Multimodal Corridor Study (AECOM 2010), which identifies an overcrossing with additional lanes and proposed six-foot-wide sidewalks on both sides to enhance pedestrian activity and interaction.

Palomar Street between I-5 and Transit Center Place includes 6-foot-wide sidewalks on both sides of the roadway. Even though sidewalks are provided, the lack of crosswalks forces pedestrians to cross at uncontrolled locations such as driveways and travel lanes, or in the middle of parking lots. For example, the driveway leading into the Palomar Transit Station parking lot is 60 feet wide. Pedestrians heading toward the transit station face high-volume, high-speed right-turning traffic at this driveway.

Industrial Boulevard, north of Palomar Street, currently does not include a sidewalk on the east side fronting the railroad tracks. There are planned improvements in FY 2012/13 to provide curb, gutter, sidewalk, and bike lane improvements on Industrial Boulevard between Moss Street and Palomar Street.

Over the past several years, the City has submitted grant applications to complete improvements on the east side of Industrial Boulevard from L Street to Moss Street, but these applications have been unsuccessful.

Industrial Boulevard, south of Palomar Street to Ada Street near the Palomar Transit Station, provides good pedestrian circulation with standard width sidewalks on both sides of the street. The sidewalks also include staircase and curb ramps to/from the transit station platform providing convenient access for all user types.

Industrial Boulevard between Ada Street and Anita Street does not include sidewalks on both sides of the street. Industrial Boulevard, south of Anita Street, includes a sidewalk only on the west side of the street that provides access to the businesses.

Ada Street and Dorothy Street are east/west roadways connecting Industrial Boulevard and Frontage Road. The adjacent land uses on Ada Street and Dorothy Street are residential. Ada Street and Dorothy Street include sidewalks on both sides of the roadway, providing good mobility and a dedicated walking space for residents.

Anita Street is an east/west roadway connecting Industrial Boulevard and Frontage Road, but includes a sidewalk only on the south side, which serves existing businesses. The north side fronting residential uses does not include a sidewalk.

Frontage Road is a two-lane undivided north/south roadway connecting Palomar Street to Anita Street. Frontage Road does not include sidewalks on the west side and the majority of the east side. The only sidewalks available on the east side are north of Ada Street for approximately 350 feet.

Walnut Avenue is a two-lane undivided north/south roadway north of Palomar Street that terminates in a cul-de-sac. Walnut Avenue provides sidewalks on both sides of the roadway that serve the residential uses on the east side and commercial retail establishments on the west side.

Trenton Avenue is a two-lane undivided north/south roadway north of Palomar Street that terminates in a cul-de-sac. Trenton Avenue provides sidewalks on both sides of the roadway serving residential uses.

2. Intersections (Curb Ramps and Crosswalks)

The Palomar Street/I-5 Southbound Ramps intersection includes adequate ADA accessible curb ramps and crosswalks to help facilitate pedestrian crossings. However, with regard to connectivity to surrounding street segments, the eastbound approach of the intersection currently does not include a sidewalk. Even though pedestrian connectivity is adequate at the intersection level, it must be ensured that the sidewalks on the street segments leading to/from intersections are also provided. The Palomar Gas Station project proposes street improvements on Palomar Street, west of I-5 at the southwest quadrant.

The Palomar Street/I-5 Northbound Ramps intersection affords good pedestrian features such as ADA accessible curb ramps and crosswalks. Based on field observations, it was noted that the westbound right-turn is currently a free movement with a pedestrian crossing. Pedestrian crossings at free movements generally are not favorable because of longer crossing distances. The I-5 South Multimodal Corridor Study addresses this deficiency through improvements to the intersection.

The Palomar Street/Industrial Boulevard intersection was recently upgraded to include landscaped medians, enhanced crosswalk paving, sidewalks, chain-link fence to discourage jaywalking, and tree-

lined parkways as part of the Palomar Gateway Enhancement project funded by the SANDAG Smart Growth Incentive Program. This intersection, along with the Palomar Transit Station, serves as the primary influence area for the PGD, and provides an inviting, well-planned, pedestrian-friendly street environment to promote a vibrant pedestrian-oriented community that encourages people to walk.

The Palomar Street/Transit Center Place intersection also serves pedestrians from the neighboring commercial/retail uses and its proximity to the Palomar Transit Station. This intersection affords curb ramps at all corners of the intersection. However, the curb ramp at the northeast corner is skewed. Additionally, the curb ramp at the northwest corner has degraded and the push-button for the crosswalk is placed on grass. The intersection includes a marked crosswalk only on the south side with no crosswalk markings on the other legs.

The Industrial Boulevard/Ada Street intersection was recently upgraded to include a roundabout as part of the Palomar Gateway Enhancement project funded by the SANDAG Smart Growth Incentive Program. This intersection affords desirable pedestrian features such as crosswalks, splitter islands, and flashing crosswalk markers to help driver visibility. However, the intersection has connectivity issues to the street segment south of Ada Street, which includes no sidewalks.

The Industrial Boulevard/Anita Street intersection forms the southern boundary of the PGD. This intersection currently does not include sidewalks on Industrial Boulevard. There is poor pedestrian connectivity across the railroad tracks from Industrial Boulevard to Anita Street. Based on field observations, it was noted that there were truck turning issues from Industrial Boulevard to Anita Street.

B. Planned Improvements – City of Chula Vista Pedestrian Master Plan

The Chula Vista Pedestrian Master Plan provides an inventory of existing missing sidewalks and curb ramps, and includes a needs assessment for pedestrian facilities. Based on findings from the needs assessment, the Pedestrian Master Plan identifies High Priority Projects, which include the following facilities within the PGD:

- Priority Rank #3: Palomar Street between Bay Boulevard and Orange Avenue
- Priority Rank #4: Industrial Boulevard between L Street and Anita Street

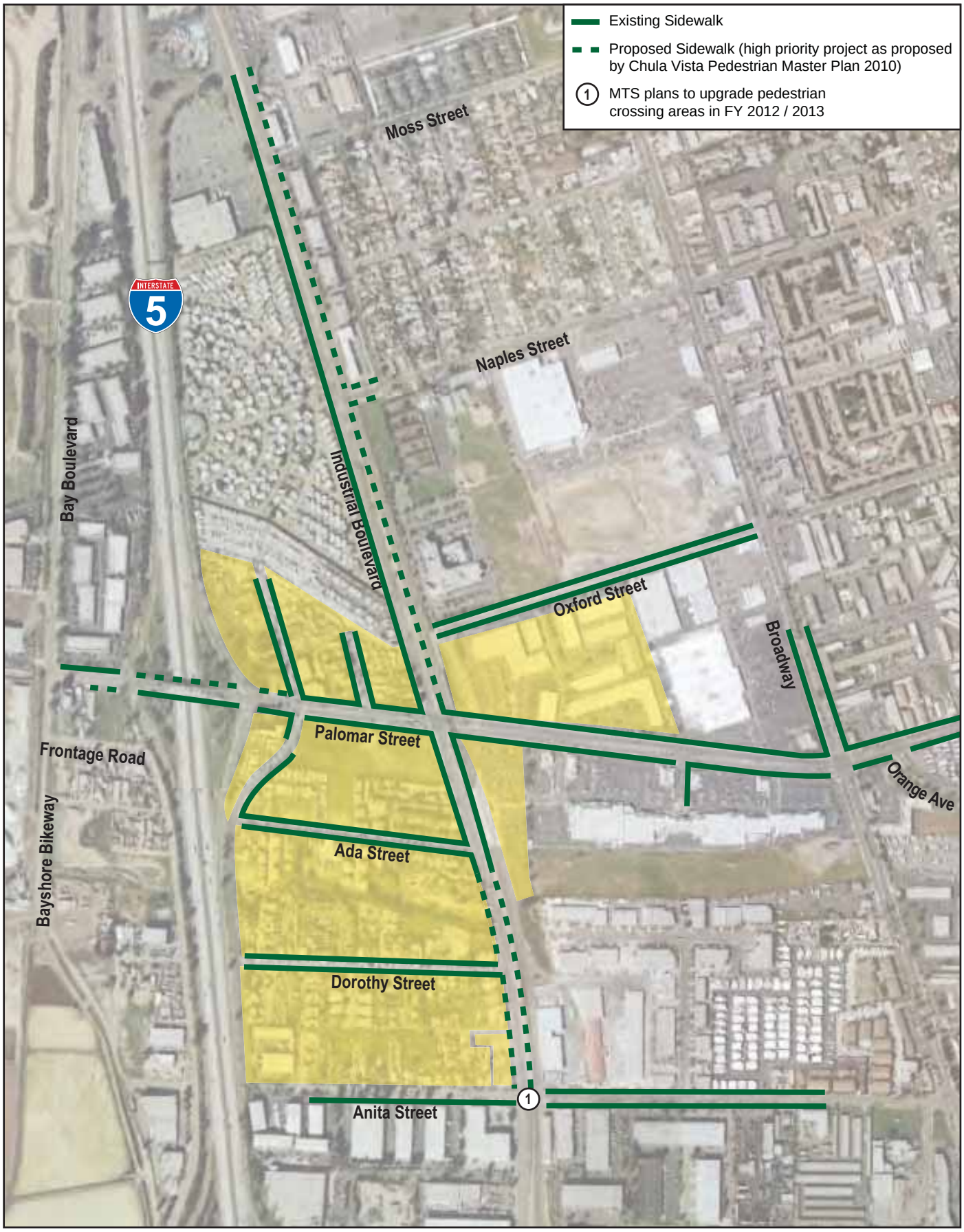
In addition to the recommendations outlined in the Pedestrian Master Plan, the MTS plans to upgrade the Anita Street rail crossing to improve roadway and pedestrian connections in FY 2012/13.

Figure 5.3-2 shows the existing pedestrian network and the improvements proposed by the Pedestrian Master Plan.

5.3.1.3 Bicycle Facilities

A. Existing Facilities

Palomar Street currently affords a Class II bike lane between Walnut Avenue and Industrial Boulevard, and a Class III bike route between Industrial Boulevard and Broadway. Dedicated bike lanes are provided at the Palomar Street/Industrial Boulevard intersection. Industrial Boulevard currently affords a Class II bike lane between Palomar Street and Ada Street, and a Class III bike route south of Ada Street.



Source: Linscott Law & Greenspan 2012

No Scale

N

EXISTING PEDESTRIAN FACILITIES AND PLANNED IMPROVEMENTS
FIGURE 5.3-2

B. Planned Improvements – City of Chula Vista Bikeway Master Plan

The Chula Vista Bikeway Master Plan provides a description of existing bicycle facilities, as well as future planned facilities. The Bikeway Master Plan identifies the following plans for bicycle facilities within the PGD:

- Palomar Street—Walnut Avenue to Industrial Boulevard: Maintain the existing Class II bike lanes.
- Palomar Street—Industrial Boulevard to Orange Avenue: Maintain the existing Class III bike route.
- Naples Street—Industrial Boulevard to Broadway: Include a Class III bike route.
- Oxford Street—Industrial Boulevard to Broadway: Include a Class III bike route.
- Industrial Boulevard—L Street to Anita Street: Upgrade from the existing Class III bike route to a Class II bike lane.

Figure 5.3-3 shows the existing bicycle network and the improvements proposed by the Bikeway Master Plan.

5.3.1.4 Transit Facilities

A. Existing Facilities

The Palomar Transit Station, located at the southeast quadrant of the Palomar Street/Industrial Boulevard intersection, provides both regional and local transit facilities through the San Diego Trolley Blue Line and MTS bus services, respectively.

1. Buses

Local bus service is provided by MTS. The routes serving the Palomar Transit Station and the PGD include Routes 701, 704, and 712. These transit routes provide service to/from Southwestern College and the Palomar Transit Station on E Street and H Street.

2. Trolley Blue Line

Regional transit service to the PGD is provided by the Trolley Blue Line, which connects the PGD to downtown San Diego/Old Town to the north and San Ysidro/Mexico border to the south. The Blue line is considered the most heavily traveled corridor with more than 10,000 average daily boardings. The weekday trains stop every 7 and 15 minutes and the weekend trains stop about every 15 minutes.

B. Planned Improvements

1. Bus Stops

The City of Chula Vista is currently working on a federal American Recovery and Reinvestment Act (ARRA) grant titled “Seniors, Sidewalks and the Centennial.” This grant focuses on the needs of the senior community in western Chula Vista. The final report was completed in January 2012, and includes discussion on encouraging sun shade structures for bus stops that are in close proximity to senior centers and shopping centers.

Source: Linscott Law & Greenspan 2012

No Scale

N

EXISTING BICYCLE FACILITIES AND PLANNED IMPROVEMENTS
FIGURE 5.3-3

2. Trolley Blue Line

The MTS and SANDAG are currently working on a project that upgrades the Trolley Blue Line. The project proposes to introduce new sleek low-floor trolley cars to the region and to raise 33 station platforms to accommodate accessible vehicles. The project aims at increasing system efficiency and reliability, including the provision of level boarding ramps to eliminate the need for mechanical lifts for people using mobility devices, making operations much faster. In the long-term, the 2050 RTP (SANDAG 2011a) includes the I-5 South Multimodal Corridor Study, which analyzes a variety of conceptual alternatives for multimodal improvements, such as transit, freight rail, bicycle, and pedestrian modes, along I-5 between SR-54 and Main Street within the City of Chula Vista. As part of the I-5 South Multimodal Corridor Study, the increasing demand for the Blue Line and associated conflicts of at-grade trolley crossings with vehicular traffic in this corridor was reviewed, including the Palomar Street trolley crossing. As the frequency of the trolley increases with demand, the level of service at the Palomar Street at-grade railroad crossing decreases due to the increased down time of the crossing arm which impedes vehicular traffic flow. At-grade railroad crossings also create potential safety risks to railroad workers during maintenance activities and to the general public. The I-5 South Multimodal Corridor Study conducted a detailed assessment of four railroad alignment alternatives, which include grade separated structures at E Street, H Street, and Palomar Street. Grade separated structures were considered at these locations because SANDAG has ranked E Street, H Street, and Palomar Street as priority locations for grade separated crossings, with Palomar Street ranking fourth on the priority list. The proposed grade separations at E Street, H Street, and Palomar Street are also included on the regional priority list for rail grade separation projects in the 2050 RTP in the Revenue Constrained Plan identified for construction from about year 2020 through year 2030. Eliminating the at-grade railroad crossings would be a practical alternative for improving traffic and transit operations.

SANDAG and the City of Chula Vista recently completed the Chula Vista Light Rail Corridor Improvements Project Study Report (T.Y. Lin International 2012) to evaluate the design alternatives for grade separating the light rail tracks from the roadway crossings at E Street, H Street, and Palomar Street. Alternatives being considered include elevating the tracks over the roadway; lowering the tracks under the roadway; and in the case of Palomar Street, lowering the roadway under the tracks. In preliminary studies, SANDAG has also identified that Express Trolley operations could be a potential benefit to ridership in this corridor. In addition to passenger operations, freight operations also use this corridor to exchange cargo with Mexico and serve local industries along the alignment. The I-5 South Multimodal Corridor Study evaluated alignment alternatives for adding a third mainline track for Express Trolley operations, as well as maintaining or increasing currently planned and future freight operations. Based on discussions with City staff, the I-5 South Multimodal Corridor Study recommends freight crossings to be at-grade. Figure 5.3-4 shows the existing transit network and the planned improvements.

5.3.1.5 Pedestrian and Bicycle Collisions

Figure 5.3-5 displays the pedestrian and bicycle collisions that occurred in the PGD between 2002 and 2007, based on the California Highway Patrol—Statewide Integrated Traffic Records System. The City's Bikeway Master Plan, adopted on February 1, 2011, provides similar updated data on bicycle-related collisions citywide and for the PGD area. As shown in Figure 5.3-5, multiple pedestrian collisions have occurred along Palomar Street. The abundance of driveways along Palomar Street exposes pedestrians to potential pedestrian-vehicle conflicts and the Palomar Street/Industrial Boulevard intersection is considered a high risk location given the at-grade trolley crossing conflicts associated with pedestrians and bicyclists.

Source: Linscott Law & Greenspan 2012

No Scale

N

EXISTING TRANSIT FACILITIES AND PLANNED IMPROVEMENTS
FIGURE 5.3-4

Source: Linscott Law & Greenspan 2012

No Scale

N

PEDESTRIAN AND BICYCLE COLLISIONS (2002-2007)
FIGURE 5.3-5

5.3.2 Regulatory Framework

5.3.2.1 Federal

A. Americans with Disabilities Act

The 1990 ADA is a wide-ranging civil rights law that prohibits, under certain circumstances, discrimination based on disability. Pedestrian facility design must comply with the accessibility standards identified in the ADA, which applies to all projects involving new or altered pedestrian facilities. The scoping and technical provisions for new construction and alterations identified in the ADA Accessibility Guidelines (Sections 4.3, 4.7, and 4.8) can be used to help design pedestrian facilities that are ADA compliant. For example, Title II-6.600 of the Technical Assistance Manual states, "When streets, roads, or highways are newly built or altered, they must have ramps or sloped areas whenever there are curbs or other barriers to entry from a sidewalk or path."

B. Highway Capacity Manual

The Highway Capacity Manual 2000 (HCM 2000), prepared by the federal Transportation Research Board (TRB), is the result of a collaborative multiagency effort between the TRB, Federal Highway Administration (FHWA), and American Association of State Highway and Transportation Officials (AASHTO). The HCM 2000 contains concepts, guidelines, and procedures for computing the capacity and quality of service of various highway facilities, including freeways, signalized and unsignalized intersections, rural highways, and the effects of transit, pedestrians, and bicycles on the performance of these systems.

C. Moving Ahead for Progress in the 21st Century Act

On July 6, 2012, the Moving Ahead for Progress in the 21st Century Act (MAP-21) was signed into law. Funding surface transportation programs at over $105 billion for FY 2013 and FY 2014, MAP-21 is the first long-term highway authorization enacted since 2005. MAP-21 represents a milestone for the U.S. economy and the Nation's surface transportation program – it provides needed funds and, more importantly, it transforms the policy and programmatic framework for investments to guide the growth and development of the country's vital transportation infrastructure. MAP-21 creates a streamlined, performance-based, and multimodal program to address the many challenges facing the U.S. transportation system, including improving safety, maintaining infrastructure, reducing traffic congestion, improving efficiency of the system and freight movement, protecting the environment, and reducing delays in project delivery. MAP-21 builds on and refines many of the highway, transit, bike, and pedestrian programs and policies established in 1991.

D. Safe Routes to School Program

In August 2005, the Federal-aid Safe Routes to School Program was created by Section 1404 of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). The Program makes funding available for a wide variety of programs and projects, from building safer street crossings to establishing programs that encourage children and their parents to walk and bicycle safely to school. The Safe Routes to School Program is funded by FHWA which allocates Safe Routes to School funding annually to each state in conjunction with Federal-aid Highway apportionments. The Safe Routes to School Program is managed and administered by each state's Department of Transportation and managed with specific procedures and requirements.

E. Highways Planning and Assistance Standards

Section 450.200 of Title 23 of the Code of Federal Regulations (CFR) requires each state to carry out a continuing, comprehensive, and intermodal statewide transportation planning process. This planning process must include the development of a statewide transportation plan and transportation improvement program that facilitates the efficient, economic movement of people and goods in all areas of the state. Section 450.320 of Title 23 of the CFR requires that each transportation management area address congestion management through a process (Congestion Management Process) involving an analysis of multimodal metropolitan-wide strategies that are cooperatively developed to foster safety and integrated management of new and existing transportation facilities eligible for federal funding.

SANDAG has been designated as the Transportation Management Agency for the San Diego region. The 2050 RTP meets the requirements of the Congestion Management Process by incorporating the following federal congestion management process: performance monitoring and measurement of the regional transportation system, multimodal alternatives and non-single occupant vehicle analysis, land use impact analysis, the provision of congestion management tools, and integration with the regional transportation improvement program process (SANDAG 2012a).

F. Federal Aviation Regulations Part 77

The FAA has primary responsibility for the safety of civil aviation. The FAA's major functions regarding hazards include the following: 1) developing and operating a common system of air traffic control and navigation for both civil and military aircraft, 2) developing and implementing programs to control aircraft noise and other environmental effects of civil aviation, 3) regulating U.S. commercial space transportation, and 4) conducting reviews to determine that the safety of persons and property on the ground are protected. Federal Aviation Regulations Part 77, Objects Affecting Navigable Airspace, establishes standards for determining obstructions in navigable airspace; sets forth the requirements for notice to the FAA of certain proposed construction or alteration; provides for aeronautical studies of obstructions to air navigation in order to determine their effect on the safe and efficient use of airspace; provides for public hearings on the hazardous effect of proposed construction or alteration on air navigation; and provides for establishing antenna farm areas. FAA Form 7460-1, Notice of Proposed Construction or Alteration, must be filed with the FAA regional office prior to construction of buildings that are 200 feet or higher above the graded terrain. Minimum FAA safety standards include the marking or lighting of any structures 200 feet in height or greater from the graded terrain.

5.3.2.2 State

A. Assembly Bill 1358, California Complete Streets Act

Assembly Bill 1358, the California Complete Streets Act of 2008, was passed into law on September 30, 2008. As of January 1, 2011, the law requires "the legislative body of a city or county, upon any substantive revision of the circulation element of the general plan, modify the circulation element to plan for a balanced, multimodal transportation network that meets the needs of all users of streets, roads, and highways, defined to include motorists, pedestrians, bicyclists, children, persons with disabilities, seniors, movers of commercial goods, and users of public transportation, in a manner that is suitable to the rural, suburban, or urban context of the general plan." Implementing complete streets also supports Assembly Bill 32 (California Global Warming Solutions Act) and Senate Bill 375 (Sustainable Communities and Climate Protection Act).

B. California Department of Transportation Standards

Caltrans is responsible for planning, designing, building, operating, and maintaining California's state road system. Caltrans sets standards, policies, and strategic plans that aim to do the following: 1) provide the safest transportation system in the nation for users and workers, 2) maximize transportation system performance and accessibility, 3) efficiently deliver quality transportation projects and services, 4) preserve and enhance California's resources and assets, and 5) promote quality service. Caltrans has the discretionary authority to issue special permits for the use of state highways for other than normal transportation purposes. Caltrans also reviews all requests from utility companies, developers, volunteers, nonprofit organizations, and others desiring to conduct various activities within state highway rights-of-way. The Caltrans Highway Design Manual, prepared by the Office of Geometric Design Standards (Caltrans 2009), establishes uniform policies and procedures to carry out highway design functions. Caltrans has also prepared a Guide for the Preparation of Traffic Impact Studies (Caltrans 2002). Objectives for the preparation of this guide include providing consistency and uniformity in the identification of traffic impacts generated by local land use proposals.

C. California Department of Transportation Deputy Directive 64-R1

In accordance with Deputy Directive 64-R1, Complete Streets – Integrating the Transportation System, providing "complete streets" is Caltrans policy. A complete street is defined as a transportation facility that is planned, designed, operated, and maintained to provide safe mobility for all users, including bicyclists, pedestrians, transit riders, and motorists appropriate to the function and context of the facility. The intent of this directive is to ensure that travelers of all ages and abilities can move safely and efficiently along and across a network of complete streets. The multimodal approach of the complete streets policy leads to a seamless, interconnected transportation system.

D. Statewide Transportation Improvement Program

The California 2010 Statewide Transportation Improvement Program (STIP), approved by the U.S. Department of Transportation in October 2009, is a multi-year, statewide, intermodal program of transportation projects that is consistent with the statewide transportation plan and planning processes, metropolitan plans, and Title 23 of the CFR. The STIP is prepared by Caltrans in cooperation with the Metropolitan Planning Organizations (MPO) and the regional transportation planning agencies. In San Diego County, the MPO and regional transportation planning agency is SANDAG. The STIP contains all capital and non-capital transportation projects or identified phases of transportation projects for funding under the Federal Transit Act and Title 23 of the CFR, including federally funded projects.

E. Transportation Development Act

The Transportation Development Act (TDA) provides two major sources of funding for public transportation: the Local Transportation Fund (LTF) and the State Transit Assistance (STA) Fund. These funds are for the development and support of public transportation needs that exist in California and are allocated to areas of each county based on population, taxable sales, and transit performance. Some counties have the option of using LTF for local streets and roads projects, if they can show there are no unmet transit needs. The Caltrans Division of Mass Transportation, State Grants Branch provides oversight of the public hearing process used to identify unmet transit needs and ensures local planning agencies complete performance audits required for participation in the TDA.

5.3.2.3 Regional

A. SANDAG Regional Transportation Plan

SANDAG, as the MPO and the Regional Transportation Planning Agency for the San Diego region, develops the RTP. The 2050 RTP (SANDAG 2011a) is the blueprint for a regional transportation system that further enhances our quality of life, promotes sustainability, and offers more mobility options for people and goods by developing an integrated, multimodal transportation system. The RTP is a long-range plan built on a set of integrated public policies, strategies, and investments to maintain, manage, and improve the transportation system so it meets the diverse mobility needs of our changing region through 2050. The goals of the RTP are structured into two overarching themes: 1) Quality of Travel and Livability, and 2) Sustainability. Quality of Travel and Livability relates to how the transportation system functions from the customers' perspective, and focuses on providing mobility, reliability, and system preservation and safety. Sustainability relates to making progress simultaneously in promoting social equity, a healthy environment, and a prosperous economy from a regional perspective. The RTP's vision for transportation supports the region's comprehensive strategy to promote smarter, more sustainable growth. On December 3, 2012, the San Diego Superior Court found the 2050 RTP to be inadequate with respect to the analysis of greenhouse gas emissions. The 2050 RTP and 2050 RTP EIR may be revised based on this ruling.

State Proposition 111, passed by voters in 1990, established a requirement that urbanized areas prepare and regularly update a Congestion Management Program (CMP), which is a part of the RTP. The purpose of the state-mandated CMP is to monitor the performance of the roadway transportation system, develop programs to address near-term and long-term congestion, and better integrate transportation and land use planning. By addressing congestion early through the CMP, larger future problems that would require more expensive solutions can be avoided. In the short-term, the CMP serves as an element of the RTP, focusing on congestion management strategies that can be implemented in advance of the long- range transportation solutions contained within the RTP. SANDAG, as the designated Congestion Management Agency for the San Diego region, must develop, adopt, and regularly update the CMP, which includes six specific components as described below:

- Roadway Monitoring. Designate a CMP roadway system, establish a level of service standard for the system, and monitor congestion levels against the standard.
- Multimodal Performance Measures. Establish performance measures to evaluate the region's multimodal transportation system.
- Transportation Demand Management. Establish a transportation demand management element that promotes alternative transportation strategies.
- Land Use Impact Analysis. Establish a program to analyze the effects of local land use decisions on the CMP transportation system.
- Capital Improvement Program. Prepare a capital improvement program of projects that maintains or improves the performance of the transportation system.
- Deficiency Plan. Prepare a plan of remedial actions when the roadway level of service standard is not maintained on the designated CMP roadway system.

SANDAG provided regular updates for the State CMP from 1991 through 2008. In October 2009, the San Diego region elected to be exempt from the State CMP and, since this decision, SANDAG has been abiding by 23 CFR 450.320 to ensure the region's continued compliance with the federal congestion management process.

B. SANDAG Regional Transportation Improvement Program

The Regional Transportation Improvement Program (RTIP) is a multi-year program of proposed major highway, arterial, transit, and bikeway projects. The RTIP is designed to prioritize and implement the region's overall strategy for providing mobility and improving the efficiency and safety of efforts to attain federal and state air quality standards. The 2010 RTIP (SANDAG 2010), which covers fiscal years 2011 to 2015, incrementally develops the long-range plan of the 2050 RTP.

5.3.2.4 Local

A. City of Chula Vista General Plan

The Land Use and Transportation Element of the Chula Vista General Plan includes the following objective and policies for mobility in the Southwest Planning Area, which includes the PGD:

Objective LUT 38
Provide a multimodal transportation system to serve the Southwest Planning Area.

Policy LUT 38.1: Support the implementation of enhanced transit service concepts within the Southwest Planning Area.

Policy LUT 38.2: Develop an overall transportation system plan and standards, including an evaluation of transit service levels, to address mobility and accessibility between eastern and western Chula Vista as it affects the Southwest Planning Area, and linkages between downtown and the Southwest Planning Area.

Policy LUT 38.3: Provide sidewalks throughout the main thoroughfares, such as Palomar Street and Third Avenue.

Policy LUT 38.5: Provide park and ride access at the Palomar Trolley Station and other major transit stations.

B. City of Chula Vista Pedestrian Master Plan

The 2010 Chula Vista Pedestrian Master Plan presents a long-range vision that will guide the development of the City's pedestrian facilities over the next 20 years. The Plan was developed under the guidance of City staff with advice from the citizen-based Project Working Group and public input. The Plan reflects insights derived from each of these sources and seeks to achieve the overall goals of the Plan, which include the following:

- A safe and accessible pedestrian network that provides connectivity between residential areas, activity centers and transit
- A vibrant pedestrian-oriented development pattern that encourages people to walk and promotes community interaction
- Citizens are aware of pedestrian issues, accommodate pedestrians when driving and are aware of the many benefits walking affords

These Plan goals are intended to compliment various General Plan goals that related to the pedestrian environment.

C. City of Chula Vista Bikeway Master Plan

The 2011 Chula Vista Bikeway Master Plan is an update to the 2005 Bikeway Master Plan which is intended to fulfill the project scope requirements discussed below and to maintain City compliance with California Streets and Highways Code, Section 891.2 requirements for bicycle transportation plans. The overall approach for the Master Plan is summarized in the following paragraphs. The approaches listed below also constitute the planning goals for this study:

- The bicycle master plan should be integrated into all transportation plans, especially if the proposed bicycle facilities will use general purpose roads shared with other forms of transportation.
- The planning efforts should include the integration of various modes of transportation including transfers between modes at transit centers and park and ride facilities.
- The aim of planning for bicycles should not be focused on any particular facility type so much as it should be focused on the safe and efficient travel of cyclists. This will generally require both the use of the existing transportation infrastructure and the construction of special facilities for cyclists.
- The maintenance of bicycle facilities and the monitoring and assessment of their performance are critical for ensuring safe and efficient travel for cyclists. Planning for cyclists is an ongoing process.
- The coexistence of cyclists and drivers on roads requires that both are sensitive to and recognize a common set of rules. Training, education and enforcement are as important as physical planning and design.
- It is imperative that a “bicycle perspective” guides any planning for cyclists. The bicycle has its own characteristics, constraints and opportunities that the planner must consider. This must be combined with the recognition that cyclists do not form a homogeneous group in terms of age, ability, experience or traffic judgment.
- An integration of land use planning and transportation planning is needed to support future projects that are not intensively dependent on the automobile. This study needs to take into account future land use and population projections and provide bicycle facilities to help decrease auto dependence.

5.3.3 Criteria for Determination of Significance

According to Appendix G of the CEQA Guidelines, a significant impact related to transportation, circulation, and access would occur if implementation of the proposed project would:

- Criterion 1: Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit.
- Criterion 2: Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways.

- Criterion 3: Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.
- Criterion 4: Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
- Criterion 5: Result in inadequate emergency access.
- Criterion 6: Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

5.3.4 Impacts

5.3.4.1 Traffic and Level of Service Standards

Criterion 1: Would the project conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?

Criterion 2: Would the project conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?

A. Traffic Impact Criteria

Traffic impacts will be defined as either project-specific impacts or cumulative impacts. Project-specific impacts are those impacts for which the addition of project trips results in an identifiable degradation in level of service on roadway facilities, triggering the need for specific project-related improvement strategies. Cumulative impacts are those in which the project trips contribute to a poor level of service, at a nominal level. Criteria for determining whether the project results in either project-specific or cumulative impacts on roadway segments or intersections have been identified for short-term and long-term impacts. As described below, these criteria are based on the 20-year planning horizon for the PGDSP. Short-term impacts would occur during the first four years of PGDSP implementation, while long-term impacts would occur beginning five years after adoption of the PGDSP and continue through the remainder of the 20-year planning horizon.

1. Short-Term Impacts (Study Horizon Year 0 to 4)

For purposes of the short-term analysis, roadway sections may be defined as either links or segments. A link is typically that section of roadway between two adjacent Circulation Element intersections and a segment is defined as that combination of contiguous links used in the Growth Management Plan Traffic Monitoring Program. Analysis of roadway links under short-term conditions may require a more detailed analysis using the GMOC methodology if the typical planning analysis using volume to capacity ratios on an individual link indicates a potential impact to that link. The GMOC analysis uses the Highway Capacity Manual methodology of average travel speed based on actual measurements on the segments as listed in the Growth Management Plan Traffic Monitoring Program.

a. Intersections

a) Project-specific impact if both the following criteria are met:
   i. Level of service is LOS E or LOS F.
   ii. Project trips comprise five percent or more of entering volume.

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

b. Street Links/Segments

If the planning analysis using the volume to capacity ratio indicates LOS C or better, there is no impact. If the planning analysis indicates LOS D, LOS E, or LOS F, the GMOC method may be utilized.

a) Project-specific impact if all the following criteria are met:
   i. Level of service is LOS D for more than two hours or LOS E/LOS F for one hour or more (GMOC method only).
   ii. Project trips comprise five percent or more of segment volume.
   iii. Project adds greater than 800 ADT to the segment.

b) Cumulative impact if only criteria (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 a segment operates at LOS F, the impact is significant regardless of intersection level of service.

2. Long-Term Impacts (Study Horizon Year 5 and Later)

a. Intersections

a) Project-specific impact if both the following criteria are met:
   i. Level of service is LOS E or LOS F.
   ii. Project trips comprise five percent or more of entering volume.

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

b. Street Links/Segments

Utilize the planning analysis applying the volume to capacity ratio methodology only. The GMOC analysis methodology is not applicable beyond a 4-year horizon.

a) Project-specific impact if all the following criteria are met:
   i. Level of service is LOS D, LOS E, or LOS F.
   ii. Project trips comprise five percent or more of segment volume.
   iii. Project adds greater than 800 ADT to the segment.

b) Cumulative impact if only criteria (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 a segment operates at LOS F, the impact is significant regardless of intersection level of service.

Notwithstanding the foregoing, if the impact identified in paragraph a) above occurs at study horizon year 10 or later, and is offsite and not adjacent to the project, the impact is considered cumulative.

In the event a project-specific impact is identified per paragraph a) above at study horizon year 5 or earlier, and the impact is off site and not adjacent to the project, but the property immediately adjacent to the identified project-specific impact is also proposed to be developed in approximately the same time frame, an additional analysis may be required to determine whether or not the identified project-specific impact would still occur if the development of the adjacent property does not take place. The additional analysis would occur as part of project-specific environmental review. If the additional analysis concludes that the identified project-specific impact is no longer a project-specific impact, then the impact shall be considered cumulative. Cumulative traffic impacts are discussed in Chapter 6 of this EIR.

B. Trip Generation

The trip generation for the PGDSP is based on the proposed land use types and densities. Because the PGDSP offers mixed-use and transit opportunities with planned pedestrian and bicycle connectivity surrounding the Palomar Transit Station, adjustments for mixed-use (five percent credit) and transit (10 percent credit) were applied, where applicable and without deviation, per the SANDAG Trip Generation Rates. Considering the PGD is planned to be a dense suburban setting with many modal choices available, such an approach is considered conservative. Based on this approach, it was projected that PGDSP build-out would generate 12,550 total net new trips, including 912 trips (304 in/608 out) during the AM peak hour and 1,242 trips (761 in/481 out) during the PM peak hour. For a detailed breakdown of trip generation by PGDSP sub-districts/land use, refer to Table 4 of the Mobility Study (LLG 2012), which is provided as Appendix B of this EIR. Figure 5.3-6 illustrates the project-related traffic volumes.

C. Existing + Project Operations

Intersection capacity analyses were conducted for the study intersections under Existing + Project conditions. Figure 5.3-7 illustrates the Existing + Project traffic volumes. Table 5.3-3 summarizes the Existing + Project intersection operations during peak hour conditions. As shown in Table 5.3-3, all study area intersections are calculated to operate at LOS D or better, with the exception of the following:

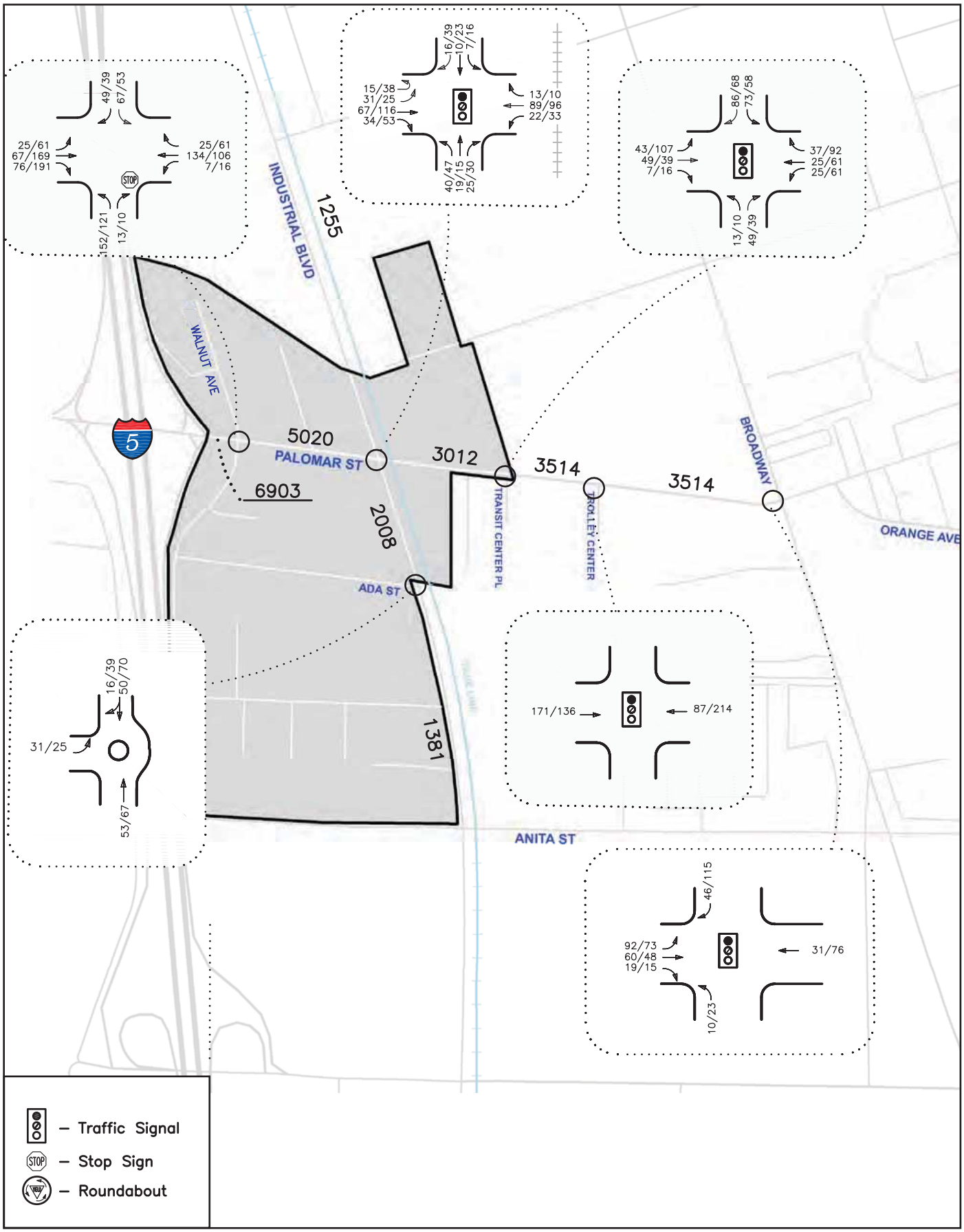
- Walnut Avenue/Palomar Street: LOS F—AM and PM peak periods
- Industrial Boulevard/Palomar Street (at-grade trolley): LOS E—PM peak period

Based on City's significance criteria, significant project-specific impacts are identified at both of the intersections listed above.

Street segment analyses were conducted for the roadways in the PGD for the Existing + Project scenario. Table 5.3-4 summarizes the Existing + Project street segment operations on a daily basis. As shown in Table 5.3-4, the following street segments are calculated to operate at LOS E or LOS F:

- Palomar Street—I-5 to Walnut Avenue: LOS F
- Palomar Street—Walnut Avenue to Industrial Boulevard (at-grade trolley): LOS E
- Palomar Street—Industrial Boulevard to Transit Center Place (at-grade trolley): LOS E

Based on City's significance criteria, significant project-specific impacts are identified at all of the above street segments.

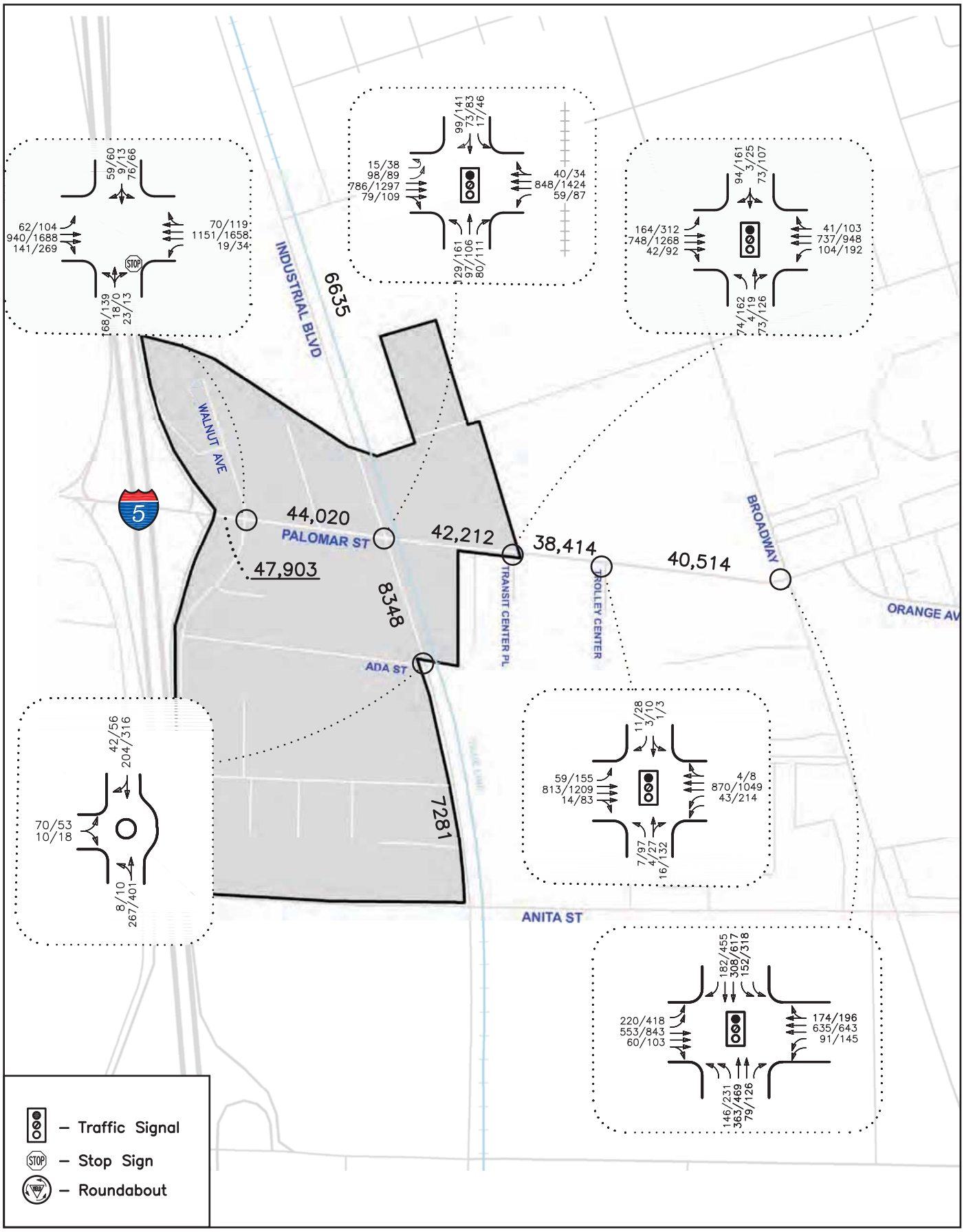


Source: Linscott Law & Greenspan 2012

Not to Scale

N

PROJECT TRAFFIC VOLUMES
FIGURE 5.3-6



Source: Linscott Law & Greenspan 2012

Not to Scale

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EXISTING PLUS PROJECT TRAFFIC VOLUMES
FIGURE 5.3-7

Table 5.3-3 Existing + Project Intersection Operations

Intersection	Peak Hour	Existing		Existing + Project			Impact
		Average Delay (seconds)	LOS	Average Delay (seconds)	LOS	Δ[1]	
Walnut Avenue/Palomar Street	AM	> 100	F	> 100	F	615 (22.5%)	**Project-Specific**
	PM	> 100	F	> 100	F	826 (19.8%)	**Project-Specific**
Industrial Boulevard/Palomar Street (at-grade trolley)	AM	39.8[2]	D	45.2[2]	D	388 (16.0%)	None
	PM	44.4[2]	D	55.7[2]	E	541 (14.5%)	**Project-Specific**
Transit Center Place/Palomar Street	AM	10.3	B	14.5	B	407 (18.9%)	None
	PM	22.8	C	26.9	C	551 (15.7%)	None
Trolley Center/Palomar Street	AM	8.0	A	7.8	A	257 (13.9%)	None
	PM	13.4	B	15.1	B	349 (11.6%)	None
Broadway/Palomar Street	AM	22.5	C	23.5	C	259 (8.7%)	None
	PM	27.3	C	29.3	C	352 (7.7%)	None
Ada Street/Industrial Boulevard	AM	0.18[3]	A	0.23[3]	A	148 (24.6%)	None
	PM	0.33[3]	A	0.34[3]	A	201 (23.5%)	None

[1] "**Δ**" denotes the project-induced traffic increase in trips entering the intersection (X% = percentage of total entering trips comprised of project trips).
[2] 24 seconds of delay added to account for the trolley crossing at this intersection.
[3] Synchro does not present vehicular delays at roundabouts; therefore, maximum volume to capacity ratio is reported.
Source: LLG 2012

Table 5.3-4 Existing + Project Street Segment Operations

Street Segment	Capacity (LOS C)[1]	Existing			Existing + Project				Impact
		ADT	V/C	LOS	ADT	V/C	LOS	Δ[2]	
Palomar Street—I-5 to Walnut Avenue	35,000	41,000	1.171	E	47,903	1.369	F	6,903 (14.4%)	**Project-Specific**
Palomar Street—Walnut Avenue to Industrial Boulevard (at-grade trolley)	36,000[4]	39,000	1.083	D	44,020	1.223	E	5,020 (11.4%)	**Project-Specific**
Palomar Street—Industrial Boulevard to Transit Center Place (at-grade trolley)	36,000[4]	39,000	1.089	D	42,212	1.173	E	3,012 (7.1%)	**Project-Specific**
Palomar Street—Transit Center Place to Trolley Center	40,000	34,900	0.872	B	38,414	0.953	C	3,514 (9.1%)	None
Palomar Street—Trolley Center to Broadway	40,000	37,000	0.925	C	40,514	1.013	D	3,514 (8.7%)	None[5]
Industrial Boulevard[3]—North of Palomar Street (at-grade trolley)	10,500[4]	5,380	0.512	A	6,635	0.632	A	1,255 (18.9%)	None
Industrial Boulevard[3]—Palomar Street to Ada Street (at-grade trolley)	10,500[4]	6,340	0.603	A	8,348	0.795	B	2,008 (24.1%)	None
Industrial Boulevard[3]—Ada Street to Anita Street	12,000	5,900	0.491	A	7,281	0.607	A	1,381 (19.0%)	None

[1] Capacities based on Chula Vista Roadway Classification Table.
[2] "**Δ**" denotes the project-induced traffic increase in trips entering the intersection (X% = percentage of total entering trips comprised of project trips).
[3] Industrial Boulevard analyzed using the Class II Collector roadway classification.
[4] To account for the at-grade trolley crossings, segment capacity has been reduced by 10 percent.
[5] Based on the City of Chula Vista significance criteria, no significant impact is calculated on this segment because the intersections adjacent to this segment are calculated to operate at LOS D or better.
Source: LLG 2012

D. Year 2020 Traffic Volumes and Operations

It is unknown when the first or any subsequent PGDSP development projects will be constructed, where they will be located, and what types of specific uses they will include. The Mobility Study analyzes the PGDSP project at a programmatic level assuming the build-out of approved General Plan land uses and not individual pending projects. This is consistent with Section 15146(b) of the CEQA Guidelines, which states that an EIR on a project such as the adoption of a general plan [or specific plan] should focus on secondary effects that can be expected to follow from the plan's adoption, but the EIR need not be as detailed as that for a specific construction project. Therefore, the Mobility Study analyzed the PGDSP land uses with a straight line growth assumption added to the proposed land uses to obtain Year 2020 and Year 2030 traffic volumes.

To develop Year 2020 traffic volumes, the Year 2030 traffic volumes were derived from the SANDAG Southbay traffic model (baseline scenario) for Chula Vista. Year 2020 traffic volumes were then interpolated and developed based on existing and Year 2030 traffic volumes. Based on the interpolated forecast ADT volumes, the Year 2020 peak hour volumes were calculated based on the existing relationship between ADT and peak hour volumes. The forecast volumes were checked for consistency between intersections, where no driveways or roadways exist between intersections, and were compared to existing volumes for accuracy.

The forecast volumes were also checked for growth progression in comparison to Existing and Existing + Project traffic volumes. The near-term project traffic volumes assignment was conducted manually and does not fully take into account the synergies between the different land uses and the benefit of the adjacent Palomar Transit Station. By way of comparison, the forecast volumes were developed based on a traffic model that provides trip matching based on various inputs such as population, land uses, and roadway network and accounts for the mixed use and transit interaction between the different uses. Therefore, some of the traffic volumes in the Existing + Project analysis may be calculated to be higher than the forecast volumes. This approach results in a conservative near-term analysis. All future scenarios assumed full build-out of the proposed PGDSP land uses. Figure 5.3-8 displays the Year 2020 forecast roadway conditions and traffic volumes.

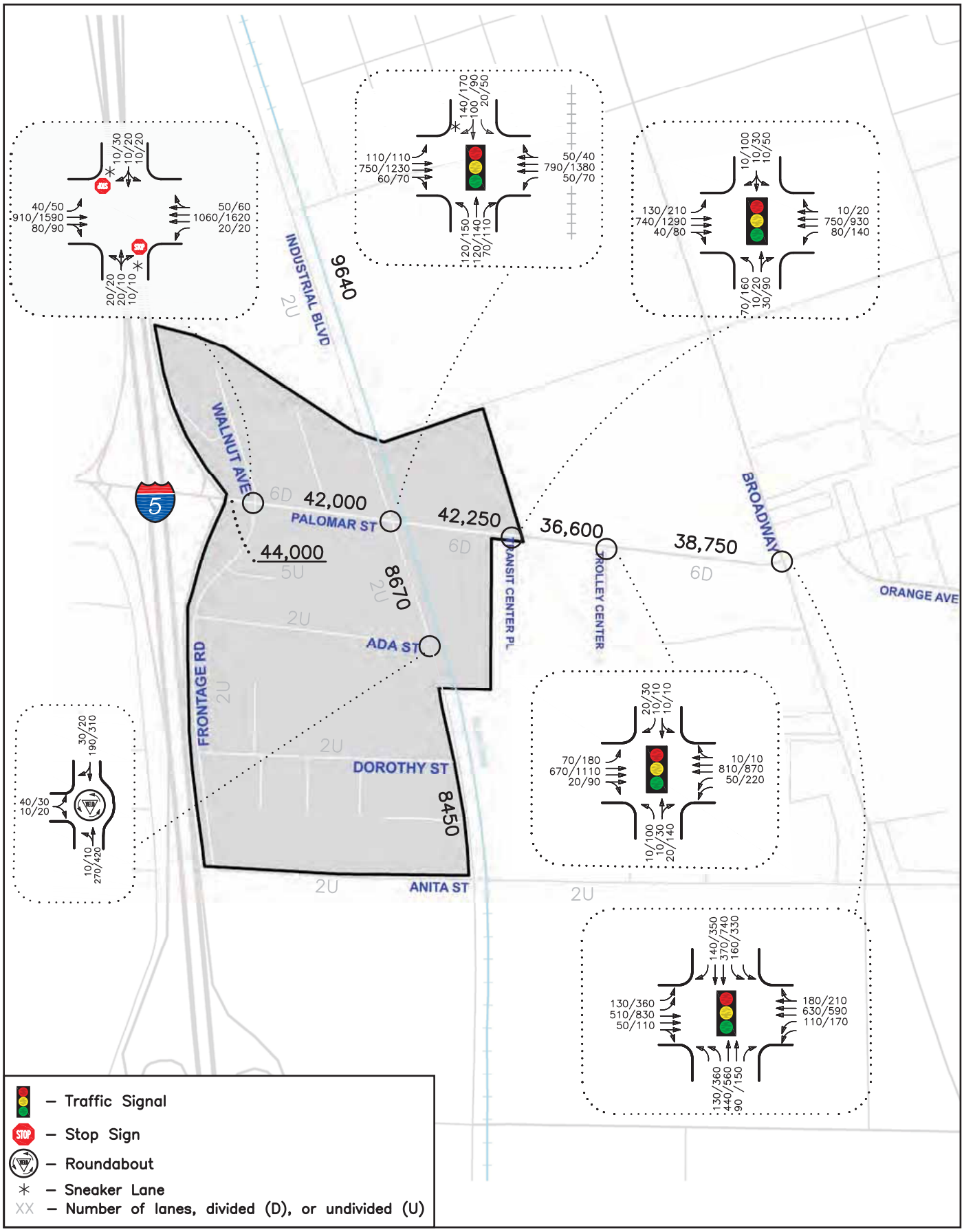
Intersection capacity analyses were conducted for the study intersections under Year 2020 conditions. Table 5.3-5 summarizes the Year 2020 intersection operations during peak hour conditions. As shown in Table 5.3-5, all study intersections are calculated to operate at LOS D or better, with the exception of the following:

- Walnut Avenue/Palomar Street: LOS F—AM and PM peak periods
- Industrial Boulevard/Palomar Street (at-grade trolley): LOS E—PM peak period

Street segment analyses were conducted for roadways in the PGD for the Year 2020 scenario. Table 5.3-6 summarizes the Year 2020 street segment operations on a daily basis. As shown in Table 5.3-6, all street segments are calculated to operate at LOS D or better, with the exception of the following:

- Palomar Street—Walnut Avenue to Industrial Boulevard (at-grade trolley): LOS E
- Palomar Street—Industrial Boulevard to Transit Center Place (at-grade trolley): LOS E

Due to the conflicts of at-grade trolley crossings with vehicular traffic in this corridor, poor street segment operations are calculated in the Year 2020. As trolley and vehicular traffic demands increase over time, operations on Palomar Street will continue to degrade.



Source: Linscott Law & Greenspan 2012

Not to Scale

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YEAR 2020 ROADWAY CONDITIONS AND TRAFFIC VOLUMES
FIGURE 5.3-8

Table 5.3-5 Year 2020 Intersection Operations

Intersection	Peak Hour	Existing		Year 2020	
		Average Delay (seconds)	LOS	Average Delay (seconds)	LOS
Walnut Avenue/Palomar Street	AM	> 100	F	> 100	F
	PM	> 100	F	> 100	F
Industrial Boulevard/Palomar Street					
(grade-separated trolley)	AM	15.8	B	20.2	C
	PM	20.4	C	32.2	C
(at-grade trolley)	AM	39.8[1]	D	50.2[1]	D
	PM	44.4[1]	D	62.2[1]	E
Transit Center Place/Palomar Street	AM	10.3	B	11.4	B
	PM	22.8	C	22.9	C
Trolley Center/Palomar Street	AM	8.0	A	9.6	A
	PM	13.4	B	14.6	B
Broadway/Palomar Street	AM	22.5	C	23.4	C
	PM	27.3	C	29.6	C
Ada Street/Industrial Boulevard	AM	0.18[2]	A	0.23[2]	A
	PM	0.33[2]	A	0.35[2]	A

[1] 24 and 30 seconds of delay added to the Existing and Year 2020 scenarios, respectively, to account for the trolley crossing at this intersection.
[2] Synchro does not present vehicular delays at roundabouts; therefore, maximum volume to capacity ratio is reported.
Source: LLG 2012

Table 5.3-6 Year 2020 Street Segment Operations

Street Segment	Build-Out Capacity (LOS C)[1]	Existing			Year 2020		
		ADT	V/C	LOS	ADT	V/C	LOS
Palomar Street—I-5 to Walnut Avenue	40,000[3]	41,000	1.171	E	44,000	1.100	D
Palomar Street—Walnut Avenue to Industrial Boulevard							
(grade-separated trolley)	40,000	39,000	0.975	C	42,000	1.050	D
(at-grade trolley)	36,000[4]	39,000	1.083	D	42,000	1.200	E
Palomar Street—Industrial Boulevard to Transit Center Place							
(grade-separated trolley)	40,000	39,200	0.980	C	42,250	1.056	D
(at-grade trolley)	36,000[4]	39,000	1.089	D	42,250	1.207	E
Palomar Street—Transit Center Place to Trolley Center	40,000	34,900	0.872	B	36,600	0.915	C
Palomar Street—Trolley Center to Broadway	40,000	37,000	0.925	C	38,750	0.968	C
Industrial Boulevard[2]—North of Palomar Street							
(grade-separated trolley)	12,000	5,380	0.448	A	9,640	0.803	B
(at-grade trolley)	10,500[4]	5,380	0.512	A	9,640	0.918	C
Industrial Boulevard[2]—Palomar Street to Ada Street							
(grade-separated trolley)	12,000	6,340	0.528	A	8,670	0.722	A
(at-grade trolley)	10,500[4]	6,340	0.603	A	8,670	0.825	B
Industrial Boulevard[2]—Ada Street to Anita Street	12,000	5,900	0.491	A	8,450	0.704	A

[1] Roadway classification based on the Chula Vista Circulation Plan. Capacities based on Chula Vista Roadway Classification Table.
[2] Industrial Boulevard analyzed using the Class II Collector roadway classification.
[3] Palomar Street between I-5 and Walnut Avenue classified as a 6-Lane Major in the Chula Vista Circulation Plan.
[4] To account for the at-grade trolley crossings, segment capacity has been reduced by 10 percent.
Source: LLG 2012

E. Year 2030 Traffic Volumes and Operations

Year 2030 traffic volumes were developed based on the SANDAG Southbay traffic model (baseline scenario) for Chula Vista. The Southbay traffic model was reviewed and verified to include the build-out of the PGDSP. The Southbay traffic model includes Year 2030 ADT volumes. The forecast ADT volumes were then used to calculate peak hour volumes based on the existing relationship between ADT and peak hour volumes. The forecast volumes were checked for consistency between intersections where no driveways or roadways exist and were compared to existing volumes for accuracy. All future scenarios assumed full build-out of the proposed PGDSP land uses. Figure 5.3-9 displays the Year 2030 forecast traffic volumes.

Intersection capacity analyses were conducted for the study area intersections under Year 2030 conditions. Table 5.3-7 summarizes the Year 2030 intersection operations during peak hour conditions. As shown in Table 5.3-7, all study intersections are calculated to operate at LOS D or better in Year 2030, with the exception of the following:

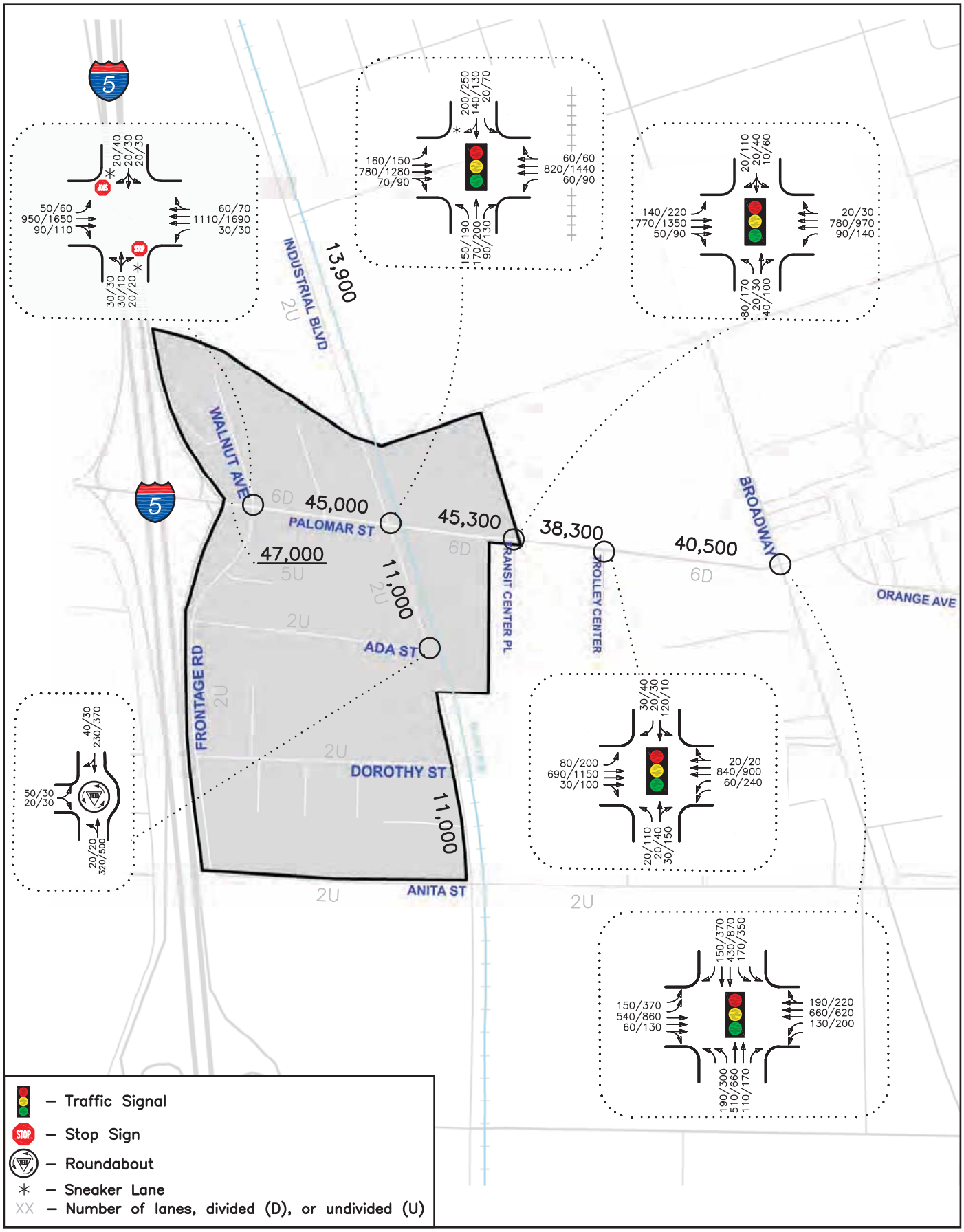
- Walnut Avenue/Palomar Street: LOS F—AM and PM peak periods
- Industrial Boulevard/Palomar Street (at-grade trolley): LOS E—AM and PM peak periods

Under the grade-separated trolley alternative, the Industrial Boulevard/Palomar Street intersection is calculated to operate at LOS D or better. The grade-separated alternative removes vehicle-trolley conflicts, thereby improving vehicular delay and traffic operations on Palomar Street and Industrial Boulevard.

Table 5.3-7 Year 2030 Intersection Operations

Intersection	Peak Hour	Existing		Year 2020		Year 2030	
		Average Delay (seconds)	LOS	Average Delay (seconds)	LOS	Average Delay (seconds)	LOS
Walnut Avenue/Palomar Street	AM	> 100	F	> 100	F	> 100	F
	PM	> 100	F	> 100	F	> 100	F
Industrial Boulevard/Palomar Street							
(grade-separated trolley)	AM	15.8	B	20.2	C	26.9	C
	PM	20.4	C	32.2	C	40.9	D
(at-grade trolley)	AM	39.8[1]	D	50.2[1]	D	62.9[1]	E
	PM	44.4[1]	D	62.2[1]	E	76.9[1]	E
Transit Center Place/Palomar Street	AM	10.3	B	11.4	B	12.2	B
	PM	22.8	C	22.9	C	22.9	C
Trolley Center/Palomar Street	AM	8.0	A	9.6	A	11.5	B
	PM	13.4	B	14.6	B	15.9	B
Broadway/Palomar Street	AM	22.5	C	23.4	C	25.4	C
	PM	27.3	C	29.6	C	33.8	C
Ada Street/Industrial Boulevard	AM	0.18[2]	A	0.23[2]	A	0.28[2]	A
	PM	0.33[2]	A	0.35[2]	A	0.42[2]	B

[1] 24, 30, and 36 seconds of delay added to the Existing, Year 2020, and Year 2030 scenarios, respectively, to account for the trolley crossing at this intersection.
[2] Synchro does not present vehicular delays at roundabouts; therefore, maximum volume to capacity ratio is reported.
Source: LLG 2012



Source: Linscott Law & Greenspan 2012

Not to Scale

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YEAR 2030 ROADWAY CONDITIONS AND TRAFFIC VOLUMES
FIGURE 5.3-9

Street segment analyses were conducted for roadways in the PGD for the Year 2030 scenario. Table 5.3-8 summarizes Year 2030 street segment operations on a daily basis. As shown in Table 5.3-8, the following street segments are calculated to operate at LOS E or LOS F in Year 2030:

- Palomar Street—I-5 to Walnut Avenue: LOS E
- Palomar Street—Walnut Avenue to Industrial Boulevard (at-grade trolley): LOS E
- Palomar Street—Industrial Boulevard to Transit Center Place (grade-separated trolley and at-grade trolley): LOS E and LOS F, respectively
- Industrial Boulevard—North of Palomar Street (grade-separated trolley and at-grade trolley): LOS E and LOS F, respectively

Table 5.3-8 Year 2030 Street Segment Operations

Street Segment	Build-Out Capacity (LOS C)[1]	Existing			Year 2020			Year 2030		
		ADT	V/C	LOS	ADT	V/C	LOS	ADT	V/C	LOS
Palomar Street—I-5 to Walnut Avenue	40,000[3]	41,000	1.171	E	44,000	1.100	D	47,000	1.175	E
Palomar Street—Walnut Avenue to Industrial Boulevard										
(grade-separated trolley)	40,000	39,000	0.975	C	42,000	1.050	D	45,000	1.125	D
(at-grade trolley)	36,000[4]	39,000	1.083	D	42,000	1.200	E	45,000	1.285	E
Palomar Street—Industrial Boulevard to Transit Center Place										
(grade-separated trolley)	40,000	39,200	0.980	C	42,250	1.056	D	45,300	1.132	E
(at-grade trolley)	36,000[4]	39,000	1.089	D	42,250	1.207	E	45,300	1.294	F
Palomar Street—Transit Center Place to Trolley Center	40,000	34,900	0.872	B	36,600	0.915	C	38,300	0.957	C
Palomar Street—Trolley Center to Broadway	40,000	37,000	0.925	C	38,750	0.968	C	40,500	1.012	D
Industrial Boulevard[2]—North of Palomar Street										
(grade-separated trolley)	12,000	5,380	0.448	A	9,640	0.803	B	13,900	1.158	E
(at-grade trolley)	10,500[4]	5,380	0.512	A	9,640	0.918	C	13,900	1.323	F
Industrial Boulevard[2]—Palomar Street to Ada Street										
(grade-separated trolley)	12,000	6,340	0.528	A	8,670	0.722	A	11,000	0.916	C
(at-grade trolley)	10,500[4]	6,340	0.603	A	8,670	0.825	B	11,000	1.047	D
Industrial Boulevard[2]—Ada Street to Anita Street	12,000	5,900	0.491	A	8,450	0.704	A	11,000	0.916	C

[1] Roadway classification based on the Chula Vista Circulation Plan. Capacities based on Chula Vista Roadway Classification Table.
[2] Industrial Boulevard analyzed using the Class II Collector roadway classification.
[3] Palomar Street between I-5 and Walnut Avenue classified as a 6-Lane Major in the Chula Vista Circulation Plan.
[4] To account for the at-grade trolley crossings, segment capacity has been reduced by 10 percent.
Source: LLG 2012

5.3.4.2 Air Traffic Patterns

Criterion 3: Would the project result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

Impacts related to aircraft traffic patterns are assessed based on the Air Installations Compatible Use Zones for Naval Outlying Field Imperial Beach (U.S. Department of Defense 2011). The project site is located 2.6 miles northeast of Naval Outlying Field Imperial Beach, which is the closest airfield to the PGD. The PGD is subject to periodic over-flights and flyovers of aircraft from Naval Outlying Field Imperial Beach. However, the project site is not located within the Clear Zones or Accident Potential Zones for the runways at Naval Outlying Field Imperial Beach. Due to existing development in the PGD, it is not foreseeable that additional aviation uses would be introduced in the immediate project area. In

addition, PGDSP implementation would not result in a significant impact on future air traffic operations. Furthermore, the PGDSP development regulations specify a maximum building height of up to 60 feet, such that new buildings would not create obstructions to air navigation. Thus, implementation of the proposed PGDSP would not result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks. Impacts would be less than significant.

5.3.4.3 Traffic Hazards

Criterion 4: Would the project substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

As discussed in Section 5.3.1.5 above, the existing condition of the PGD contains potential hazards associated with vehicle-trolley-bicycle-pedestrian conflicts. The additional growth allowable under the PGDSP would increase the potential for conflicts to occur. Multiple pedestrian and bicycle collisions have occurred along segments of Palomar Street and Industrial Boulevard in the PGDSP. The abundance of driveways along Palomar Street exposes pedestrians to potential pedestrian-vehicle conflicts. The Palomar Street/Industrial Boulevard intersection is considered a high risk location given the conflicts with vehicles, the at-grade trolley crossing, pedestrians and bicyclists. In addition, the unrestricted turn movements at the Walnut Avenue/Palomar Street intersection allow vehicles to travel across multiple lanes of traffic on Palomar Street. Further, due to the intersection offset at the Transit Center/Palomar Street intersection, the existing condition of this intersection represents a conflict with vehicles, pedestrians and bicyclists. PGDSP build-out would generate additional pedestrian, bicycle, and vehicular traffic along Palomar Street, which could further increase traffic conflicts at these intersections. This represents a potentially significant impact.

5.3.4.4 Emergency Access

Criterion 5: Would the project result in inadequate emergency access?

Construction of future PGDSP development projects within roadway rights-of-way may require temporary roadway closures and detours, which would affect local traffic circulation. Changes to the traffic circulation pattern could potentially impede emergency access if the appropriate authorities are not properly notified prior to construction. Following construction, future PGDSP development projects would be required to provide appropriate access in accordance with the California Fire Code and would not result in inadequate emergency access during operation. Therefore, a significant impact related to inadequate emergency access would have the potential to occur during construction of individual development projects within the PGD.

5.3.4.5 Alternative Transportation Facilities

Criterion 6: Would the project conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

As discussed in Sections 5.3.1.2, 5.3.1.3, and 5.3.1.4 above, there are existing deficiencies associated with the pedestrian, bicycle, and transit facilities in the PGD. PGDSP build-out would increase the usage of and demand for these alternative transportation facilities by increasing the population and intensifying land uses in the PGD, which could further decrease the performance and safety of the deficient alternative transportation facilities. In order to address the existing deficiencies and enhance

the alternative transportation facilities in the PGD, the PGDSP includes a Mobility Plan containing improvements to be implemented over the course of build-out. The Mobility Plan was developed in accordance with the PGDSP objectives, Assembly Bill 1358 complete streets principles, multimodal transportation industry standards and guidelines practiced nationwide (e.g., SANDAG's Designing for Smart Growth), and the Walkable and Livable Communities Institute's findings regarding the PGD. The Mobility Plan reviews constraints and identifies opportunities for each mode of travel, which are prioritized based on the following defined tiered system:

- **Tier I (High Priority):**
  - Addresses high-volume high-accident locations.
  - Improves Mobility substantially for all modes. Moves people, not cars.
  - Essential component of activating the community, applying Smart Growth principles and achieving the objectives of the PGDSP vision.
- **Tier II (Medium Priority):**
  - Improves Mobility and has little to no impact on other travel modes.
  - Creates a better balance between motorized and non-motorized travel.
  - Enhances mobility by introducing missing links and ensures continuation of capacity.
  - Ease of implementation from a constructability, political and financial standpoint.
  - Promotes ADA compliance.
- **Tier III (Low Priority):**
  - Creates places of human scale that promote active lifestyles and enhance the user experience.
  - Involves the beautification of the PGD.
  - Improves mobility to a lesser extent and may impact other modes of travel.
  - Feasibility unclear with potential concerns of constructability, political, and financial support.

The elements of Mobility Plan pertaining to alternative transportation facilities are presented in Table 5.3-9. The Conceptual Mobility Plan is illustrated in Figure 5.3-10. Tier I and Tier II elements are anticipated to be implemented through a variety of means. These mobility improvements would be added to the City's Western Transportation Development Impact Fee (WTDIF), CIP, or Pedestrian and Bikeway Master Plans, as applicable, during annual or five-year cycle updates, and would be funded through CIP, site-specific projects, or grant funding. Tier III elements are the lowest priority mobility improvements, but may still be considered as part of future planning and public improvement efforts.

It is important to note that the improvements identified in the Mobility Plan are conceptual and provide a long-range vision for the community and the PGD to achieve the PGDSP's spirit and intent to develop a Smart Growth Transit-Oriented Development integrated with the Palomar Transit Station. The proposed improvements related to alternative transportation facilities, which include those recommended by the Chula Vista Pedestrian and Bikeway Master Plans, and MTS, are considered project features to improve overall mobility by fostering multimodal choices for the residents of Chula Vista while maintaining appropriate levels of service. Thus, PGDSP implementation would not conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities. Impacts associated with alternative transportation facilities would be less than significant.

5.3.5 Level of Significance Prior to Mitigation

5.3.5.1 Traffic and Level of Service Standards

Analysis of the study intersections and street segments under Existing + Project, Year 2020, and Year 2030 scenarios revealed significant impacts at several facilities operating at LOS E or LOS F.

Under Existing + Project conditions, the proposed project would result in significant impacts at the following intersections and street segments:

- Walnut Avenue/Palomar Street intersection: LOS F—AM and PM peak periods
- Industrial Boulevard/Palomar Street intersection (at-grade trolley): LOS E—PM peak period
- Palomar Street—I-5 to Walnut Avenue segment: LOS F
- Palomar Street—Walnut Avenue to Industrial Boulevard segment (at-grade trolley): LOS E
- Palomar Street—Industrial Boulevard to Transit Center Place segment (at-grade trolley): LOS E

Under Year 2020 + Project conditions, the following intersection and street segment impacts would occur:

- Walnut Avenue/Palomar Street intersection: LOS F—AM and PM peak periods
- Industrial Boulevard/Palomar Street intersection (at-grade trolley): LOS E—PM peak period
- Palomar Street—Walnut Avenue to Industrial Boulevard segment (at-grade trolley): LOS E
- Palomar Street—Industrial Boulevard to Transit Center Place segment (at-grade trolley): LOS E

Under Year 2030 + Project conditions, the following intersection and street segment impacts would occur:

- Walnut Avenue/Palomar Street intersection: LOS F—AM and PM peak periods
- Industrial Boulevard/Palomar Street intersection (at-grade trolley): LOS E—AM and PM peak period
- Palomar Street—I-5 to Walnut Avenue segment: LOS E
- Palomar Street—Walnut Avenue to Industrial Boulevard segment (at-grade trolley): LOS E
- Palomar Street—Industrial Boulevard to Transit Center Place segment (grade-separated trolley and at-grade trolley): LOS E and LOS F, respectively
- Industrial Boulevard – North of Palomar Street segment (grade-separated trolley and at-grade trolley): LOS E and LOS F, respectively

5.3.5.2 Air Traffic Patterns

Implementation of the proposed PGDSP would not result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks. Therefore, impacts associated with air traffic patterns would be less than significant.

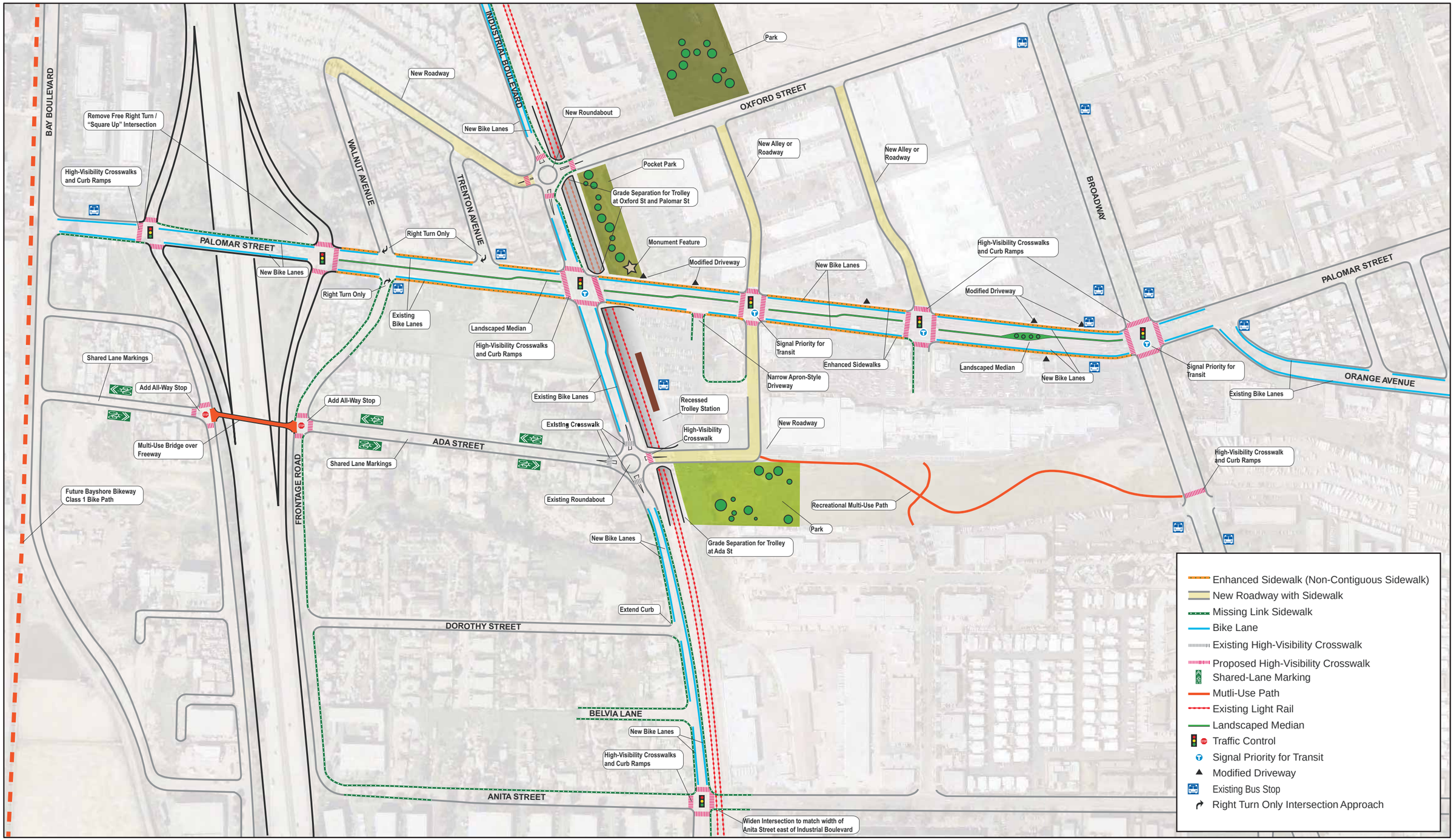
Table 5.3-9 Palomar Gateway District Mobility Plan

Mobility Element	Constraints	Opportunities		
		Tier I (High Priority)	Tier II (Medium Priority)	Tier III (Low Priority)
Pedestrian	■ At-grade trolley crossing compromises pedestrian safety and bisects community ■ Missing sidewalk links hinders mobility ■ Lack of ADA compliance at certain locations ■ No buffer on Palomar Street creates a dangerous and unpleasant user experience ■ "Mega-blocks" lack human scale and hinder walkability ■ Abundance of driveways along Palomar Street exposes pedestrians	■ Grade-separate trolley line per 2050 RTP (recommend trolley under Palomar Street to avoid bisecting the community and avoid visual impact)(1) ■ Introduce new roadways that introduce human scale and encourage walkability ■ Add countdown timers to existing traffic signals ■ Square up the at I-5 SB ramps at Palomar Street to avoid free high-speed right-turns	■ Close/modify driveways on Palomar Street ■ Provide non-contiguous sidewalks on Palomar Street ■ Provide sidewalks on missing links ■ Provide ADA compliant curb ramps ■ Provide high visibility crosswalks ■ Provide adequately sized islands for pedestrian refuge on Palomar Street ■ Provide two pedestrian curb ramps per intersection corner	■ Provide a multi-use path in the SDG&E easement ■ Provide a multi-use bridge over I-5 at Ada Street extension
Bicycle	■ At-grade trolley crossing compromises bicycle safety ■ Missing bicycle links hinders mobility ■ Poor accessibility to future Bayshore Bikeway ■ "Mega-blocks" lacks any human scale and does not promote bicycle activity	■ Grade-separate trolley line per 2050 RTP recommend trolley under Palomar Street to avoid bisecting the community and avoid visual impact)(1) ■ Class II bike lanes on Palomar Street and Industrial Boulevard to integrate with the Bayshore Bikeway ■ Provide bicycle facilities on missing links ■ Provide bicycle lockers at the Palomar Transit Station	■ Use colorized or elevated bike lanes to enhance bicycle safety and create driver awareness at vehicle-bicycle conflict points ■ Developer subsidy of transit passes	■ Provide a multi-use path in the SDG&E easement ■ Provide a multi-use bridge over I-5 at Ada Street extension
Bus	■ At-grade trolley crossing lowers transit capacity ■ Increasing demand on Blue Line adds congestion and delay to buses on Palomar Street ■ Increasing congestion on Palomar Street reduces reliability of bus service ■ Only one driveway with limited movements serves both buses and vehicles ■ On-board bus collection increases dwell and route travel times	■ Grade-separate trolley line per 2050 RTP (recommend trolley under Palomar Street to avoid bisecting the community and avoid visual impact) to reduce transit travel times on Palomar Street(1) ■ Shade structures at busiest stops such as Broadway and Palomar Street	■ Passive transit signal priority along Palomar Street ■ Allow level boarding by providing low-floor buses ■ Provide amenities such as illuminated bus shelters, system maps and schedule, wayfinding signage and bars that passengers that can lean on while standing ■ Display real time arrival information at Palomar Transit Station	■ Off-board bus collection system to improve headways ■ Consider public art and unique design for bus shelters, benches, and other street furniture

Table 5.3-9 continued

Mobility Element	Constraints	Opportunities		
		Tier I (High Priority)	Tier II (Medium Priority)	Tier III (Low Priority)
Light Rail	■ At-grade trolley crossing impedes vehicular, pedestrian and bicycle mobility ■ Increasing demand on Blue Line adds congestion and delay to Palomar Street ■ High-floor trolley cars inhibit disabled and bicycle loading leading to increased gate closing time and excessive delays to vehicles ■ Frequency of trolley line needs to increase to serve highest ridership trolley Blue Line demand ■ Trolley vehicle lengths needs to increase to serve highest ridership trolley Blue Line demand	■ Grade-separate trolley line per 2050 RTP (recommend trolley under Palomar Street to avoid bisecting the community and avoid visual impact)[1] ■ Consider low-floor trolley cars to reduce passenger loading and unloading times (currently under construction)	■ Grade-separate trolley line at Ada Street ■ Increase trolley car length and reduce headways to serve Blue Line demand	■ None
ADA	■ Disintegrated/absent sidewalks and crosswalks hinders mobility for disabled and senior users ■ Wide curb radii on driveways create high-turning speeds of traffic compromising safety	■ Repair all disintegrated sidewalks and provide sidewalks on missing links ■ Retrofit all intersections within the PGD to ADA compliant crosswalks and curb-ramps ■ Remove or relocate street furniture on sidewalks that hinder mobility ■ Close/modify driveways on Palomar Street to reduce exposure	■ Introduce infrastructure such as audible count-down pedestrian signals, truncated domes/ADA pads to enhance mobility ■ Provide dedicated ADA parking at Palomar Transit Station	■ None
Parking	■ Current parking layout promotes auto use ■ Free parking does not provide a revenue source ■ Lack of parking efficiency with over-supply and non-shared land uses	■ Promote mixed-use, compact development with shared parking ■ Provide parking interior to the development and not along roadway to add visual character and promote other travel modes	■ Use dynamic parking pricing to promote non-motorized travel and create a revenue stream ■ Consider on-street parking as supply for development	■ None

[1] This improvement (grade-separation trolley line per 2050 RTP) is considered a mitigation measure for significant traffic impacts identified in Section 5.3.4.1 above and is discussed in further detail in Section 5.3.6.1 below.
Source: LLG 2012



Source: Linscott Law & Greenspan 2012

No Scale

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CONCEPTUAL MOBILITY PLAN
FIGURE 5.3-10

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5.3.5.3 Traffic Hazards

PGDSP build-out would generate additional pedestrian, bicycle, and vehicular traffic along Palomar Street, which could further increase traffic hazards at some existing intersections. In addition, existing conditions at the Transit Center/Palomar Street intersection would have the potential to result in traffic hazards associated with PGDSP implementation. Therefore, potentially significant impacts associated with traffic hazards would occur.

5.3.5.4 Emergency Access

Temporary roadway closures and detours during construction of future PGDSP development projects within roadway rights-of-way could potentially impede emergency access if the appropriate authorities are not properly notified prior to construction. Therefore, potentially significant impacts associated with emergency access would occur.

5.3.5.5 Alternative Transportation Facilities

The PGDSP includes a Mobility Plan containing improvements to be implemented over the course of build-out. Tier I and Tier II elements are anticipated to be implemented through a variety of means. These mobility improvements would be added to the City's WTDIF, CIP, or Pedestrian and Bikeway Master Plans, as applicable, during annual or five-year cycle updates, and would be funded through CIP, site-specific projects, or grant funding. Tier III elements are the lowest priority mobility improvements, but may still be considered as part of future planning and public improvement efforts. The proposed improvements related to alternative transportation facilities, which include those recommended by the Chula Vista Pedestrian and Bikeway Master Plans, and MTS, are considered project features to improve overall mobility by fostering multimodal choices for the residents of Chula Vista while maintaining appropriate levels of service. Thus, PGDSP implementation would not conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities. Impacts associated with alternative transportation facilities would be less than significant.

5.3.6 Mitigation Measures

5.3.6.1 Traffic and Level of Service Standards

A. Mitigation for Short-term (Existing + Project) Impacts

Implementation of mitigation measures 5.3-1 through 5.3-2 would reduce potential short-term (Existing + Project) impacts to intersections and street segments, as identified in Section 5.3.5.1 above, to a less than significant level. Specifically, mitigation measure 5.3-1 would reduce impacts associated with the Walnut Avenue/Palomar Street intersection and the segment of Palomar Street between I-5 and Walnut Avenue. Mitigation measure 5.3-2 would reduce impacts associated with the Industrial Boulevard/Palomar Street intersection, the segment of Palomar Street between I-5 and Walnut Avenue, the segment of Palomar Street between Walnut Avenue and Industrial Boulevard, and the segment of Palomar Street between Industrial Boulevard and Transit Center Place.

It is important to note that a long-range development plan such as the PGDSP is not anticipated to reach full build-out until after year 2030. PGDSP build-out is planned to occur in a series of phases over the next 20 years. This phasing would not require the construction of all circulation improvements to address intersection and street segment impacts at once because the increase in trips would be phased

along with development. Rather, such improvements would be constructed as needed to mitigate the impacts of phased development over the course of the 20-year planning horizon. Notwithstanding, mitigation measures to address the intersection and street segment impacts identified for Existing + Project conditions are included in this section.

5.3-1 **Walnut Avenue/Palomar Street Intersection Raised Median and Walnut Avenue Reconfiguration.** Prior to the approval of any construction associated with PGDSP development projects, the City shall implement a raised median across the intersection and Walnut Avenue shall be reconfigured to allow right-in/right-out movements only. This improvement is required to restrict minor street left-turn movements from Walnut Avenue across multiple lanes of traffic on Palomar Street. Pedestrians shall be prohibited from crossing Palomar Avenue at this intersection and shall be required to utilize the Industrial Boulevard/Palomar Street intersection to cross Palomar Street. Because left-turn movements would be restricted at the Walnut Avenue/Palomar Street intersection, eastbound vehicles on Palomar Street intending to turn left at Walnut Avenue would need to make a u-turn at the Palomar Street/Industrial Boulevard intersection. Similarly, westbound left-turning vehicles at Walnut Avenue would be required to make a left-turn at the Palomar Street/Industrial Boulevard intersection and turn right on Ada Street. This improvement has been added to the City's CIP for 2013 and is now fully funded.

5.3-2 **Grade Separation for Trolley at Industrial Boulevard/Palomar Street Intersection.** To improve vehicular operations, the MTS trolley rail crossing shall be grade-separated at the Industrial Boulevard/Palomar Street intersection to improve vehicular operations. The proposed trolley grade-separation on Palomar Street is included on the regional priority list for rail grade-separation projects in the 2050 RTP in the Revenue Constrained Plan to be completed by year 2020. This improvement would result in no additional vehicular delay during a trolley crossing. With the grade-separation, this intersection is calculated to operate at LOS D or better. Grade-separation would also eliminate vehicle, pedestrian, and bicycle conflicts with the trolley.

The improvement described in mitigation measure 5.3-2 is outside of the jurisdiction of the City of Chula Vista, but its completion is paramount to the operation of Palomar Street and the localized intersections. Implementation of this improvement would require coordination with Caltrans and SANDAG/MTS and a combination of local, state, and federal funding sources. The City shall continue to stress the importance of the grade-separation with appropriate authorities. The following items identify current studies underway, future actions, and funding sources related to the grade-separation.

Note: The information provided in a) through c) below is based on the 2050 RTP adopted by SANDAG in October 2011. As discussed above, in December 2012 the San Diego Superior Court found the 2050 RTP to be inadequate with respect to the analysis of greenhouse gas emissions. The 2050 RTP and 2050 RTP EIR may be revised based on this ruling.

a) Blue Line Split-Grade Separations are scheduled for expenditures of $550 million (2010 dollars) by the year 2050, as indicated in Table A.9, Major Capital Improvements – Unconstrained Network, of the 2050 RTP.

b) The I-5 from Palomar Street to SR-15 improvement project is scheduled for construction by year 2030, as indicated in Table A.4, Phased Highway Projects – Revenue Constrained Plan, of the

2050 RTP. This project would most likely include improvements to the I-5/Palomar Street interchange, thereby increasing capacity.

c) The Palomar Street crossing is ranked priority 4 out of 27 grade-separation projects, as indicated in Table TA 4.24 – Rail Grade Separation Rankings, of the 2050 RTP.

d) In addition to the regional listings for improvements in the City, the WTDIF program includes a line item for I-5/Palomar Street bridge deck widening and eastbound lane additions in the amount of $59 million.

e) The City has funded and is conducting an I-5 South Multimodal Corridor Study update and a Chula Vista Light Rail Corridor Improvements Project Study Report with subsequent environmental documents, which will include new design alternatives to Palomar Street, the split grade crossing at Palomar Street, and a future parking facility in preparation for future federal MAP-21 funding.

Table 5.3-10 summarizes the intersection operations with the mitigation measures in place for the intersections that were identified as deficient under Existing + Project conditions. Table 5.3-11 summarizes the street segment operations with the mitigation measures in place for the street segments that were identified as deficient under Existing + Project conditions.

Table 5.3-10 Existing + Project Intersection Operations with Mitigation Measures

Deficient Intersections	Peak Hour	Existing		Existing + Project		Existing + Project with Improvements		Improvements
		Average Delay (seconds)	LOS	Average Delay (seconds)	LOS	Average Delay (seconds)	LOS	
Walnut Avenue/ Palomar Street	AM PM	> 100 > 100	F F	> 100 > 100	F F	15.6 26.3	C D	Restrict movements with median at Walnut Avenue/ Palomar Street and reconfigure Walnut Avenue (mitigation measure 5.3-1)
Industrial Boulevard/ Palomar Street	AM PM	39.8 44.4	D D	45.2 57.7	D E	34.9 53.0	C D	Trolley grade-separation (mitigation measure 5.3-2)

Source: LLG 2012

As shown in Table 5.3-11, the segment of Palomar Street from I-5 to Walnut Avenue is calculated to operate at LOS E with mitigation under the Existing + Project condition. LOS E operations on this street segment are considered acceptable due to the following:

- According to the Chula Vista General Plan, Palomar Street is expected to be built to six-lanes within the PGDSP by 2030.
- The Palomar Street interchange ranks high among the improvements needed for I-5 interchanges in Chula Vista based on traffic volumes and levels of service as identified in the 2050 RTP. Caltrans, SANDAG, and the City of Chula Vista have completed the I-5 South Multimodal Corridor Study, which identifies alternatives including replacing the Palomar Street ~~an~~ overcrossing and adding~~with~~ additional lanes. This study proposes improvements to achieve LOS C at the I-5 ramp intersections on Palomar Street. Since intersection operations influence segment capacity, the I-5 improvements will enhance street segment operations on Palomar Street between I-5 and Walnut Avenue.

- The proposed trolley grade-separation on Palomar Street is included on the regional priority list for rail grade-separation projects in the 2050 RTP in the Revenue Constrained Plan to be completed by year 2020. Eliminating the at-grade trolley rail crossings would be a practical alternative for improving traffic and transit operations, thereby improving queuing and segment capacity on Palomar Street between I-5 and Walnut Avenue. The freight rail would be maintained at-grade.
- Even though the segment of Palomar Street from I-5 to Walnut Avenue is calculated to operate at LOS E, the intersections along the Palomar Street corridor are calculated to operate at LOS D or better.

Table 5.3-11 Existing + Project Street Segment Operations with Mitigation Measures

Deficient Street Segments	Existing + Project				Existing + Project with Improvements				Improvements
	Capacity (LOS C)	ADT	V/C	LOS	Capacity (LOS C)	ADT	V/C	LOS	
Palomar Street—I-5 to Walnut Avenue	35,000	47,903	1.369	F	40,000	47,903	1.197	E[1]	Restrict movements with median at Walnut Avenue/Palomar Street, reconfigure Walnut Avenue, and trolley grade-separation (mitigation measures 5.3-1 and 5.3-2)
Palomar Street—Walnut Avenue to Industrial Boulevard	36,000	44,020	1.223	E	40,000	44,020	1.100	D	Trolley grade-separation (mitigation measure 5.3-2)
Palomar Street—Industrial Boulevard to Transit Center Place	36,000	42,212	1.173	E	40,000	42,212	1.055	D	Trolley grade-separation (mitigation measure 5.3-2)

[1] Based on the City of Chula Vista significance criteria, no significant impact is calculated to this street segment because the intersections adjacent to the street segment are calculated to operate at LOS D or better.
Source: LLG 2012

B. Mitigation for Long-term (Year 2020 and Year 2030) Impacts

Implementation of mitigation measures 5.3-1 through 5.3-2 (described above), as well as mitigation measure 5.3-3 (described below), would reduce potential long-term (Year 2020 and Year 2030) impacts to intersections and street segments, as identified in Section 5.3.5.1 above, to a less than significant level. Specifically, mitigation measure 5.3-1 would reduce impacts associated with the Walnut Avenue/Palomar Street intersection and the segment of Palomar Street between I-5 and Walnut Avenue. Mitigation measure 5.3-2 would reduce impacts associated with the Industrial Boulevard/Palomar Street intersection, the segment of Palomar Street between I-5 and Walnut Avenue, the segment of Palomar Street between Walnut Avenue and Industrial Boulevard, the segment of Palomar Street between Industrial Boulevard and Transit Center Place, and the segment of Industrial Boulevard north of Palomar Street. Mitigation measure 5.3-3 would reduce impacts associated with the Industrial Boulevard/Palomar Street intersection.

5.3-3 **Industrial Boulevard/Palomar Street Intersection Left-Turn Lane Signal Change.** The left-turn lane signal phasing at the Industrial Boulevard/Palomar Street intersection shall be changed from permitted-protected to protected at all intersection approaches. The timing of implementation of this improvement shall be determined by the results of the annual study conducted under the City's Traffic Management Program.

Tables 5.3-12 and 5.3-13 summarize the intersection operations with the mitigation measures in place for the intersections that were identified as deficient under Year 2020 and Year 2030 conditions, respectively. Tables 5.3-14 and 5.3-15 summarize the street segment operations with the mitigation measures in place for the street segments that were identified as deficient under Year 2020 and Year 2030 conditions, respectively. As shown in all of these tables, all 2020 and 2030 intersections would operate at an acceptable LOS D or better with the exception of three street segments in the 2030 condition.

Table 5.3-12 Year 2020 Intersection Operations with Mitigation Measures

Deficient Intersections	Peak Hour	Year 2020		Year 2020 with Improvements		Improvements
		Average Delay (seconds)	LOS	Average Delay (seconds)	LOS	
Walnut Avenue/ Palomar Street	AM PM	> 100 > 100	F F	13.6 21.3	B C	Restrict movements with median at Walnut Avenue/Palomar Street and reconfigure Walnut Avenue (mitigation measure 5.3-1)
Industrial Boulevard/ Palomar Street (at-grade trolley)	AM PM	50.2 62.2	D E	24.5 37.1	C D	Trolley grade-separation and protected signal phasing (mitigation measures 5.3-2 and 5.3-3)

Source: LLG 2012

Table 5.3-13 Year 2030 Intersection Operations with Mitigation Measures

Deficient Intersections	Peak Hour	Year 2030		Year 2030 with Improvements		Improvements
		Average Delay (seconds)	LOS	Average Delay (seconds)	LOS	
Walnut Avenue/ Palomar Street	AM PM	> 100 > 100	F F	14.9 24.9	B C	Restrict movements with median at Walnut Avenue/Palomar Street and reconfigure Walnut Avenue (mitigation measure 5.3-1)
Industrial Boulevard/ Palomar Street (at-grade trolley)	AM PM	62.9 76.9	E E	26.9 40.9	C D	Trolley grade-separation and protected signal phasing (mitigation measures 5.3-2 and 5.3-3)

Source: LLG 2012

Table 5.3-14 Year 2020 Street Segment Operations with Mitigation Measures

Deficient Street Segments	Year 2020				Year 2020 with Improvements				Improvements
	Capacity (LOS C)	ADT	V/C	LOS	Capacity (LOS C)	ADT	V/C	LOS	
Palomar Street— Walnut Avenue to Industrial Boulevard (at-grade trolley)	36,000	42,000	1.200	E	40,000	42,000	1.050	D	Trolley grade-separation (mitigation measure 5.3-2)
Palomar Street— Industrial Boulevard to Transit Center Place (at grade trolley)	36,000	42,250	1.207	E	40,000	42,250	1.056	D	Trolley grade-separation (mitigation measure 5.3-2)

Source: LLG 2012

Table 5.3-15 Year 2030 Street Segment Operations with Mitigation Measures

Deficient Street Segments	Year 2030				Year 2030 with Improvements				Improvements
	Capacity (LOS C)	ADT	V/C	LOS	Capacity (LOS C)	ADT	V/C	LOS	
Palomar Street—I-5 to Walnut Avenue	40,000	47,000	1.175	E	40,000	47,000	1.175	E[1]	Restrict movements with median at Walnut Avenue/Palomar Street, reconfigure Walnut Avenue, and trolley grade-separation (mitigation measures 5.3-1 and 5.3-2)
Palomar Street—Walnut Avenue to Industrial Boulevard (at-grade trolley)	36,000	45,000	1.285	E	40,000	45,000	1.125	D	Trolley grade-separation (mitigation measure 5.3-2)
Palomar Street—Industrial Boulevard to Transit Center Place (at grade trolley)	36,000	45,300	1.294	F	40,000	45,300	1.132	E[1]	Trolley grade-separation (mitigation measure 5.3-2)
Industrial Boulevard—North of Palomar Street (at grade trolley)	10,500	13,900	1.323	F	12,000	13,900	1.158	E[1]	Trolley grade-separation (mitigation measure 5.3-2)

[1] Based on the City of Chula Vista significance criteria, no significant impacts are calculated to these street segments because the intersections adjacent to these street segments are calculated to operate at LOS D or better.
Source: LLG 2012

As shown in Table 5.3-15, the segments of Palomar Street from I-5 to Walnut Avenue, Palomar Street from Industrial Boulevard to Transit Center Place, and Industrial Boulevard north of Palomar Street are calculated to operate at LOS E with mitigation under Year 2030 conditions. LOS E operations on these street segments are considered acceptable because the intersections along these segments are calculated to operate at LOS D or better. The City's traffic thresholds state that acceptable levels of service at intersections during peak hours are a valid indicator of adequate street segment operations. Therefore, if intersections operate at LOS D or better, a segment impact is considered not significant since intersection analysis is more indicative of actual roadway system operations than the street segment analysis. Even though the segments of Palomar Street from I-5 to Walnut Avenue, Palomar Street from Industrial Boulevard to Transit Center Place, and Industrial Boulevard north of Palomar Street are calculated to operate at LOS E, the intersections along these corridors are calculated to operate at LOS D or better.

C. Implementation of Project Features

In addition to the CEQA mitigation measures listed above, the following non-mitigation requirements would be implemented as features of the proposed project.

Traffic Monitoring Program. During implementation of the PGDSP, the City shall apply the Traffic Monitoring Program (TMP) to monitor actual performance of the circulation system by conducting street segment travel time surveys in accordance with the City's Growth Management Ordinance. The results of the annual study under the TMP shall be used by the City to determine the timing and need for implementation of any other improvements to intersections and street segments identified as having potentially significant impacts. The City shall continue to stress the need for implementation of the

identified intersection and street segment improvements based upon the results of the TMP annual study.

Future PGDSP Development Project Traffic Assessments. As identified in the City's WTDIF (CVMC Title 3), the PGD is eligible for the WTDIF program. As such, each future PGDSP development project must prepare a traffic assessment to examine local access and safety issues, as well as to quantify the individual project's potential traffic impacts at the local level. Applicants for future PGDSP development projects shall be required to fully mitigate localized near-term project-specific impacts and to contribute their fair share to the existing WTDIF program, as well as to the existing Traffic Impact Signal Fee, as amended from time to time. In addition to quantifying each individual project's potential traffic impacts, traffic assessments shall identify how alternative modes of transportation will be accommodated. Mitigation may be in the form of the following:

a) Compliance with the PGDSP development regulations and design guidelines to accommodate pedestrians, bicyclists, and public transit;

b) Where applicable, construction of improvements within the project boundaries; and/or

c) Early advancement of improvements beyond project boundaries, subject to a reimbursement agreement.

5.3.6.2 Air Traffic Patterns

No mitigation measures are required.

5.3.6.3 Traffic Hazards

Implementation of mitigation measures 5.3-1 through 5.3-3 (described above), in addition to mitigation measure 5.3-4 (described below) would reduce potential impacts associated with traffic hazards to a less than significant level.

5.3-4 **Transit Center Place/Palomar Street Intersection.** The following improvements shall be implemented to improve pedestrian access and safety at the Transit Center/Palomar Street intersection:

i. Realign the north leg of the intersection to align with the south leg, which would eliminate intersection offset. This improvement would also benefit pedestrians by allowing shorter walking distances.

ii. Install pavement markings after realignment on the north leg of the intersection showing an exclusive left-turn lane and shared through-right lanes.

5.3.6.4 Emergency Access

Implementation of mitigation measure 5.3-5 would reduce potential impacts associated with emergency access to a less than significant level.

5.3-5 **Traffic Control Plans.** Prior to construction of future development projects in the PGDSP that require temporary roadway closures and detours, project applicants shall submit a traffic control plan to the City Engineer for review and approval. The traffic control plan shall be prepared by a licensed traffic engineer in accordance with the California Manual on Uniform Traffic Control Devices. The traffic control plan shall identify the location and timing

of anticipated roadway closures and the alternative routes to be utilized during project construction.

5.3.6.5 Alternative Transportation Facilities

No mitigation measures are required.

5.3.7 Level of Significance after Mitigation

With timely implementation of mitigation measures 5.3-1 through 5.3-3, all intersections and roadways would operate at an acceptable level of service, and Existing Plus Project, 2020 and 2030 impacts would be reduced to a less than significant level. It is wholly within the City's purview to implement mitigation measures 5.3-1 and 5.3-3. Implementation of mitigation measure 5.3-1 would ensure impacts to the following facility are reduced to below a level of significance.

- Walnut Avenue/Palomar Street intersection

While implementation of mitigation measure 5.3-3 would reduce impacts to the Industrial Boulevard/Palomar Street intersection, it would not by itself reduce impacts to this facility to a less than significant level. In order to do so, mitigation measure 5.3-2 must also be implemented. However, mitigation measure 5.3-2 (Grade Separation for Trolley at Industrial Boulevard/Palomar Street Intersection) is outside of the jurisdiction of the City of Chula Vista. As discussed above, implementation of this improvement would require coordination with Caltrans and SANDAG/MTS and a combination of local, state, and federal funding sources. Therefore, the City cannot ensure the implementation or timing of mitigation measure 5.3-2. As such, operational improvement of the following facilities cannot be guaranteed and the impacts to these facilities are not considered to be fully mitigated to a less than significant level. Impacts would remain significant and unavoidable until mitigation measure 5.3-2 is implemented by other agencies.

- Industrial Boulevard/Palomar Street intersection (Existing + Project, 2020 and 2030)
- Palomar Street—I-5 to Walnut Avenue segment (Existing + Project and 2030)
- Palomar Street—Walnut Avenue to Industrial Boulevard segment (Existing + Project, 2020 and 2030)
- Palomar Street—Industrial Boulevard to Transit Center Place segment (Existing + Project, 2020 and 2030)
- Industrial Boulevard – North of Palomar Street segment (2030)

With implementation of mitigation measures 5.3-4 and 5.3-5, impacts related to traffic hazards and emergency access would be reduced to below a level of significance.

5.4 Air Quality

The analysis in this section of the EIR addresses the potential impacts to air quality that would result from implementation of the PGDSP. The following discussion is based on the Air Quality Technical Report prepared by Scientific Resources Associates (SRA) (2013). The Air Quality Technical Report is provided as Appendix C of this EIR.

5.4.1 Existing Conditions

5.4.1.1 Climate and Meteorology

The climate of San Diego County is characterized by warm, dry summers and mild, wet winters. Clear skies predominate for much of the year due to a semi-permanent high-pressure cell located over the Pacific Ocean. This high-pressure cell also drives the dominant onshore circulation and helps create two types of temperature inversions—subsidence and radiation—that contribute to local air quality degradation. Subsidence inversions occur during the warmer months when descending air associated with the high-pressure cell comes in contact with cool marine air. The boundary between the two layers of air represents a temperature inversion that traps pollutants below it. Radiation inversions typically develop on winter nights with low wind speeds when air near the ground cools by radiation and the air aloft remains warm. A shallow temperature inversion that can trap pollutants is formed between the two layers of air.

Records from the nearest climatological monitoring station to the PGD, which is located in downtown Chula Vista on F Street, indicate that the high daily maximum temperature is 74.1 degrees Fahrenheit in August and the low daily minimum temperature is 43.9 degrees Fahrenheit in January (Western Regional Climate Center 2012). The mean precipitation is approximately 9.75 inches annually, occurring primarily from November through March, while the remainder of the year is typically dry. Prevailing winds in Chula Vista are from the west.

5.4.1.2 Air Pollutants

Air quality is defined by ambient air concentrations of specific pollutants identified by the U.S. Environmental Protection Agency (USEPA) to be of concern with respect to health and welfare of the general public. The following six primary air pollutants are considered “criteria” air pollutants for which the USEPA has established the NAAQS: ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, particulate matter, and lead. The California Air Resources Board (CARB) has established more stringent CAAQS for the six criteria air pollutants, as well as for additional pollutants including sulfates, hydrogen sulfide, and vinyl chloride. The health effects of these air pollutants is based on information from the USEPA (2007a) and CARB (2005) as described below.

A. Ozone

Ozone is considered a photochemical oxidant, which is a chemical that is formed when volatile organic compounds (VOCs) and nitrogen oxides (NO_X), both by-products of combustion, react in the presence of ultraviolet light. Ozone is considered a respiratory irritant and prolonged exposure can reduce lung function, aggravate asthma, and increase susceptibility to respiratory infections. Children and those with existing respiratory diseases are at greatest risk from exposure to ozone.

B. Carbon Monoxide

Carbon monoxide is an odorless, colorless gas that is formed as a product of combustion. Motor vehicle exhaust is a primary source of carbon monoxide. Carbon monoxide affects red blood cells in the body by binding to hemoglobin and reducing the amount of oxygen that can be carried to the body's organs and tissues. Carbon monoxide can cause health effects to those with cardiovascular disease, and can also affect mental alertness and vision.

C. Nitrogen Dioxide

Nitrogen dioxide is also a by-product of fuel combustion, and is formed both directly as a product of combustion and in the atmosphere through the reaction of nitrogen oxide with oxygen. Nitrogen dioxide is a respiratory irritant and may affect those with existing respiratory illness, including asthma. Nitrogen dioxide can also increase the risk of respiratory illness.

D. Sulfur Dioxide

Sulfur dioxide is a colorless, reactive gas that is produced from the burning of sulfur-containing fuels such as coal and oil, and by other industrial processes. Generally, the highest concentrations of sulfur dioxide are found near large industrial sources. Sulfur dioxide is a respiratory irritant that can cause narrowing of the airways leading to wheezing and shortness of breath. Long-term exposure to sulfur dioxide can cause respiratory illness and aggravate existing cardiovascular disease.

E. Particulate Matter

Particulate matter is grouped into two categories: respirable particulate matter with an aerodynamic diameter of 10 microns or less (PM_{10}) and fine particulate matter with an aerodynamic diameter of 2.5 microns or less ($PM_{2.5}$). Particulate matter in this size range has been determined to have the potential to lodge in the lungs and contribute to respiratory problems. PM_{10} and $PM_{2.5}$ arise from a variety of sources, including road dust, diesel exhaust, combustion, tire and brake wear, construction operations, and windblown dust. PM_{10} and $PM_{2.5}$ can increase susceptibility to respiratory infections and can aggravate existing respiratory diseases such as asthma and chronic bronchitis. $PM_{2.5}$ is considered to have the potential to lodge deeper in the lungs.

F. Lead

Lead in the atmosphere occurs as particulate matter. Lead has historically been emitted from vehicles combusting leaded gasoline, as well as from industrial sources. With the phase-out of leaded gasoline, large manufacturing facilities are the greatest sources of lead emissions. Lead has the potential to cause gastrointestinal, central nervous system, kidney, and blood diseases upon prolonged exposure. Lead is also classified as a probable human carcinogen.

G. Sulfates

Sulfates are the fully oxidized ionic form of sulfur. In California, emissions of sulfur compounds occur primarily from the combustion of petroleum-derived fuels (e.g., gasoline and diesel fuel) that contain sulfur. This sulfur is oxidized to sulfur dioxide during the combustion process and subsequently converted to sulfate compounds in the atmosphere. The conversion of sulfur dioxide to sulfates takes place comparatively rapidly and completely in urban areas of California due to regional meteorological features. The CAAQS for sulfates is designed to prevent aggravation of respiratory symptoms. Effects of

sulfate exposure at levels above the standard include a decrease in ventilatory function, aggravation of asthmatic symptoms, and an increased risk of cardio-pulmonary disease. Sulfates are particularly effective in degrading visibility, and, due to fact that they are usually acidic, can harm ecosystems and damage materials and property.

H. Hydrogen Sulfide

Hydrogen sulfide is a colorless gas with the odor of rotten eggs. It is formed during bacterial decomposition of sulfur-containing organic substances. Also, it can be present in sewer gas and some natural gas, and can be emitted as the result of geothermal energy exploitation. Breathing hydrogen sulfide at levels above the standard would result in exposure to a very disagreeable odor. In 1984, a CARB committee concluded that the CAAQS for hydrogen sulfide is adequate to protect public health and to significantly reduce odor annoyance.

I. Vinyl Chloride

Vinyl chloride, a chlorinated hydrocarbon, is a colorless gas with a mild, sweet odor. Most vinyl chloride is used to make polyvinyl chloride plastic and vinyl products. Vinyl chloride has been detected near landfills, sewage plants, and hazardous waste sites, due to microbial breakdown of chlorinated solvents. Short-term exposure to high levels of vinyl chloride in air causes central nervous system effects, such as dizziness, drowsiness, and headaches. Long-term exposure to vinyl chloride through inhalation and oral exposure causes liver damage. Cancer is a major concern from exposure to vinyl chloride via inhalation. Vinyl chloride exposure has been shown to increase the risk of angiosarcoma, a rare form of liver cancer, in humans.

5.4.1.3 Ambient Air Quality

The SDAPCD operates a network of ambient air monitoring stations throughout the SDAB. The purpose of the monitoring stations is to measure ambient concentrations of the criteria air pollutants and determine whether the ambient air quality meets the NAAQS and CAAQS. The ambient air quality standards for the NAAQS and CAAQS are presented in Table 5.4-1.

The nearest ambient monitoring station to the PGD is the Chula Vista monitoring station located on J Street. Ambient background concentrations of pollutants at this monitoring station over the last four years are presented in Table 5.4-2. The NAAQS for 8-hour ozone was exceeded at the Chula Vista monitoring station three times in 2008 and twice in 2010. The Chula Vista monitoring station measured one exceedance of the NAAQS for $PM_{2.5}$ in 2009, and has measured exceedances of the CAAQS for PM_{10} during the period from 2008 to 2010. The data from the monitoring stations indicate that air quality is in attainment or unclassified for all other federal and state standards.

Table 5.4-1 Ambient Air Quality Standards

Pollutant	Average Time	California Standards		National Standards		
		Concentration	Method	Primary	Secondary	Method
Ozone	1 hour	0.09 ppm (180 μg/m^3)	Ultraviolet Photometry			Ethylene Chemiluminescence
	8 hour	0.070 ppm (137 μg/m^3)		0.075 ppm (147 μg/m^3)	0.075 ppm (147 μg/m^3)	
Carbon Monoxide	8 hours	9.0 ppm (10 mg/m^3)	Non-Dispersive Infrared Spectroscopy (NDIR)	9 ppm (10 mg/m^3)	None	Non-Dispersive Infrared Spectroscopy (NDIR)
	1 hour	20 ppm (23 mg/m^3)		35 ppm (40 mg/m^3)		
Nitrogen Dioxide (NO_2)	Annual Average	0.030 ppm (56 μg/m^3)	Gas Phase Chemiluminescence	0.053 ppm (100 μg/m^3)	0.053 ppm (100 μg/m^3)	Gas Phase Chemiluminescence
	1 hour	0.18 ppm (338 μg/m^3)		0.100 ppm (188 μg/m^3)	--	
Sulfur Dioxide (SO_2)	24 hours	0.04 ppm (105 μg/m^3)	Ultraviolet Fluorescence	--	--	Pararosaniline
	3 hours	--		--	0.5 ppm (1,300 μg/m^3)	
	1 hour	0.25 ppm (655 μg/m^3)		75 ppb (196 μg/m^3)	--	
Respirable Particulate Matter (PM_{10})	24 hours	50 μg/m^3	Gravimetric or Beta Attenuation	150 μg/m^3	150 μg/m^3	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 μg/m^3		--	--	
Fine Particulate Matter ($PM_{2.5}$)	Annual Arithmetic Mean	12 μg/m^3	Gravimetric or Beta Attenuation	15 μg/m^3	--	Inertial Separation and Gravimetric Analysis
	24 hours	--		35 μg/m^3	--	
Sulfates	24 hours	25 μg/m^3	Ion Chromatography	--	--	--
Lead	30-day Average	1.5 μg/m^3	Atomic Absorption	--	--	Atomic Absorption
	Calendar Quarter	--		1.5 μg/m^3	1.5 μg/m^3	
	3-Month Rolling Average	--		0.15 μg/m^3	0.15 μg/m^3	
Hydrogen Sulfide	1 hour	0.03 ppm (42 μg/m^3)	Ultraviolet Fluorescence	--	--	--
Vinyl Chloride	24 hours	0.010 ppm (26 μg/m^3)	Gas Chromatography	--	--	--

ppm= parts per million; ppb = parts per billion; μg/m^3 = micrograms per cubic meter; mg/m^3 = milligrams per cubic meter
Source: California Air Resources Board 2012

Table 5.4-2 Ambient Background Concentrations (ppm unless otherwise indicated)

Pollutant	Averaging Time	2008	2009	2010	2011	Most Stringent Ambient Air Quality Standard	Monitoring Station
Ozone	8 hour	0.083	0.075	0.082	0.057	0.070	Chula Vista
	1 hour	0.107	0.098	0.107	0.083	0.09	Chula Vista
PM_{10}	Annual	26.7 µg/m^3	26.2 µg/m^3	24.6 µg/m^3	21.9 µg/m^3	20 µg/m^3	Chula Vista
	24 hour	53 µg/m^3	58 µg/m^3	45 µg/m^3	46 µg/m^3	50 µg/m^3	Chula Vista
$PM_{2.5}$	Annual	12.3 µg/m^3	11.4 µg/m3	NA	NA	12 µg/m^3	Chula Vista
	24 hour	32.9 µg/m^3	43.7 µg/m^3	22.7 µg/m^3	27.9 µg/m^3	35 µg/m^3	Chula Vista
NO_2	Annual	0.015	0.013	0.012	0.012	0.030	Chula Vista
	1 hour	0.072	0.065	0.050	0.057	0.100	Chula Vista
CO	8 hour	1.87	1.43	1.56	NA	9.0	Chula Vista
	1 hour	2.5	2.1	2.1	NA	20.0	Chula Vista
SO_2	Annual	0.002	0.002	0.001	NA	0.03	Chula Vista
	24 hour	0.004	0.003	0.002	0.002	0.04	Chula Vista

NA = Data not available
Source: www.arb.ca.gov/aqd/aqd.htm (Measurements of all pollutants at Chula Vista station); San Diego Air Pollution Control District 5-year summary, http://www.sdapcd.org/info/reports/5-year-summary.pdf.

5.4.2 Regulatory Framework

5.4.2.1 Federal

A. Federal Clean Air Act

The federal CAA of 1970 required the USEPA to establish NAAQS, with states retaining the option to adopt more stringent standards or to include other specific pollutants. These standards are the levels of air quality considered safe, with an adequate margin of safety, to protect the public health and welfare. They are designed to protect those sensitive receptors most susceptible to further respiratory distress such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise. Healthy adults can tolerate occasional exposure to air pollutant concentrations considerably above these minimum standards before adverse effects are observed.

The USEPA has established primary and secondary standards for the six criteria air pollutants (ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, particulate matter, and lead). Primary standards are designed to protect human health with an adequate margin of safety, while secondary standards are designed to protect property and the public welfare from air pollutants in the atmosphere. Areas that meet the ambient air quality standards are classified as “attainment” areas while areas that do not meet these standards are classified as “non-attainment” areas. Areas may also be designated “unclassified” because inadequate air quality data were available as a basis for a nonattainment or attainment designation.

The current NAAQS are listed in Table 5.4-1 above. The SDAB is designated as a basic non-attainment area for the NAAQS for 8-hour ozone. The SDAB is in attainment or unclassified with respect to the NAAQS for all other criteria air pollutants.

5.4.2.2 State

A. California Clean Air Act

The federal CAA allows states to adopt ambient air quality standards and other regulations provided that they are at least as stringent as federal standards. The California CAA was adopted in 1988 and establishes the state's air quality goals, planning mechanisms, regulatory strategies, and standards of progress. The CARB, a part of the California Environmental Protection Agency (CalEPA), is responsible for the coordination and administration of both federal and state air pollution control programs within California, including setting the CAAQS and developing the SIP, for which it works closely with the federal government and the local air districts. The CARB reviews operations and programs of the local air districts, and requires each air district with jurisdiction over a non-attainment area to develop its own strategy for achieving the NAAQS and CAAQS. The CARB also establishes emissions standards for motor vehicles sold in California, consumer products (such as hairspray, aerosol paints, and barbecue lighter fluid), and various types of commercial equipment, and sets fuel specifications to further reduce vehicular emissions.

The CARB has established more stringent CAAQS for the six criteria air pollutants, as well as for additional pollutants including sulfates, hydrogen sulfide, and vinyl chloride. These standards are designed to protect the health and welfare of the populace with a reasonable margin of safety. In addition, the CARB has established a set of episode criteria for ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, and particulate matter. Episode criteria refer to pollutant levels, ranging from Stage One to Stage Three, which represent periods of short-term exposure to air pollutants that actually threaten public health. Health effects are progressively more severe as pollutant levels increase from the Stage One to Stage Three episode criteria.

The current CAAQS are listed in Table 5.4-1 above. The SDAB is designated as a non-attainment area for the CAAQS for ozone, PM_{10}, and $PM_{2.5}$. The SDAB is in attainment or unclassified with respect to the CAAQS for all other criteria air pollutants.

B. California State Implementation Plan

The federal CAA (and its subsequent amendments) also requires each state to prepare an air quality control plan referred to as the SIP. The federal CAA Amendments dictate that states containing areas violating the NAAQS revise their SIPs to include extra control measures to reduce air pollution. SIPs include strategies and control measures to attain the NAAQS by deadlines established in the federal CAA. SIPs are periodically modified to reflect the latest emissions inventories, plans, and rules and regulations of air basins as reported by the agencies with jurisdiction over them. The USEPA has the responsibility to review all SIPs to determine if they conform to the requirements of the federal CAA.

The SDAPCD is the agency responsible for preparing and implementing the portion of the California SIP applicable to the SDAB for attaining the NAAQS for 8-hour ozone. The Eight Hour Ozone Attainment Plan for San Diego County (SDAPCD 2007) identifies control measures to reduce emissions of ozone precursors and complies with the federal SIP requirements. This plan accommodates emissions from all sources, including natural sources, through implementation of control measures, where feasible, on stationary sources to attain the standards. Mobile sources are regulated by the USEPA and the CARB, and the emissions and reduction strategies related to mobile sources are considered in the SIP. The SIP does not address impacts from sources of PM_{10} or $PM_{2.5}$, although it does include control measures (rules) to regulate stationary source emissions of those pollutants. These SIP-approved rules may be

used as a guideline to determine whether a project's emissions would have the potential to conflict with the SIP and thereby hinder attainment of the NAAQS for ozone.

C. California Health and Safety Code Section 41700

California Health and Safety Code Section 41700 states that a person shall not discharge from any source whatsoever quantities of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or that endanger the comfort, repose, health, or safety of any of those persons or the public, or that cause, or have a natural tendency to cause, injury or damage to business or property. This regulation also applies to sources of objectionable odors, except for odors emanating from agricultural operations necessary for the growing of crops or the raising of fowl or animals.

D. California Energy Code

The California Energy Code (California Code of Regulations Title 24, Part 6), which is incorporated into the Building Energy Efficiency Standards, was first established in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. The current 2008 Building Energy Efficiency Standards, which became effective on January 1, 2010, require energy savings of 15 to 35 percent above the 2005 Building Energy Efficiency Standards. At a minimum, residential buildings must achieve a 15 percent reduction in their combined space heating, space cooling, and water heating energy compared to the 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.

5.4.2.3 Regional

A. San Diego County Regional Air Quality Strategy

The SDAPCD is the local agency responsible for the administration and enforcement of air quality regulations for the SDAB. The SDAPCD regulates most air pollutant sources, except for motor vehicles, marine vessels, aircraft, and agricultural equipment, which are regulated by the USEPA or the CARB. State and local government projects, as well as projects proposed by the private sector, are subject to SDAPCD requirements if the sources are regulated by the SDAPCD. In addition, the SDAPCD, along with the CARB, maintains and operates ambient air quality monitoring stations at numerous locations throughout San Diego County that measure the criteria and toxic air pollutant levels in the ambient air.

The SDAPCD and SANDAG are responsible for developing and implementing the clean air plan for attainment and maintenance of the ambient air quality standards in the SDAB. The San Diego County RAQS was initially adopted in 1991, and is updated on a triennial basis. The RAQS was updated in 1995, 1998, 2001, 2004, and most recently in April 2009. The RAQS outlines the SDAPCD's plans and control measures designed to attain the more stringent CAAQS for ozone. The SDAPCD has also developed the SDAB's input to the SIP, which is required under the federal CAA for pollutants that are designated as being in non-attainment of NAAQS for the basin. 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.** Transportation Control Measures 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 the 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 federal CAA. Cleaner vehicles and fuels will result in continued reductions in vehicle pollutant emissions despite increases in travel.

The RAQS relies on information from the CARB and SANDAG regarding mobile and area source emissions and projected growth in the County. This information is used to project future emissions and develop appropriate strategies for the reduction of emissions through regulatory controls. The CARB mobile source emission projections and SANDAG growth projections are based on population and vehicle trends and land use plans developed by the cities and the County as part of the development of their respective general plans. As such, a project that proposes development that is consistent with the growth anticipated by the applicable general plan would be consistent with the RAQS. If a project proposes development which is less intensive than that anticipated in the growth projections, the project would likewise be consistent with the RAQS. If a project proposes development which is greater than that anticipated in the growth projections, the project could be in conflict with the RAQS and could have a potentially significant impact on air quality.

B. SDAPCD Rules and Regulations

The SDAPCD has adopted rules and regulations that govern stationary sources within the SDAB. Rules and regulations that would be applicable to the PGDSP include the following:

- Rule 51—Nuisance. Rule 51 prohibits the discharge from any source such quantities of air contaminants or other material which cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public or which endanger the comfort, repose, health or safety of any such persons or the public or which cause or have a natural tendency to cause injury or damage to business or property.
- Rule 52—Particulate Matter. Rule 52 prohibits the discharge of particulate matter into the atmosphere from any source (except stationary internal combustion engines) in excess of 0.10 grain per dry standard cubic feet (0.23 grams per dry standard cubic meter) of gas.
- Rule 55—Fugitive Dust Control. Rule 55 applies to any commercial construction or demolition activity capable of generating fugitive dust emissions, and requires that visible dust emissions be controlled such that they do not extend beyond the property line for more than 3 minutes in any 60-minute period, and also requires track-out/carry-out dust to be controlled.

- Rule 67.0—Architectural Coatings. Rule 67.0 establishes the VOC content of architectural coatings that is allowed within the SDAB for various types of coatings.

5.4.2.4 Local

A. City of Chula Vista General Plan

The Environmental Element of the Chula Vista General Plan includes the following citywide objective and policies for 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.

Policy E 6.1: Encourage compact development featuring a mix of uses that locate residential areas within reasonable walking distance to jobs, services, and transit.

Policy E 6.2: Promote and facilitate transit system improvements in order to increase transit use and reduce dependency on the automobile.

Policy 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.

Policy E 6.5: Ensure that plans developed to meet the City's energy demand use the least polluting strategies, wherever practical. Conservation, clean renewable, and clean distributed generation should be considered as part of the City's energy plan, along with larger natural gas-fired plants.

Policy 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.

Policy 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.

Policy E 6.8: Support the use of alternative fuel in transit, City fleet, and private vehicles in Chula Vista.

Policy 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.

Policy E 6.10: The siting of new sensitive receptors within 500 feet of highways resulting from development or redevelopment projects shall require the preparation of a health risk assessment (HRA) as part of the CEQA review of the project. Attendant health risks identified in the 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.

Policy E 6.11: Develop strategies to minimize carbon monoxide hot spots that address all modes of transportation.

Policy E 6.12: Promote clean fuel sources that help reduce the exposure of sensitive uses to pollutants.

Policy 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.

Policy 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.

B. City of Chula Vista Energy Code

CVMC Chapter 15.26, Energy Code, adopts by reference the California Energy Code (described above), with the following increased energy efficiency standards for Climate Zone 7, which contains the western portion of Chula Vista, including the PGD (CVMC Section 15.26.030):

a. All new low-rise residential buildings 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 conditioned floor area shall use at least 15 percent less time dependent valuation energy than the 2008 Building Energy Efficiency Standards allow.

b. 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 time dependent valuation energy than the 2008 Building Energy Efficiency Standards allow.

C. City of Chula Vista Growth Management Ordinance

The Growth Management Ordinance (CVMC Chapter 19.09) requires an Air Quality Improvement Plan (AQIP) to be submitted with all sectional planning area plans or major development projects consisting of 50 dwelling units or greater (or non-residential or mixed use projects with equivalent dwelling units to a residential project of 50 or more dwelling units). 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, reduce vehicle miles traveled, including implementation of appropriate traffic control measures, and other means of reducing emissions (direct or indirect) from the project.

5.4.3 Criteria for Determination of Significance

According to Appendix G of the CEQA Guidelines, a significant impact related to air quality would occur if implementation of the proposed project would:

- Criterion 1: Conflict with or obstruct implementation of the applicable air quality plan.
- Criterion 2: Violate any air quality standard or contribute substantially to an existing or projected air quality violation.
- Criterion 3: Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).

- Criterion 4: Expose sensitive receptors to substantial pollutant concentrations.
- Criterion 5: Create objectionable odors affecting a substantial number of people.

5.4.4 Impacts

5.4.4.1 Applicable Air Quality Plans

Criterion 1: Would the project conflict with or obstruct implementation of the applicable air quality plan?

The applicable air quality plans for the proposed PGDSP are the San Diego County RAQS and California SIP. Consistency with the RAQS and SIP are evaluated by whether the PGDSP would exceed the growth projections used to develop the RAQS and SIP, and whether the PGDSP would be consistent with RAQS and SIP policies. As discussed in Section 5.4.2.3(a), a project that proposes development that is consistent with the growth anticipated by the applicable general plan would be consistent with the RAQS. The PGDSP implements the planned land uses as envisioned in the Chula Vista General Plan (City of Chula Vista 2005a). Thus, the growth assumed for the PGDSP is consistent with the growth anticipated by the General Plan.

Table 5.4-3 presents an evaluation of the PGDSP's consistency with the RAQS control measures. As shown in Table 5.4-3, the PGDSP would be consistent with all applicable transportation and area source control measures proposed in the RAQS to reduce emissions in the region.

Table 5.4-3 Project Consistency with RAQS Control Measures

RAQS Control Measure	Project Consistency
Transit Improvements	The PGDSP is designed specifically to include the development of the Palomar Transit Plaza Sub-district, and to enhance the use of the local transit system, including the San Diego Trolley and Metropolitan Transit System.
Park-and-Ride Facilities	The PGDSP does not specifically provide a park and ride facility; however, the PGDSP is designed to enhance the Palomar Transit Plaza Sub-district and allow use of transit and carpooling.
Bicycle Facilities	The PGDSP does not specifically provide bicycle lanes, but it would provide access to existing and planned bicycle facilities, including bicycle parking, and requires future development in the PGD to provide bicycle facilities. It would also be consistent with the City's Bicycle Master Plan, and the facilities identified in the Mobility Study for the PGDSP (Appendix B) would be incorporated into the next update of the master plan.
Smart Growth Development	The SANDAG Smart Growth Concept Map identifies the PGD as an existing Metropolitan Center Smart Growth Area. The concept behind redevelopment of the PGD is to implement smart growth policies that encourage infill development and a mix of uses, as well as access to transit.
Pedestrian Facilities	The PGDSP will allow for the development of pedestrian-friendly features, including pedestrian-actuated signals and planting strips for pedestrian buffers. The PGDSP would provide for enhanced crosswalks and construct missing sidewalks and curbs. It would also be consistent with the City's Pedestrian Master Plan.
Traffic-Calming Practices	The PGDSP will include safer crosswalks, pedestrian-actuated signals, and coordinated signals on roads to encourage traffic calming.
Support Bus Rapid Transit	The PGDSP will be served by bus routes and new Bus Rapid Transit services to encourage the use of transit.

Source: SRA 2013

Because the proposed PGDSP would be consistent with the RAQS and SIP, PGDSP implementation would not conflict with or obstruct implementation of the applicable air quality plans. Therefore, impacts associated with the applicable air quality plans would be less than significant.

5.4.4.2 Air Quality Violations

Criterion 2: Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Based on review of the SDAPCD 2010 Criteria Emissions Inventory Reports and 2011 Air Toxics "Hot Spots" Program Report, there are currently no air quality violations within or in the vicinity of the PGD (SDAPCD 2012a, 2012b). The PGDSP proposes mixed use, residential, and retail/commercial land uses that are not typical stationary sources of emissions that would result in an air quality violation, based on existing permitted facilities. No industrial uses are proposed as part of the PGDSP. The only land uses with the potential to be toxic emitters and potentially result in an air quality violation are auto service stations and dry cleaners, which are conditionally permitted in the PGDSP. Similar to existing stationary sources of pollutants, these land uses would be subject to permitting from the SDAPCD and subject to permit requirements, including emissions inventories and inspections. SDAPCD Rule 1200 requires demonstration that health risks are below thresholds and that sources are constructed and operated with appropriate controls. Through compliance with the existing permitting process it is reasonable to assume that these land uses would not result in any significant stationary sources of emissions. Therefore, PGDSP implementation would not contribute substantially to an existing or projected air quality violation. Impacts associated with air quality violations would be less than significant.

5.4.4.3 Cumulatively Considerable Emissions

Criterion 3: Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

The City of Chula Vista has not established quantitative emission thresholds related to criteria air pollutants. The City relies on the significance thresholds developed by the South Coast Air Quality Management District (SCAQMD) in their CEQA Air Quality Handbook (SCAQMD 1993), which are presented in Table 5.4-4. The use of these thresholds is conservative because the SCAQMD's thresholds are based on the South Coast Air Basin's status of extreme non-attainment for the NAAQS for 1-hour ozone. The SDAB is designated as a non-attainment area for ozone, PM_{10}, and $PM_{2.5}$; thus, a baseline cumulative impact for ozone precursors (~~ROG~~VOC and NO_X), PM_{10}, and $PM_{2.5}$ currently exists. If emissions associated with PGDSP implementation were estimated to exceed the significance thresholds, a cumulatively considerable contribution to air pollutant emissions would occur.

Table 5.4-4 Significance Thresholds for Criteria Air Pollutants

Pollutant	Emissions Threshold (pounds per day)	
	Construction	Operations
Volatile Organic Compounds (VOC)~~Reactive Organic Gases (ROG)~~[1]	75	55
Nitrogen Oxides (NO_X)	100	55
Carbon Monoxide (CO)	550	550
Sulfur Oxides (SO_X)	150	150
Respirable Particulate Matter (PM_{10})	150	150
Fine Particulate Matter ($PM_{2.5}$)	55	55

[1] Reactive organic gases are also sometimes referred to as volatile organic compounds.
Source: SCAQMD 1993

A. Construction Impacts

This section addresses potential construction impacts resulting from criteria air pollutant emissions for construction of future development projects associated with PGDSP build-out. Construction activities for individual projects would include site work (demolition, excavation, and grading activities), and building construction activities, including construction of structures, paving, and application of architectural coatings. Because the construction schedule for individual projects is not known at this time, a construction scenario that represents reasonable peak day construction activities was developed to address potential emissions. Implementation of the PGDSP would accommodate a total of 1,300 new dwelling units, 100,000 square feet of additional retail use development, and 50,000 square feet of new office use development. To evaluate a worst-case construction scenario, it was assumed that 13.5 percent of the multi-family dwelling units, 32.5 percent of the retail space, and 30 percent of the office space would be undergoing construction simultaneously. Given that the build-out horizon for the PGDSP is 20 years, this construction scenario was determined to be a reasonable worst case.

For the purpose of this analysis, it was assumed that four projects (one in each sub-district) would be undergoing simultaneous construction at any one time. These projects will include the Palomar Transit Plaza within the Palomar Transit Plaza Sub-district (MU-1); a mixed residential and commercial project within the Mixed Use Corridor Sub-district (MU-2); a multi-family residential project within the Palomar Residential Village Sub-district (PRV); and a commercial retail development within the Palomar Neighborhood Retail Cluster Sub-district (PNRC). Specifically, the following example projects were assumed to be under construction simultaneously:

- MU-1 Sub-district: Palomar Transit Plaza—5,000 square feet of retail space; 2,500 square feet of office space; and 25 multi-family dwelling units
- MU-2 Sub-district: 25,000 square feet of retail space; 10,000 square feet of office space; and 50 multi-family dwelling units
- PRV Sub-district: 100 multi-family dwelling units
- PNRC Sub-district: 2,500 square feet of retail space and 2,500 square feet of office space

The CalEEMod model was used to estimate emissions from the construction of these four projects under a reasonable maximum construction scenario. The CalEEMod model is the most recent version of the land use model developed within the State of California, and is based on the EMFAC2007 and OFFROAD2007 models for on-road and off-road equipment, respectively. For the purpose of developing the construction scenario, it was assumed that 25,000 square feet of demolition would be required to accommodate new structures. The CalEEMod Model was run using the assumption that projects within all four sub-districts would be under construction simultaneously. For the purpose of calculating emissions, it was assumed that construction would be required to comply with SDAPCD Rule 55, Fugitive Dust, which requires control of fugitive dust (assumed to include watering three times daily on active grading sites and unpaved roads) and SDAPCD Rule 67.0, Architectural Coatings, which requires residential coatings to meet a VOC limit of 100 grams per liter and non-residential coatings to meet a VOC limit of 150 grams per liter. Table 5.4-5 presents the results of the worst-case construction emissions evaluation for the PGDSP. As shown in Table 5.4-5, maximum simultaneous emissions resulting from the worst-case construction scenario for the PGDSP would exceed the significance thresholds for ~~ROG~~VOC and NO_X.

Table 5.4-5 Estimated Construction Emissions

Construction Activity	Maximum Daily Emissions (pounds per day)					
	~~ROG~~VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Demolition						
Fugitive Dust	--	--	--	--	0.51	0.00
Heavy Equipment Emissions	8.86	70.71	42.55	0.07	3.50	3.50
On-Road Diesel Emissions	0.29	3.37	1.58	0.00	2.79	0.12
Worker Trips	0.09	0.10	1.02	0.00	0.20	0.01
Subtotal Demolition	*9.24*	*74.18*	*45.15*	*0.07*	*6.49*	*3.63*
Site Preparation						
Fugitive Dust	--	--	--	--	9.39	5.16
Heavy Equipment Emissions	12.48	101.79	56.71	0.09	4.84	4.84
Worker Trips	0.12	0.13	1.36	0.00	0.27	0.01
Subtotal Site Preparation	*12.60*	*101.92*	*58.07*	*0.09*	*14.5*	*10.01*
Grading						
Fugitive Dust	--	--	--	--	9.71	5.16
Heavy Equipment Emissions	31.16	256.42	140.14	0.28	11.99	11.99
Worker Trips	0.30	0.34	3.40	0.01	0.68	0.03
Subtotal Grading	*31.46*	*256.76*	*143.54*	*0.29*	*22.38*	*17.18*
Building Construction						
Heavy Equipment Emissions	11.74	72.22	48.86	0.09	4.94	4.94
Vendor Trips	0.38	4.44	2.54	0.01	0.39	0.14
Worker Trips	0.84	0.95	9.59	0.02	1.90	0.08
Subtotal Building Construction	*12.96*	*77.61*	*60.99*	*0.12*	*7.23*	*5.16*
Paving						
Asphalt Offgassing	0.00	--	--	--	--	--
Heavy Equipment Emissions	11.05	67.62	41.77	0.06	5.86	5.86
Worker Trips	0.18	0.20	2.04	0.00	0.41	0.02
Subtotal Paving	*11.23*	*67.82*	*43.81*	*0.06*	*6.27*	*5.88*
Architectural Coatings Application						
Architectural Coatings	21.98	--	--	--	--	--
Heavy Equipment Emissions	0.49	2.96	1.94	0.00	0.27	0.27
Worker Trips	0.17	0.19	1.90	0.00	0.38	0.02
Subtotal Architectural Coating Application	*22.64*	*3.15*	*3.84*	*0.00*	*0.65*	*0.29*
Total Construction Emissions	**100.13**	**581.44**	**355.40**	**0.63**	**57.52**	**42.15**
Significance Threshold (lbs/day)	*75*	*100*	*550*	*150*	*150*	*55*
Above Threshold?	**Yes**	**Yes**	**No**	**No**	**No**	**No**

Source: SRA 2013

The analysis developed for the demonstration of the worst-case scenario is considered to be a conservative estimate. The analysis addresses construction emissions at the programmatic level; however, the exact number and timing of all future development projects that could occur are unknown. Approval of the PGDSP would not permit the construction of any individual development project, and no specific construction details are available. Upon application for individual development projects, the City would use the SCAQMD construction emissions thresholds (see Table 5.4-4) to assess the significance of air quality impacts on a project-by-project basis and recommend mitigation as necessary. Implementation of prescribed mitigation would likely reduce construction emissions compared to the emissions in Table 5.4-5. However, such assessments have not yet been prepared and the extent to which emissions would be reduced is unknown. Therefore, PGDSP implementation would result in a cumulatively considerable contribution to construction air quality impacts due to ozone precursor emissions.

B. Operational Impacts

This section addresses potential operational impacts resulting from criteria air pollutant emissions for implementation of the PGDSP. Operational impacts associated with the PGDSP would result from incremental increases in emissions of criteria air pollutants resulting from three main source categories: energy use, area sources, and mobile sources. The CalEEMod model was used to calculate emissions based on the proposed development scenario for build-out of the PGDSP and its four sub-districts. The exact extent, timing, and sequence of infill development that may occur over the 20-year planning horizon of the PGDSP is difficult to ascertain due to a number of factors unique to urban revitalization. However, to address potential air emissions, it was assumed that the entire projected build-out would occur within the 20-year planning horizon. Because the final build-out year is unknown, it was conservatively assumed that total build-out would occur by the year 2030. This assumption is conservative because emissions in future years would be progressively lower due to more stringent emission standards and phase-out of older vehicles.

The CalEEMod model allows for project design features such as access to transit, mix of uses, pedestrian accessibility, and density of housing to be accounted for as measures to reduce operational impacts. Emissions from mobile sources were calculated based on the Mobility Study prepared for the PGDSP (LLG 2012), which took into account pass-by trips, a 5 percent reduction for a mix of uses, and a 10 percent reduction for access to transit. In addition, based on CVMC Section 15.26.030 requirements, it was assumed that buildings would be 15 percent more energy-efficient than the 2008 Building Energy Efficiency Standards. Table 5.4-6 presents operational emission estimates for PGDSP build-out, which take into account the measures listed above. Based on the CalEEMod model results, operational emissions are mainly driven by vehicle travel, although energy use and area sources also contribute to operational emissions. As shown in Table 5.4-6, operational emissions would exceed the significance thresholds for ~~ROG~~VOC and NO_X.

Future development projects that propose 50 or more dwelling units would be required to prepare an AQIP that demonstrates implementation of best available design to reduce vehicle trips, vehicle miles travelled, and traffic congestion, and other means to reduce emissions. Implementation of AQIPs would likely reduce operational emissions compared to the emissions in Table 5.4-6. However, the AQIPs have not yet been prepared and the extent to which emissions would be reduced is unknown. Therefore, PGDSP implementation would result in a cumulatively considerable contribution to operational air quality impacts due to ozone precursor emissions.

Table 5.4-6 Estimated Operational Emissions

Emission Source	Maximum Daily Emissions (pounds per day)					
	~~ROG~~VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Summer						
Energy Use	0.81	6.91	3.07	0.04	0.55	0.55
Area Sources	40.56	1.26	108.91	0.01	1.04	1.03
Vehicular Emissions	47.73	94.84	429.48	0.95	32.44	6.27
Total	**89.10**	**103.01**	**541.46**	**1.00**	**34.04**	**7.85**
Significance Threshold (lbs/day)	*55*	*55*	*550*	*150*	*150*	*55*
Above Threshold?	**Yes**	**Yes**	**No**	**No**	**No**	**No**
Winter						
Energy Use	0.81	6.91	3.07	0.04	0.55	0.55
Area Sources	40.56	1.26	108.91	0.01	1.04	1.03
Vehicular Emissions	51.16	97.89	425.67	0.89	32.47	6.30
Total	**92.53**	**106.06**	**537.65**	**0.94**	**34.06**	**7.88**
Significance Threshold (lbs/day)	*55*	*55*	*550*	*150*	*150*	*55*
Above Threshold?	**Yes**	**Yes**	**No**	**No**	**No**	**No**

Source: SRA 2013

5.4.4.4 Sensitive Receptors

Criterion 4: Would the project expose sensitive receptors to substantial pollutant concentrations?

The CARB defines sensitive receptors as residences, schools, day care centers, playgrounds, and medical facilities, or other facilities that may house individuals with health conditions that would be adversely affected by changes in air quality. The two primary pollutants of concern regarding health effects for land development are carbon monoxide and diesel particulates. An analysis of the proposed PGDSP's potential to expose sensitive receptors to these pollutants is provided below.

A. Localized Carbon Monoxide Impacts

This section presents the results of an evaluation of localized carbon monoxide emissions associated with traffic generated by the proposed PGDSP and potential impacts to sensitive receptors in the PGD. Projects involving increases in traffic and/or traffic congestion may result in localized increases in carbon monoxide concentrations, known as carbon monoxide "hot spots." To evaluate whether PGDSP implementation would cause or contribute to a violation of the carbon monoxide standard, additional modeling was conducted to assess whether the increases in traffic attributable to PGDSP build-out would result in carbon monoxide hot spots. The Transportation Project-Level Carbon Monoxide Protocol (Caltrans 1998a) was followed to determine whether carbon monoxide hot spots are likely to form due to project-related traffic. In accordance with the Caltrans Protocol, carbon monoxide hot spots are typically evaluated when: a) the level of service of an intersection or roadway decreases to LOS E or worse; b) signalization and/or channelization is added to an intersection; and c) sensitive receptors such as residences, commercial developments, schools, or hospitals are located in the vicinity of the affected intersection or roadway segment.

The potential for the PGDSP to result in carbon monoxide hot spots was based on the results of the Mobility Study prepared for the PGDSP (LLG 2012), which evaluated if the PGDSP would decrease the level of service at any roadways and/or intersections. The Mobility Study evaluated six intersections in the project vicinity to assess the Existing plus Project, Year 2020, and Year 2030 conditions and level of service. Based on the Mobility Study, the following intersections were projected to experience a degradation in level of service or a significant increase in delay due to project-related traffic under the Existing plus Project, Year 2020, and Year 2030 scenarios:

- Walnut Avenue/Palomar Street
- Industrial Boulevard/Palomar Street (with the San Diego Trolley at-grade)

As recommended in the Caltrans Protocol, CALINE4 modeling was conducted for these intersections. For a detailed description of the methodology and assumptions used to evaluate the potential for carbon monoxide hot spots, refer to Section 4.3.1 of the Air Quality Technical Report (SRA 2013), which is provided as Appendix C of this EIR.

Table 5.4-7 presents a summary of the predicted carbon monoxide concentrations (impact plus background) for the intersections identified above. As shown in Table 5.4-7, the predicted carbon monoxide concentrations would be substantially below the 1-hour and 8-hour NAAQS and CAAQS for carbon monoxide. Because carbon monoxide hotspots are not anticipated to result from project-related traffic, PGDSP implementation would not expose sensitive receptors to substantial carbon monoxide concentrations. Therefore, impacts to sensitive receptors related to carbon monoxide hotspots would be less than significant.

Table 5.4-7 Carbon Monoxide Hot Spots Evaluation—Predicted Carbon Monoxide Concentrations

Intersection	Existing plus Project Impact	
Maximum 1-hour Concentration Plus Background Carbon Monoxide Concentration (CAAQS = 20 ppm; NAAQS = 35 ppm; Background 2.5 ppm)		
	AM	PM
Walnut Avenue/Palomar Street	3.7 ppm	4.3 ppm
Palomar Street/Industrial Avenue	3.7 ppm	4.2 ppm
Maximum 8-hour Concentration Plus Background Carbon Monoxide Concentration (CAAQS = 9.0 ppm; NAAQS = 9 ppm; Background 1.87 ppm)		
Walnut Avenue/Palomar Street	3.13 ppm	
Palomar Street/Industrial Avenue	3.06 ppm	

Intersection	Year 2020 Impact	
Maximum 1-hour Concentration Plus Background Carbon Monoxide Concentration (CAAQS = 20 ppm; NAAQS = 35 ppm; Background 2.5 ppm)		
	AM	PM
Walnut Avenue/Palomar Street	3.1	3.4
Palomar Street/Industrial Avenue	3.1	3.4
Maximum 8-hour Concentration Plus Background Carbon Monoxide Concentration (CAAQS = 9.0 ppm; NAAQS = 9 ppm; Background 1.87 ppm)		
Walnut Avenue/Palomar Street	2.50 ppm	
Palomar Street/Industrial Avenue	2.50 ppm	

Table 5.4-7 continued

Intersection	Year 2030 Impact	
Maximum 1-hour Concentration Plus Background Carbon Monoxide Concentration (CAAQS = 20 ppm; NAAQS = 35 ppm; Background 2.5 ppm)		
	AM	**PM**
Walnut Avenue/Palomar Street	3.1 ppm	3.4 ppm
Palomar Street/Industrial Avenue	3.2 ppm	3.5 ppm
Maximum 8-hour Concentration Plus Background Carbon Monoxide Concentration (CAAQS = 9.0 ppm; NAAQS = 9 ppm; Background 1.87 ppm)		
Walnut Avenue/Palomar Street	2.50 ppm	
Palomar Street/Industrial Avenue	2.57 ppm	

Source: SRA 2013

B. Toxic Air Contaminants

This section presents the results of an evaluation of toxic air contaminant (TAC) emissions associated with allowable land uses in the PGDSP and traffic along the I-5 freeway corridor, and potential impacts to sensitive receptors in the PGD. California Health and Safety Code Section 39655 defines a TAC as "an air pollutant which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health." TACs can be emitted from stationary, area, and mobile sources, and typically contribute to elevated regional and localized risks near industrial and commercial facilities and busy roadways. The TAC of primary concern emitted from on-road traffic is diesel particulate matter. Diesel particulate matter is the risk-driving substance emitted from vehicles, and has been identified by the state as a carcinogenic compound. The risk from diesel particulate matter represents approximately 70 percent of the known statewide cancer risk from outdoor air toxics. The exhaust from diesel-fueled engines is a complex mixture of gases, vapors, and particles, many of which are known human carcinogens. In San Diego County, on-road diesel-fueled vehicles contribute about 24 percent of diesel particulate emissions, with an additional 74 percent attributed to other mobile sources like off-road equipment, such as construction or agricultural machinery. Another approximately 2 percent of diesel particulate emissions are attributable to stationary sources, including diesel-powered engines. The following analysis discusses the potential risks related to the sensitive receptors proposed in the PGD from on-site and off-site sources.

1. On-site TAC Sources

The CARB's Air Quality and Land Use Handbook: A Community Health Perspective lists land uses that are considered major air toxic emitters. These land uses are generally industrial and processing land uses that require a permit from the SDAPCD to operate, including chrome plating facilities, refineries, rail yards, and distribution centers. The PGDSP does not propose any major toxic emitters. However, CARB does consider dry cleaning facilities and gas stations to be stationary sources of TAC emissions that should not be located near sensitive receptors. Based on CARB siting recommendations within the Air Quality and Land Use Handbook, a detailed HRA should be conducted for proposed sensitive receptors within 300 feet of a large gas station (defined as a facility with a throughput of 3.6 million gallons per year or greater), 50 feet of a "typical" gas station (a facility with a throughout of less than 3.6 million gallons per year), or within 500 feet of a dry cleaning facility that uses perchloroethlyene (CARB 2005).

Although the PGDSP would include primarily residential and commercial uses, gas stations and dry cleaning facilities currently exist in the PGD, and new dry cleaning facilities and gas stations are

allowable in the PGD, subject to a conditional use permit. Due to physical size constraints, large gas stations with a throughput of 3.6 million gallons per year or more would not be permitted within the PGD. Development of a typical-sized gas station in the PGD would be possible. New dry cleaning facilities and gas stations would be required to comply with SDAPCD Rule 1200, which requires demonstration that risks are below thresholds and that sources are constructed and operated with appropriate controls. However, if new sensitive receptors would be proposed within the screening distance of a gas station or dry cleaning facility developed prior to the residence, a significant impact would potentially occur.

Sensitive receptors may be exposed to diesel particulate matter emissions from land uses that attract large numbers of diesel trucks or buses, such as distribution centers or regional transit centers. The PGDSP does not include any distribution centers. Commercial land uses would intermittently attract diesel trucks for the delivery of goods. However, in 2004, the CARB adopted an Airborne Toxic Control Measure (ATCM) to limit heavy-duty diesel motor vehicle idling in order to reduce public exposure to diesel particulate matter and other TACs and their pollutants. The measure applies to diesel-fueled commercial vehicles with gross vehicle weight ratings greater than 10,000 pounds that are licensed to operate on highways, regardless of where they are registered. The measure does not allow diesel fueled commercial vehicles to idle for more than five minutes at any given time. This may be enforced by either the Chula Vista Police Department or the SDAPCD. Therefore, the delivery trucks that would frequent the area would not idle for extended periods of time.

Metropolitan Transit System buses would intermittently briefly idle at bus stops in the PGD (including the transit center) to load and unload passengers. The Metropolitan Transit System buses are subject to the CARB's Public Transit Bus Fleet Rule and Emission Standards for New Urban Buses (CCR Title 13, Section 1956). This rule includes requirements for transit agencies to include alternative-fuel buses in their fleet, meet fleet-wide nitrogen oxides and diesel particulate matter emissions reduction requirements, and zero-emissions bus purchase requirements. As older buses are phased out under the CARB program, new buses would either be alternatively fueled or powered by diesel engines with limited diesel particulate matter emissions. In the meantime, fleet-wide emissions standards would reduce exposure to emissions from older buses by reducing their use or installation of retrofits to reduce emissions. Therefore, required compliance with existing CARB regulations would reduce potential impacts related to commercial deliveries and bus service to a less than significant level.

Diesel particulate matter would result from operation of construction equipment. As shown in Table 5.4-5, construction under the PGDSP is not projected to result in significant particulate matter emissions. Additionally, diesel particulate matter is considered to have a long-term health effect (eight years or more) (CalEPA 2003). Construction would consist of short-term events spaced throughout the project site. Therefore, emissions would not result in a significant long-term health risk to surrounding receptors.

2. Off-site TAC Sources

Because the proposed PGDSP includes the projected development of 1,300 additional residential units within the PGD and a portion of the PGD is within 500 feet of the I-5 freeway, an HRA was conducted in accordance with Policy E 6.10 of the Chula Vista General Plan (see Section 5.4.2.4 above). Projects within 500 feet of a freeway are required to address, at a minimum, the nine-year and 70-year exposure duration. The nine-year duration is typical for sensitive receptors such as schools, and is a reasonable assumption for the average duration that a person would reside at the same location. The analysis is conservative because it assumes a person would be at the location seven days a week, 24 hours a day.

While it is highly unlikely that most people will reside in a single residence for 70 years, the City has also requested that the 70-year exposure scenario be included in the analysis because this scenario is recommended by the CARB, SCAQMD, and California Office of Environmental Health Hazard Assessment (OEHHA) to be included in HRAs. The HRA for the PGDSP was prepared in accordance with the City's HRA Guidelines (City of Chula Vista 2006) using methodologies from the Air Toxics Hot Spots Program Guidance Manual for Preparation of HRAs (OEHHA 2003a).

The City of Chula Vista has not established a significance threshold for evaluating health risks associated with mobile sources such as freeways. Furthermore, there are no established TAC emission thresholds for determining significance under CEQA. The SCAQMD and OEHHA refer to a maximum incremental cancer risk of 10 in one million and a non-cancer health hazard index of 1.0; however, these criteria are not specifically applied to health risks associated with locating sensitive receptors near a freeway. The AERMOD air dispersion model was used to calculate ground-level concentrations at the PGDSP site associated with emissions of TACs from I-5. Due to the lack of any adopted significance threshold, the HRA compares the findings of the AERMOD air dispersion model to the SCAQMD and OEHHA's cancer and non-cancer risk criteria. Thus, the analysis provided herein is for informational purposes and is not used to make a significance determination.

a. Toxic Air Contaminant Emissions

The first step in the analysis was to evaluate TAC emissions associated with traffic on the I-5 segment nearest the PGD. As discussed above, the HRA focuses on potential risks associated with diesel particulate matter from trucks traveling along the segment of I-5 nearest to the PGD. To estimate emissions from traffic traveling on I-5, traffic projections were obtained from the I-5 South Multimodal Corridor Study (AECOM 2010), which provided estimates of ADT on the freeway segment adjacent to the PGD for year 2009, 2020, and 2035. Based on the Mobility Study (LLG 2012), traffic was assumed to increase by 1.5 percent per year beyond year 2035 and 5 percent of trips were assumed to be truck trips. Based on data from Caltrans for the I-5 corridor (Caltrans 2012), it was assumed that 56.2 percent of the trips would be two-axle trucks, 16.2 percent of the trips would be three-axle trucks, and 27.6 percent of the trips would be four or more-axle trucks.

Mobile source emission factors were modeled using the EMFAC2011 model. Average emissions associated with traffic on the I-5 segment were estimated by averaging over the nine-year period for which the HRA calculations were conducted. The nine-year period was assumed to range from 2023 through 2030, which was the range of time during which it could be anticipated that the PGDSP would be built out. The 70-year period was assumed to commence in 2015 and extend to 2084. For a detailed description of the methodology and assumptions used to estimate diesel particulate emissions, refer to Section 4.3.2 of the Air Quality Technical Report (SRA 2013), which is provided as Appendix C of this EIR. Diesel particulate emission estimates on a per source basis are summarized in Table 5.4-8.

Table 5.4-8 Diesel Particulate Emission Estimates—I-5 Segment Traffic

Scenario	2-Axle Truck Diesel Particulate Emissions (pounds per year)	3-Axle Truck Diesel Particulate Emissions (pounds per year)	4+-Axle Truck Diesel Particulate Emissions (pounds per year)	Total Diesel Particulate Emissions (pounds per year)
9-year exposure	0.635	0.353	1.150	2.139
70-year exposure	0.829	0.573	1.728	3.130

Source: SRA 2013

b. Risk Evaluation

The AERMOD air dispersion model was used to calculate ground-level concentrations in the PGD associated with estimated emissions from the I-5 segment traffic, as shown in Table 5.4-8. The upper limit excess cancer risk was calculated based on guidance from the OEHHA (OEHHA 2003b), using the 80th percentile exposure assumptions for inhalation risks (CARB 2003). A source of uncertainty in calculating exposures is the assumption that individuals within a particular receptor population (or subpopulation) will receive the same intake doses. Variability in parameters such as absorption rates, breathing rates, body weight, skin surface area, and frequency of exposure will exist even in a narrowly defined age group or sensitive receptor subpopulation. This range of uncertainty and variability is difficult to assess. The OEHHA standard default factors representing the upper limit of these exposure parameters will generally overestimate risks.

Additionally the PGDSP includes the following site design measures that must be implemented where possible in order to limit exposure to TAC emissions from I-5:

- Siting of new or expansion of existing schools or day care centers within 500 feet is not allowed in accordance with existing State law.
- Siting of new residential uses within 350 feet of the centerline of the freeway should be avoided to the extent possible.
- In mixed-use areas, where possible “non-sensitive uses” (e.g., commercial, retail, and office) should be sited closest to I-5. Residential uses should be located on the upper stories and tiered back from I-5 and should preferably be outside the area within 350 feet of the centerline of the freeway.
- For proposed residential uses in the area between 350 feet and 500 feet from the centerline of the freeway, every effort should be made to consolidate parcels to create more flexibility in site design with a goal of minimizing residential uses within this area.
- In the event that such design cannot be achieved or parcel size does not allow flexibility in site design, mechanical and structural measures, such as air conditioning with special filters, etc., should be incorporated into building design and construction techniques.

Thus, the risks reported in this analysis represent a conservative estimate.

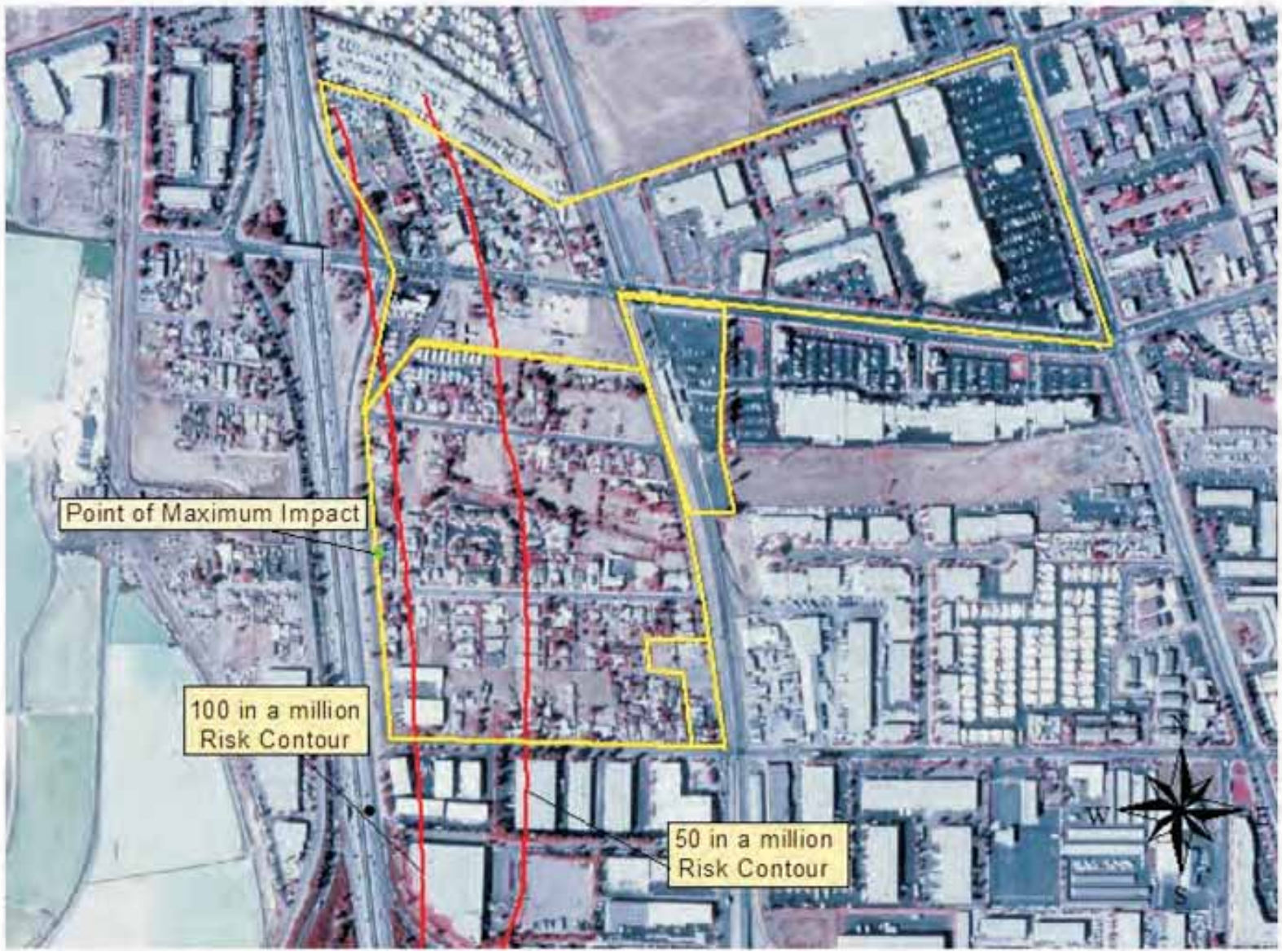
Cancer Risk. The maximum excess cancer risks due to inhalation of diesel particulate matter were predicted for receptors located in the western portion of the PGD, adjacent to the I-5 freeway. Based on the nine-year exposure scenario, the maximum excess cancer risk at the point of maximum impact along the western boundary of the PGD is predicted to be 16.3 in a million. Figure 5.4-1 shows the nine-year exposure scenario. Based on the 70-year exposure scenario, the maximum excess cancer risk at the point of maximum impact along the western boundary of the PGD is predicted to be 119 in one million. Figure 5.4-2 shows the risk contours for the 70-year exposure scenario. At the point of maximum impact, the maximum excess cancer risks under both the nine-year and 70-year exposure scenarios would be above the SCAQMD and OEHHA’s cancer risk criteria of 10 in a million.

Source: SRA 2012

0 400 800
Feet

N

CANCER RISK CONTOURS - 9-YEAR EXPOSURE SCENARIO
FIGURE 5.4-1



Source: SRA 2012

0 400 800
Feet

N

CANCER RISK CONTOURS - 70-YEAR EXPOSURE SCENARIO
FIGURE 5.4-2

It should be noted that based on the California Almanac of Emissions and Air Quality (CARB 2005), the relative cancer risk attributable to diesel particulate emissions in San Diego County decreased from an estimated 870 in one million for the year 1990 to an estimated 420 in one million for the year 2000. The continuing reduction over time is attributed to regulatory requirements and technological developments that have resulted in the reduction of TACs in diesel exhaust. According to a FHWA analysis, on a nationwide basis, even if vehicle miles traveled increased by 64 percent, reductions of 57 percent to 87 percent in mobile source air toxics are projected, with the 87 percent referring to diesel particulate matter (FHWA 2006). Therefore, based on this data, cancer risk attributable to diesel particulate emission is anticipated to continue to decrease over time.

Non-Cancer Risk. The chronic non-cancer risk at the point of maximum impact within the PGD was predicted to be 0.048, which is below the SCAQMD and OEHHA's cancer risk criteria of 1.0 at which adverse non-cancer health risks would be anticipated.

As discussed above, due to the lack of any adopted significance threshold, the analysis provided above is for informational purposes and is not used to make a significance determination.

5.4.4.5 Objectionable Odors

Criterion 5: Would the project create objectionable odors affecting a substantial number of people?

Assessing odor impacts depends upon such variables as wind speed, wind direction, and the sensitivities of receptors to different odors. To have an odor impact, the perception of an odor in ambient air depends on the properties of the substance emitted, its concentration in emissions, and dilution of emissions between the emissions point and the receptors. Certain amounts of odor emissions would be generated from vehicles and/or equipment tailpipe exhaust emissions during construction and operations associated with implementation of the PGDSP. Such odors are generally attributable to unburned hydrocarbons in exhaust, concentrations of which are small and would not be considered significant. Future development associated with the proposed PGDSP would include retail, commercial, and residential land uses, which would not be considered major sources of odors that would result in a significant impact to receptors. Existing sources of odors within Chula Vista include the Otay Landfill. As the PGD is located over four miles from the Otay Landfill, PGDSP implementation would not place any receptors in close proximity to this odor source. Therefore, impacts associated with objectionable odors would be less than significant.

5.4.5 Level of Significance Prior to Mitigation

5.4.5.1 Applicable Air Quality Plans

Because the proposed PGDSP would be consistent with the RAQS and SIP, PGDSP implementation would not conflict with or obstruct implementation of the applicable air quality plans. Therefore, impacts associated with applicable air quality plans would be less than significant.

5.4.5.2 Air Quality Violations

Because the proposed PGDSP would not include any significant stationary sources of emissions such as industrial uses or toxic emitters, PGDSP implementation would not contribute substantially to an existing or projected air quality violation. Therefore, impacts associated with air quality violations would be less than significant.

5.4.5.3 Cumulatively Considerable Emissions

Implementation of the proposed PGDSP would generate a cumulatively considerable net increase of ozone precursors (~~ROG~~VOC and NO_X) related to both construction emissions and operational emissions. Therefore, potentially significant impacts associated with cumulatively considerable air pollutant emissions would occur.

5.4.5.4 Sensitive Receptors

Implementation of the proposed PGDSP would not result in carbon monoxide hotspots from project-related traffic and would not expose sensitive receptors to substantial carbon monoxide concentrations. Therefore, impacts to sensitive receptors would be less than significant.

5.4.5.5 Objectionable Odors

Implementation of the proposed PGDSP would not create major sources of odors and would not place any receptors in close proximity to existing odor sources. Therefore, impacts associated with objectionable odors would be less than significant.

5.4.6 Mitigation Measures

5.4.6.1 Applicable Air Quality Plans

No mitigation measures are required.

5.4.6.2 Air Quality Violations

No mitigation measures are required.

5.4.6.3 Cumulative Considerable Emissions

Implementation of mitigation measure 5.4-1 would reduce the project's contribution to cumulative construction emissions and implementation of mitigation measure 5.4-2 would reduce the project's contribution to cumulative operational emissions; however, even with implementation of these mitigation measures, emissions associated with PGDSP implementation would still be cumulatively considerable and would not be reduced to below a level of significance. Therefore, significant and unavoidable impacts would occur as discussed in Section 5.4.7 below.

5.4-1 **Construction Emissions Reduction Measures.** Construction contractors for future PGDSP development projects shall implement the following measures to reduce construction emissions during all construction activities:

i. Minimize simultaneous operation of multiple construction equipment units (i.e., phase construction to minimize impacts).

ii. Use low pollutant-emitting construction equipment.

iii. Use electrical construction equipment.

iv. Use catalytic reduction for gasoline-powered equipment.

v. Use injection timing retard for diesel-powered equipment.

vi. All unpaved construction areas shall be sprayed with water or other acceptable dust control agents twice daily during dust-generating activities to reduce dust emissions. Additional watering or acceptable dust control agents shall be applied during dry weather or on windy days until dust emissions are not visible.

vii. Trucks hauling dirt and debris shall be properly covered to reduce windblown dust and spills.

viii. A 15 mile per hour speed limit on unpaved surface shall be enforced.

ix. On dry days, dirt and debris spilled onto paved surfaces shall be swept up immediately to reduce re-suspension of particulate matter caused by vehicle movement. Approach routes to construction sites shall be cleaned daily of construction-related dirt in dry weather.

x. On-site stockpiles of excavated material shall be covered or watered.

xi. Disturbed areas shall be hydroseeded, landscaped, or developed as quickly as possible and as directed by the City to reduce dust generation.

5.4-2 **Operational Emissions Reduction Measures.** The City shall implement the following measures to reduce operational emissions by further reducing vehicle use associated with PGDSP implementation:

i. Require Transportation Demand Management Plans from employers within the PGDSP, which could include ride-sharing programs, vanpools/shuttles, etc.

ii. Synchronize traffic signals to minimize idling and reduce emissions due to traffic congestion.

iii. Require parking fees within the PGDSP to encourage transit use.

iv. Limit parking supply to encourage transit use.

v. Require employers within the PGDSP to provide transit subsidies.

5.4.6.4 Sensitive Receptors

Implementation of mitigation measure 5.4-3 would reduce impacts related to on-site sources of TACs to a less than significant level.

5.4-3 **Siting Sensitive Receptors near Gas Stations or Dry Cleaning Facilities**. A Health Risk Assessment (HRA) shall be prepared by a qualified air quality professional for development of new sensitive receptors proposed in the PGD within 500 feet of a dry cleaning facility that uses perchloroethlyene, or within 50 feet of an auto service station. The project shall not be considered for approval until an HRA has been completed and approved by the City. The methodology for the HRA shall follow the Office of Environmental Health Hazard Assessment and San Diego Air Pollution Control District guidelines for the preparation of HRAs. If a potentially significant health risk is identified, the HRA shall identify appropriate measures to reduce the potential health risk to below a significant level, or the sensitive receptor shall be sited in another location.

5.4.6.5 Objectionable Odors

No mitigation measures are required.

5.4.7 Level of Significance after Mitigation

Implementation of mitigation measure 5.4-1 would reduce the project's construction-related emissions of ~~ROG~~VOC and NO_X, but not to a less than significant level. There are no other feasible mitigation measures that could be applied to reduce construction emissions to below a level of significance. Thus, impacts related to the project's cumulatively considerable construction emissions would remain significant and unavoidable. Individual PGDSP development projects would be required to evaluate the potential significance of their construction-related emissions as they proceed through the permitting process with the City.

Implementation of mitigation measure 5.4-2 would reduce the project's operational emissions of ~~ROG~~VOC and NO_X, but not to a less than significant level. Operational emissions are mainly attributable to motor vehicles. The proposed PGDSP already incorporates measures to reduce vehicle use, including a five percent reduction for a mix of uses and a 10 percent reduction for access to transit. In addition, future vehicle emissions may be lower than estimated due to increasingly stringent California fuel efficiency requirements. However, some mitigation measures cannot be implemented at the specific plan level, such as having employers require flexible work schedules or allow telecommuting for employees. Furthermore, there are currently no available mitigation measures to regulate consumer product emissions without regulating the purchases of individual consumers. Thus, impacts related to the project's cumulatively considerable operational emissions would remain significant and unavoidable. Individual PGDSP development projects would be required to evaluate the potential significance of their operational emissions as they proceed through the permitting process with the City.

Implementation of mitigation measure 5.4-3 would reduce impacts to sensitive receptors related to on-site sources of TACs to a less than significant level.

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5.5 Global Climate Change

The analysis in this section of the EIR addresses the potential impacts associated with global climate change that would result from implementation of the PGDSP. The following discussion of global climate change is based on the Air Quality Technical Report prepared by SRA (2013), which is provided as Appendix C of this EIR.

5.5.1 Existing Conditions

5.5.1.1 Understanding Global Climate Change

Global climate change is an alteration 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 such as volcanic eruptions, changes in the earth's orbit, and the amount of energy released from the sun. 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. These emissions, in turn, have led to a marked increase in the accumulation of gases in the atmosphere that have been shown to influence the earth's climate. These gases, termed greenhouse gases (GHGs), influence the amount of heat that is trapped in the earth's atmosphere, analogous to the way a greenhouse retains heat. Because 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.

5.5.1.2 Greenhouse Gases of Primary Concern

California Health and Safety Code Section 38505(g) defines GHGs to include the following compounds: carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, and nitrogen trifluoride. Carbon dioxide, followed by methane and nitrous oxide, are the most common GHGs that result from human activity, and are the GHGs of primary concern in this analysis. Descriptions of these compounds and their sources are provided below. Fluorinated gases (hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, and nitrogen trifluoride) are synthetic, powerful GHGs that are emitted from a variety of industrial processes, and are not of primary concern in this analysis.

Individual GHGs have varying atmospheric lifetimes and heat-trapping properties. The atmospheric lifetime of a GHG is the average time the molecule stays stable in the atmosphere. Most GHGs have long atmospheric lifetimes, staying in the atmosphere for hundreds or thousands of years. The potential of a gas to trap heat in the atmosphere is measured by its global warming potential. The global warming potential is defined as the cumulative radiative forcing effect of a gas over a specified time horizon resulting from the emission of a unit mass of gas relative to a reference gas. Table 5.5-1 identifies the atmospheric lifetimes and global warming potentials of the GHGs of primary concern in this analysis. The reference gas for global warming potential is carbon dioxide. The carbon dioxide equivalent (CO_2e) methodology normalizes various GHG emissions to a consistent measure to allow for direct comparison. For example, methane has a global warming potential of 21 (i.e., methane is 21 times more potent than carbon dioxide); therefore, one metric ton (MT) of methane is equal to 21 MT CO_2e.

Table 5.5-1 Atmospheric Lifetimes and Global Warming Potentials

GHG	Formula	Atmospheric Lifetime (Years)	100-Year Global Warming Potential
Carbon Dioxide	CO_2	Variable	1
Methane	CH_4	12 ± 3	21
Nitrous Oxide	N_2O	120	310

Source: SRA 2013

A. Carbon Dioxide

Carbon dioxide is the primary greenhouse gas emitted through human activities. Carbon dioxide enters the atmosphere through the burning of fossil fuels, solid waste, trees and wood products, and as a result of other chemical reactions such as the manufacturing of cement. Globally, the largest source of carbon dioxide emissions is the combustion of fossil fuels in power plants, automobiles, industrial facilities, and other similar sources. A number of specialized industrial production processes and product uses such as mineral production, metal production, and petroleum-based products also produce carbon dioxide emissions. Carbon dioxide is removed from the atmosphere (or "sequestered") as part of the biological carbon cycle. Billions of tons of atmospheric carbon dioxide are sequestered by oceans and growing plants (also known as "sinks") and are emitted back into the atmosphere annually through respiration, decay, and combustion (also known as "sources"). When in balance, the total carbon dioxide sinks and sources from the entire carbon cycle are roughly equal. However, since the Industrial Revolution, human activities such as the burning of fossil fuels and deforestation have increased carbon dioxide concentrations in the atmosphere.

B. Methane

Methane is emitted from a variety of human-related and natural sources. Human-related sources of methane include fossil fuel production and transport, animal husbandry, rice cultivation, biomass burning, and waste management (i.e., decay of organic waste in landfills). Natural sources of methane include wetlands, gas hydrates, permafrost, termites, oceans, freshwater bodies, non-wetland soils, and wildfires. Methane emission levels from a source can vary significantly from one country or region to another, depending on many factors such as climate, industrial and agricultural production characteristics, energy types and usage, and waste management practices. For example, temperature and moisture have a significant effect on the anaerobic digestion process, which is one of the key biological processes that cause methane emissions in both human-related and natural sources. Also, the implementation of technologies to capture and utilize methane from sources such as landfills, coal mines, and manure management systems affects the emission levels from these sources. It is estimated that 60 percent of global methane emissions are related to human activities (USEPA 2012a).

C. Nitrous Oxide

Nitrous oxide is emitted from a variety of human-related and natural sources. Human-related sources of nitrous oxide include agricultural soil management, animal manure management, sewage treatment, combustion of fossil fuel and solid waste, adipic (fatty) acid production, and nitric acid production. Nitrous oxide is also produced naturally through sources associated with the biological nitrogen cycle, particularly microbial action in wet tropical forests. Nitrous oxide emission levels from a source can vary significantly from one country or region to another, depending on many factors such as industrial and

agricultural production characteristics, combustion technologies, waste management practices, and climate. For example, heavy utilization of synthetic nitrogen fertilizers in crop production typically results in significantly more nitrous oxide emissions from agricultural soils than that occurring from less intensive, low-tillage techniques. Also, the presence or absence of control devices on combustion sources, such as catalytic converters on automobiles, can have a significant effect on the level if nitrous oxide emissions from these types of sources. It is estimated that 40 percent of global nitrous oxide emissions are related to human activities (USEPA 2012a).

5.5.1.3 Greenhouse Gas Emissions Inventories

In an effort to evaluate and reduce the potential adverse impacts of global climate change, GHG inventories have been compiled to estimate the level of emissions and removals. The global, national, statewide, countywide, and City of Chula Vista GHG inventories are summarized below.

A. Global

Worldwide anthropogenic GHG emissions in 2004 were approximately 49,000 million MT CO_2e, including ongoing emissions from industrial and agricultural sources and emissions from land use changes such as deforestation and biomass decay (Intergovernmental Panel on Climate Change 2007). Carbon dioxide emissions from fossil fuels accounted for 56.6 percent of the total GHG emissions, while carbon dioxide emissions from all sources accounted for 76.7 percent of the total GHG emissions. Methane emissions accounted for 14.3 percent of the total GHG emissions. Nitrous oxide emissions accounted for 7.9 percent of total GHG emissions.

The Global Carbon Project releases an annual update of the global carbon budget and trends. According to the 2010 Carbon Budget (Global Carbon Project 2011), the atmospheric carbon dioxide concentration in 2010 was 389.6 parts per million (ppm), 39 percent above the concentration at the start of the Industrial Revolution (about 278 ppm in 1750). The 2010 concentration is the highest during the last 800,000 years. The annual growth rate of atmospheric carbon dioxide was 2.36 ppm in 2010, one of the largest growth rates in the past decade. Although carbon dioxide emissions from deforestation and other land use changes in the 2000s decade have declined about 25 percent from the 1990s decade, carbon dioxide emissions from fossil fuels in 2010 were the highest in human history.

B. United States

The USEPA's Inventory of U.S. GHG Emissions and Sinks provides a comprehensive emissions inventory of the nation's primary anthropogenic sources and sinks of GHGs back to 1990. According to the 1990-2010 Inventory (USEPA 2012b), U.S. GHG emissions totaled 6,821.8 million MT CO_2e in 2010, which represents a 10.5 percent increase from 1990 levels. From 2009 to 2010, GHG emissions increased by 3.2 percent. This increase was primarily due to an increase in economic output resulting in an increase in energy consumption across all sectors, and much warmer summer conditions resulting in an increase in electricity demand for air conditioning that was generated primarily by combusting coal and natural gas.

C. State of California

The State of California is a substantial contributor of GHG emissions, with the second largest GHG emissions in the U.S. and the 14th largest carbon dioxide emissions in the world. According to the 2000–2009 California GHG Emissions Inventory (CARB 2011), total California GHG emissions were 457 million MT CO_2e in 2009, which represents a 5.5 percent increase from 1990 levels. From 2008 to 2009, GHG

emissions decreased by 5.8 percent. Table 5.5-2 summarizes California GHG emissions by economic sectors. As shown in Table 5.5-2, the transportation sector was the largest contributor to California GHG emissions, followed by the industrial sector and electricity generation from both in-state and imported sources.

Table 5.5-2 State of California GHG Emissions by Economic Sector (2009)

Economic Sector	GHG Emissions (million MT CO_2e)	Percent of Total GHG Emissions
Agriculture	32.1	7.0
Commercial	14.3	3.1
Electricity Generation (imports)	48.4	10.6
Electricity Generation (in-state)	56.2	12.3
Forestry (excluding sinks)	0.2	0.04
Industrial	89.3	19.5
Residential	28.6	6.3
Transportation	172.9	37.9
Unspecified[1]	14.7	3.2
Total GHG Emissions[2]	**456.8**	**100**

[1] Unspecified includes emissions from evaporative losses and ozone-depleting substances substitute use, which could not be attributed to an individual sector.

[2] Sum of above values may not exactly equal the totals due to rounding.

Source: CARB 2011

D. County of San Diego

The University of San Diego School of Law Energy Policy Initiatives Center prepared a detailed regional GHG inventory for San Diego County that considers the unique characteristics of the region in calculating emissions. According to the San Diego County GHG Inventory (University of San Diego School of Law 2008), San Diego County GHG emissions were 34 million MT CO_2e in 2006, which represents an 18 percent increase from 1990 levels. Table 5.5-3 below summarizes San Diego County GHG emissions by category. As shown in Table 5.5-3, on-road transportation was the largest contributor to San Diego County GHG emissions, followed by electricity and natural gas end uses.

E. City of Chula Vista

According to the City of Chula Vista 2010 GHG Emissions Inventory (City of Chula Vista 2010b), citywide GHG emissions were 969,596 MT CO_2e in 2010, which represents a 33 percent increase from 1990 levels. However, the per capita emissions rate in 2010 was approximately 24 percent below 1990 levels. From 2009 to 2010, GHG emissions increased by 2 percent. The transportation sector was the largest contributor (more than 50 percent) to citywide GHG emissions, followed by the residential (26 percent), commercial (19 percent), and industrial (3 percent) sectors.

Table 5.5-3 County of San Diego GHG Emissions by Category (2006)

Category	GHG Emissions (million MT CO_2e)	Percent of Total GHG Emissions
On-Road Transportation	16	46
Electricity	9	25
Natural Gas End Uses	3	9
Industrial Processes and Products	1.6	5
Civil Aviation	1.7	5
Water-Borne Navigation	0.1	0.4
Off-Road Equipment and Vehicles	1.3	4
Rail	0.3	1
Waste	0.7	2
Other Fuels (Propane, Kerosene, Wood, etc.)/Other	1.1	4
Agriculture/Forestry/Land Use	0.4	2
Total GHG Emissions[(1)]	**34**	**100**

[(1)] Sum of above values may not exactly equal the totals due to rounding.

Source: University of San Diego School of Law 2008

5.5.1.4 Regional Adverse Effects of Climate Change

The San Diego Foundation Regional Focus 2050 Study (The San Diego Foundation 2008) explored what the San Diego region would be like in the year 2050 if current climate change trends continue. The study addresses potential regional adverse effects related to climate, sea-level rise, land use, water supplies and demand, energy needs, public health, wildfires, biodiversity, and natural ecosystems. The climate model simulations projected warming across the San Diego region by year 2050, ranging from about 1.5 to 4.5 degrees Fahrenheit, particularly in inland areas. In addition, heat waves are projected to increase in frequency, magnitude, and duration. Without adequate planning, the increase in peak demand for electricity for cooling could result in blackouts and power outages. Extreme heat conditions in the San Diego region are also a public health concern, especially with an aging population. Other health concerns include increased ozone air pollution levels due to an increase in sunny days, which can exacerbate asthma and other respiratory and cardiovascular diseases; increased fire-related injuries and death as intense wildfires occur more frequently; and more cases of mosquito-related West Nile Virus, tropical diseases such as malaria and dengue fever, and coastal algal blooms, which can harbor toxic bacteria and other diseases. Drought years might occur as much as 50 percent more often and be considerably drier. Even with plans in place to conserve, recycle, and augment our available water, it is estimated the San Diego region could face an 18 percent shortfall in water supply by year 2050. Rising sea levels may also have a major impact on the San Diego region's environment and economy, particularly in coastal areas. High tide flooding may threaten low-lying coastal communities and impact military, port, and airport operations. High surf events and rising sea levels may cause even greater coastal erosion. Climate change will also add to the pressures on the variety of habitats and species in the San Diego region. The locations where environmental conditions are suitable for a particular species will shift with climate change.

5.5.2 Regulatory Framework

5.5.2.1 Federal

A. Climate Change Action Plan

In October 1993, President Clinton announced the Climate Change Action Plan, which had a goal of returning GHG emissions to 1990 levels by the year 2000. This was to be accomplished through 50 initiatives that relied on innovative voluntary partnerships between the private sector and government aimed at producing cost-effective reductions in GHG emissions. On March 21, 1994, the U.S. joined a number of countries around the world in signing the United Nations Framework Convention on Climate Change. Under the Convention, governments agreed to gather and share information on GHG emissions, national policies, and best practices; launch national strategies for addressing GHG emissions and adapting to expected impacts, including the provision of financial and technological support to developing countries; and cooperate in preparing for adaptation to the impacts of global climate change.

B. Endangerment and Cause or Contribute Findings for GHGs

On April 2, 2007, in the court case of Massachusetts et al. vs. the Environmental Protection Agency et al. (549 U.S. 497), the U.S. Supreme Court found that GHGs are air pollutants covered by the federal CAA. The Supreme Court held that the Administrator of the USEPA must determine whether or not emissions of GHGs from new motor vehicles cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. In making these decisions, the Administrator is required to follow the language of Section 202(a) of the CAA. On December 7, 2009, the Administrator signed two distinct findings regarding GHGs under Section 202(a) of the CAA:

- **Endangerment Finding:** The Administrator finds that the current and projected concentrations of the six key well-mixed GHGs (carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride) in the atmosphere threaten the public health and welfare of current and future generations.
- **Cause or Contribute Finding:** The Administrator finds that the combined emissions of these well-mixed GHGs from new motor vehicles and new motor vehicle engines contribute to the GHG pollution which threatens public health and welfare.

These findings do not themselves impose any requirements on industry or other entities. However, this action was a prerequisite for implementing GHG emission standards for vehicles. In collaboration with the National Highway Traffic Safety Administration (NHTSA), the USEPA finalized emission standards for light-duty vehicles (2012–2016 model years) in May 2010 and heavy-duty vehicles (2014–2018 model years) in August 2011.

C. Mandatory Reporting of GHGs Rule

On September 22, 2009, the USEPA issued a final rule for the mandatory reporting of GHG data and other relevant information from large sources in the U.S. The purpose of the rule is to collect accurate and timely GHG data to inform future policy decisions. In general, the rule is referred to as 40 CFR Part 98. Implementation of 40 CFR Part 98 is referred to as the Greenhouse Gas Reporting Program.

Part 98 applies to direct GHG emitting sources; suppliers of fossil fuel, industrial gas, and other products that would result in GHG emissions if released, combusted, or oxidized; and facilities that inject carbon dioxide underground for geologic sequestration or other reasons. Facilities that emit 25,000 MT CO_2e or more per year of GHGs are required to submit annual reports to the USEPA.

D. Corporate Average Fuel Economy Standards

First enacted by Congress in 1975, the purpose of the Corporate Average Fuel Economy (CAFE) standards is to reduce energy consumption by increasing the fuel economy of passenger cars and light trucks. On April 1, 2010, the NHTSA and USEPA issued a joint final rule establishing a new national program to regulate model year 2012 through 2016 passenger cars and light trucks in order to improve fuel economy and reduce GHG emissions. The NHTSA increased CAFE standards to require passenger cars and light trucks to meet an average fuel economy of 34.1 miles per gallon by model year 2016. Together with the USEPA's standards for GHG emissions, which also enable manufacturers to achieve compliance by improving the air conditioners of their vehicles, the national program overall is expected to result in improvement levels equivalent to 35.5 miles per gallon.

5.5.2.2 State

A. Executive Order S-3-05

Executive Order S-3-05 (issued June 1, 2005) established the following GHG emissions reduction targets for California:

1) By 2010, reduce GHG emissions to 2000 levels;

2) By 2020, reduce GHG emissions to 1990 levels; and

3) By 2050, reduce GHG emissions to 80 percent below 1990 levels.

Executive Order S-3-05 also directed the Secretary of the California Environmental Protection Agency (CalEPA) to oversee efforts to reach these statewide GHG emissions reduction targets, and to prepare biannual reports on the progress made toward meeting the targets and on the impacts in California related to global warming, including impacts to public health, water supply, agriculture, forestry, and the coastline. The initial California Climate Action Team (CCAT) report in 2006 contained recommendations and strategies to help ensure the targets in Executive Order S-3-05 are met. The latest CCAT report in 2010 expands on the policy-oriented 2006 report and provides new information and scientific findings. The 2010 report includes development of new climate and sea-level projections using information and tools that have become available since the preparation of the previous report, and evaluation of climate change within the context of broader social changes such as land use changes and demographic shifts (CCAT 2010). The action items in the 2010 report focus on the preparation of the Climate Adaptation Strategy, as required by Executive Order S-13-08 (described below).

B. Assembly Bill 32, California Global Warming Solutions Act

In response to Executive Order S-3-5 (described above), the California State Legislature adopted Assembly Bill 32, the California Global Warming Solutions Act of 2006, which focuses on reducing GHG emissions in California. Assembly Bill 32 makes the CARB responsible for monitoring and reducing GHG emissions, and directs the existing CCAT to coordinate statewide efforts and promote strategies that can

be undertaken by many other California agencies. Under Assembly Bill 32, the CARB is required to adopt rules and regulations for quantifiable, verifiable, and enforceable emissions reduction measures that would achieve GHG emissions equivalent to statewide levels in 1990 by the year 2020. The CARB has identified 427 million MT CO_2e as the total statewide aggregated 1990 GHG emissions level, which serves as the 2020 emissions limit (CARB 2007). The CARB estimates that a GHG emissions reduction of 173 million MT CO_2e below business-as-usual would be required to meet the statewide emissions limit by year 2020 (CARB 2007).

The main strategies for reducing California's GHG emissions pursuant to Assembly Bill 32 are outlined in the Climate Change Scoping Plan (CARB 2008). The Climate Change Scoping Plan has a range of GHG emissions reduction measures which include direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, market-based mechanisms such as a cap-and-trade system, and a cost-of-implementation fee to fund the program. In addition, the Climate Change Scoping Plan emphasizes the need to better connect land use and transportation planning to help the state achieve its GHG emissions reduction target for year 2020.

C. Executive Order S-01-07

Executive Order S-01-07 (issued January 18, 2007) mandated that a statewide goal be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by year 2020 through a Low Carbon Fuel Standard. On April 23, 2009, the CARB adopted regulations to implement the Low Carbon Fuel Standard as a discrete early action measure pursuant to Assembly Bill 32 and included it as a reduction measure in its Climate Change Scoping Plan. The Low Carbon Fuel Standard is a performance standard with flexible compliance mechanisms intended to incentivize the development of a diverse set of clean, low-carbon transportation fuel options. Its aim is to accelerate the availability and diversity of low-carbon fuels such as biofuels, electricity, and hydrogen by taking into consideration the full life-cycle of GHG emissions.

D. Senate Bill 375, Sustainable Communities and Climate Protection Act

Senate Bill 375, the Sustainable Communities and Climate Protection Act of 2008, enhances California's ability to reach its Assembly Bill 32 goals by promoting good planning with the goal of more sustainable communities. Senate Bill 375 requires the CARB to develop regional GHG emissions reduction targets for passenger vehicles to be achieved by 2020 and 2035, and requires the regional Metropolitan Planning Organizations, such as SANDAG, to develop Sustainable Communities Strategies in their regional transportation plans. The Sustainable Communities Strategies demonstrate how each region will meet the CARB's emissions reduction targets through integrated land use, housing, and transportation planning to reduce the amount of vehicle miles travelled within their respective regions.

E. Executive Order S-13-08

Executive Order S-13-08 (issued November 14, 2008), the Climate Adaptation and Sea Level Rise Planning Directive, provides clear direction for how the state should plan for future climate impacts. Executive Order S-13-08 calls for the implementation of four key actions to reduce California's vulnerability to climate change:

1) Initiate California's first statewide Climate Adaptation Strategy that will assess the State's expected climate change impacts, identify where California is most vulnerable, and recommend climate adaptation policies;

2) Request that the National Academy of Science establish an expert panel to report on sea level rise impacts in California in order to inform state planning and development efforts;

3) Issue interim guidance to state agencies for how to plan for sea level rise in designated coastal and floodplain areas for new and existing projects; and

4) Initiate studies on critical infrastructure projects and land use policies that are vulnerable to sea level rise.

The California Natural Resources Agency coordinated with 10 state agencies, multiple scientists, a consulting team, and stakeholders to develop the California Climate Adaptation Strategy (2009), which summarizes the best-known science to assess the vulnerability of the state to climate change impacts, and outlines possible solutions that can be implemented within and across state agencies to promote resiliency.

F. Executive Order S-21-09

Executive Order S-21-09 (issued September 15, 2009) required that the CARB, under its Assembly Bill 32 authority, adopt a regulation consistent with the 33 percent renewable energy target established in Executive Order S-14-08 by July 31, 2010. Under Executive Order S-21-09, the CARB is directed to work with the California Public Utilities Commission and California Energy Commission to encourage the creation and use of renewable energy sources. The CARB will consult with the Independent System Operator and other load balancing authorities on, among other aspects, impacts on reliability, renewable integration requirements, and interactions with wholesale power markets in carrying out the provisions of Executive Order S-21-09. The CARB will also establish the highest priority for those resources that provide the greatest environmental benefits with the least environmental costs and impacts on public health that can be developed most quickly and that support reliable, efficient, cost-effective electricity system operations.

G. California Clean Cars Standards

Assembly Bill 1493 ("Pavley Bill"), which was enacted on July 22, 2002, directed the CARB to develop and adopt regulations that achieve the maximum feasible reduction of GHGs emitted by passenger vehicles and light-duty trucks beginning with model year 2009. On September 24, 2009, the CARB adopted amendments to the Pavley regulations that reduce GHG emissions in new passenger vehicles from 2009 through 2016. These amendments are part of California's commitment toward a nationwide program to reduce new passenger vehicle GHGs from 2012 through 2016, while providing vehicle manufacturers with new compliance flexibility. The amendments also required California to harmonize its rules with the federal rules for passenger vehicles. It is expected that the Pavley regulations will reduce GHG emissions from California passenger vehicles by about 22 percent in 2012 and by about 30 percent in 2016, all while improving fuel efficiency and reducing motorists' costs.

H. California Renewables Portfolio Standard

Senate Bill 1078, which was enacted on September 12, 2002, established the Renewables Portfolio Standard program that requires retail sellers of electricity, including electrical corporations, community choice aggregators, and electric service providers, to purchase a specified minimum percentage of electricity generated by eligible renewable energy resources such as wind, solar, geothermal, small hydroelectric, biomass, anaerobic digestion, and landfill gas. Senate Bill 107, which was enacted on

September 26, 2006, accelerated the Renewables Portfolio Standard to require that at least 20 percent of electricity retail sales be served by renewable energy resources by year 2010. In response to Executive Order S-21-09 (described above), the Renewables Portfolio Standard was expanded in 2011 to require investor-owned utilities, electric service providers, and community choice aggregators to increase procurement from eligible renewable energy resources to 33 percent of total procurement by year 2020. The Renewables Portfolio Standard is included as a reduction measure in the CARB's Climate Change Scoping Plan. Increased use of renewables would decrease California's reliance on fossil fuels, thus reducing emissions of GHGs from the electricity sector. The CARB estimates that full achievement of the Renewables Portfolio Standard would decrease statewide GHG emissions by 21.3 million MT CO_2e.

I. California Energy Code

The California Energy Code (California Code of Regulations Title 24, Part 6), which is incorporated into the Building Energy Efficiency Standards, was first established in 1978 in response to a legislative mandate to reduce California's energy consumption. Although these standards were not originally intended to reduce GHG emissions, increased energy efficiency results in decreased GHG emissions because energy efficient buildings require less electricity and thus less consumption of fossil fuels which emits GHGs. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. The current 2008 Building Energy Efficiency Standards, commonly referred to as the "Title 24" standards, include changes from the previous standards that were adopted to:

- Provide California with an adequate, reasonably priced, and environmentally sound supply of energy.
- Respond to Assembly Bill 32, the Global Warming Solutions Act of 2006, which mandates that California must reduce its greenhouse gas emissions to 1990 levels by 2020.
- Pursue California energy policy that energy efficiency is the resource of first choice for meeting California's energy needs.
- Act on the California Energy Commission's Integrated Energy Policy Report which finds 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 Building Energy Efficiency Standards in reducing energy related to meeting California's water needs and in reducing GHG emissions.
- Meet the West Coast Governors' Global Warming Initiative commitment to include aggressive energy efficiency measures into updates of state building codes.
- Meet Executive Order S-20-04, the Green Building Initiative, to improve the energy efficiency of non-residential buildings through aggressive standards.

The 2008 Title 24 standards, which became effective on January 1, 2010, require energy savings of 15 to 35 percent above the 2005 Title 24 standards. At a minimum, residential buildings must achieve a 15 percent reduction in their combined space heating, space cooling, and water heating energy compared to the 2005 Title 24 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.

J. California Green Building Standards Code

The purpose of the California Green Building Standards Code (California Code of Regulations Title 24, Part 11) is to improve public health, safety, and general welfare by enhancing the design and construction of buildings through the use of building concepts having a reduced negative impact or positive environmental impact and encouraging sustainable construction practices in the following categories: 1) planning and design; 2) energy efficiency; 3) water efficiency and conservation; 4) material conservation and resource efficiency; and 5) environmental quality. The California Green Building Standards, which became effective on January 1, 2011, instituted mandatory minimum environmental performance standards for all ground-up new construction of commercial, low-rise residential uses, and state-owned buildings, as well as schools and hospitals. The mandatory standards require the following:

- 20 percent mandatory reduction in indoor water use relative to baseline levels;
- 50 percent construction/demolition waste must be diverted from landfills;
- Mandatory inspections of energy systems to ensure optimal working efficiency; and
- Low-pollutant emitting exterior and interior finish materials such as paints, carpets, vinyl flooring, and particle boards.

The voluntary standards require the following:

- Tier I: 15 percent improvement in energy requirements, stricter water conservation requirements for specific fixtures, 65 percent reduction in construction waste, 10 percent recycled content, 20 percent permeable paving, 20 percent cement reduction, and cool/solar reflective roof.
- Tier II: 30 percent improvement in energy requirements, stricter water conservation requirements for specific fixtures, 75 percent reduction in construction waste, 15 percent recycled content, 30 percent permeable paving, 30 percent cement reduction, and cool/solar reflective roof.

5.5.2.3 Regional

A. SANDAG Climate Action Strategy

The Climate Action Strategy (SANDAG 2010) serves as a guide to help policymakers address climate change as they make decisions to meet the needs of a growing population, maintain and enhance quality of life, and promote economic stability. The Climate Action Strategy focuses on three essential areas where regional and local governments have the authority or opportunity to influence GHG emissions: 1) land use patterns, transportation infrastructure, and related public investments; 2) building construction and energy usage; and 3) government operations. A major purpose of the Climate Action Strategy is to identify land use and transportation policy measures that could help SANDAG meet or exceed Senate Bill 375 targets for reducing GHG emissions from passenger cars and light-duty trucks. The policy measures identified in the Climate Action Strategy are intended to be a list of potential options for consideration as SANDAG updates its long-term planning documents such as the RCP and RTP, and as local jurisdictions update their general plans and other community plans.

B. SANDAG Sustainable Communities Strategy

The Sustainable Communities Strategy (SCS) is a part of the 2050 RTP (SANDAG 2011a). The SCS lays out how the region will meet the GHG reduction targets for cars and light trucks set by the CARB as required by Senate Bill 375 (SANDAG 2012b). The CARB's targets call for the region to reduce per capita emissions seven percent by year 2020 and 13 percent by year 2035 from a year 2005 baseline. The SCS demonstrates how the target will be achieved through regional policies and programs for development and the transportation network. If a MPO cannot meet the targets through a SCS, then the region is required to develop an alternative planning strategy that demonstrates how targets could be achieved. The SCS includes four overall elements:

1) A land use component that accommodates the Regional Housing Needs Assessment and includes the protection of sensitive resources, including areas protected under habitat conservation plans;
2) Transportation networks including highways, transit, and local streets and roads;
3) Transportation demand management strategies; and
4) Transportation system management programs and policies.

On December 3, 2012, the San Diego Superior Court found the 2050 RTP to be inadequate with respect to the analysis of GHG emissions. The 2050 RTP, SCS and 2050 RTP EIR may be revised based on this ruling.

5.5.2.4 Local

A. City of Chula Vista Carbon Dioxide Reduction Plan

On November 14, 2000, the City adopted its Carbon Dioxide Reduction Plan which aims to lower the community's major GHG emissions while strengthening the local economy and improving environmental conditions. The Reduction Plan inventoried baseline 1990 carbon dioxide emissions, forecasted 2010 carbon dioxide emissions, and evaluated a range of carbon dioxide emissions reduction measures. The Reduction Plan is focused on reducing fossil fuel consumption and decreasing reliance on power generated by fossil fuel. The Reduction Plan states that Chula Vista can lower its carbon dioxide emissions by diversifying its transportation system and using energy more efficiently in all sectors, which would not only save energy and reduce carbon dioxide emissions, but also increase personal and business savings and create jobs. To focus efforts in this direction, Chula Vista adopted the international carbon dioxide reduction goal of returning to pre-1990 levels by year 2010 and developed a reduction strategy to achieve this goal. Specifically, 20 action measures were recommended for initial implementation of the City's reduction strategy, which were intended to promote clean fuel vehicles; alternatives to driving; transportation-efficient land use planning; and energy-efficient building construction. When fully implemented, the action measures are anticipated to save approximately 100,000 tons of carbon dioxide emissions.

The 2005 GHG Emissions Inventory was the first formal evaluation of the City's progress in reaching its emissions reduction goals. In May 2007, based on the results of the 2005 GHG Emissions Inventory, staff reported to City Council that citywide GHG emissions had increased by 35 percent (mainly due to residential growth) from 1990 to 2005, while emissions on a per capita basis had decreased by 17 percent and emissions from municipal operations had decreased by 18 percent. The City Council directed staff to convene a Climate Change Working Group (described below) to develop

recommendations to reduce the community's GHGs in order to meet the City's 2010 GHG emissions reduction targets.

B. City of Chula Vista Climate Action Plan

Since 2000, Chula Vista has been implementing a Climate Action Plan to address the threat of climate change to the local community. Over the past three years, the original Carbon Dioxide Reduction Plan (described above) has been revised to incorporate new climate mitigation and adaptation measures to strengthen the City's climate action efforts and to facilitate numerous community co-benefits such as utility savings, better air quality, reduced traffic congestion, local economic development, and improved quality of life. The Climate Change Working Group, which is comprised of residents, businesses, and community organization representatives, helps the City in developing climate-related programs and policies.

In 2008, the Climate Change Working Group reviewed over 90 carbon reduction measures and ultimately recommended seven measures designed to reduce or mitigate climate change impacts by reducing GHG emissions within Chula Vista to 20 percent below 1990 levels. On July 1, 2008, the City Council adopted the Climate Change Working Group's implementation plans for the seven recommended measures, which outline the strategy to implement the measures and includes an analysis of each measure's funding needs, financing options, timeline, and performance criteria. The Climate Change Working Group measures are as follows:

1) **100 percent Clean Vehicle Replacement Policy for City Fleet.** Replace vehicles through the purchase or lease of alternative fuel and hybrid vehicles.

2) **100 percent Clean Vehicle Replacement Policy for City-Contracted Fleet Services.** Work with current and future vendors to include a "Clean Vehicle" replacement policy into the bid and contracting process.

3) **Business Energy Assessments.** Through an ordinance addition, encourage businesses to participate in a no cost assessment as part of the business licensing process.

4) **Green Building Standard.** Through a building code revision, require new and renovated buildings to increase their energy efficiency and meet statewide green building standards.

5) **Solar and Energy Efficiency Conversion.** Provide a cost-effective, streamlined mechanism for property owners to implement solar and energy efficiency upgrades and create a municipal code requiring pre-wiring for solar electric systems.

6) **Smart Growth around Trolley Stations.** Implement the "smart growth" design principles outlined in municipal planning documents.

7) **Outdoor Water Conservation.** Provide a cost-effective, streamlined mechanism for installing water-saving plants at private/public sites and create new municipal landscape regulations.

In 2010, the Climate Change Working Group evaluated the potential impacts from climate change on municipal infrastructure and services and recommended 11 strategies to adapt the community to these impacts within energy and water supply, public health, wildfires, ecosystem management, coastal infrastructure, and the local economy sectors. On May 3, 2011, the City Council adopted the Climate Adaptation Strategies Implementation Plans, which outline specific implementation components, critical

steps, costs, and timelines for each strategy. The Climate Adaptation Strategies are as follows: 1) Cool Paving; 2) Shade Trees; 3) Cool Roofs; 4) Local Water Supply and Reuse; 5) Storm Water Pollution Prevention and Reuse; 6) Education and Wildfires; 7) Extreme Heat Plans; 8) Open Space Management; 9) Wetlands Preservation; 10) Sea Level Rise and Land Development Codes; and 11) Green Economy.

C. City of Chula Vista Green Building Standards

CVMC Chapter 15.12, Green Building Standards, adopts by reference the California Green Building Standards Code, 2010 Edition (California Code of Regulations Title 24, Part 11), with amendments applicable to Chula Vista.

D. City of Chula Vista Energy Code

CVMC Chapter 15.26, Energy Code, adopts by reference the California Energy Code (California Code of Regulations Title 24, Part 6), with the following increased energy efficiency standards for Climate Zone 7, which contains the western portion of Chula Vista, including the PGD (CVMC Section 15.26.030):

a. All new low-rise residential buildings 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 conditioned floor area shall use at least 15 percent less time dependent valuation energy than the 2008 Building Energy Efficiency Standards allow.

b. 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 time dependent valuation energy than the 2008 Building Energy Efficiency Standards allow.

5.5.3 Criteria for Determination of Significance

According to Appendix G of the CEQA Guidelines, a significant impact related to global climate change would occur if implementation of the proposed project would:

- Criterion 1: Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.
- Criterion 2: Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

5.5.4 Impacts

5.5.4.1 Direct and Indirect Generation of GHG Emissions

Criterion 1: Would the project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

For this analysis, the City considered the various threshold options reviewed by the CARB in its Climate Change Scoping Plan (CARB 2008) and by the California Air Pollution Control Officers Association (CAPCOA) in its CEQA and Climate Change Report (CAPCOA 2008). Because Assembly Bill 32 established a statewide goal of reducing GHG emissions to 1990 levels by the year 2020, the CARB's Climate Change

Scoping Plan included a 2020 "business-as-usual" forecast based on GHG emissions that would result without any of the recommended policies or actions to reduce GHG emissions, which include vehicle GHG emissions reduction measures (CAFE standards, Pavley standards, and Low Carbon Fuel Standard) and implementation of the Renewable Portfolio Standard. Based on the 2020 "business-as-usual" forecast, the CARB determined that the resulting GHG emissions in year 2020 would need to be reduced by 28.35 percent to meet the requirements of Assembly Bill 32. Because PGDSP implementation would likely occur during this timeframe, a significance threshold of reducing GHG emissions by 28.35 percent below business-as-usual was used for the proposed project analysis. The business-as-usual scenario used in this analysis assumes compliance with 2005 Title 24 standards because the CARB's baseline GHG emissions inventory and GHG emissions reduction goals are based on the 2005 Title 24 standards. To evaluate whether PGDSP implementation would result in significant impacts related to GHG emissions, this analysis compares GHG emissions with reduction measures to business-as-usual GHG emissions.

The PGDSP proposes to develop 1,300 additional residential dwelling units, 100,000 square feet of additional retail uses, and 50,000 square feet of additional commercial/office uses in the PGD. The PGDSP also proposes to eliminate 30,000 square feet of industrial uses in the PGD. GHG emissions associated with implementation of the proposed PGDSP were estimated separately for five source categories: 1) construction; 2) energy use, including electricity and natural gas; 3) water consumption; 4) solid waste management; and 5) transportation. Each of the source categories is described individually below.

A. Business-as-usual GHG Emissions

1. Construction

Construction activities would result in emissions of GHGs through the use of heavy construction equipment and from vehicles. Construction GHG emissions were calculated using the CalEEMod model. A summary of the total GHG emissions associated with construction of PGDSP development is presented in Table 5.5-4. Based on guidance from the City, construction emissions were amortized over a 30-year period to account for their contribution to GHGs over the lifetime of the project. Amortized construction emissions are presented in Table 5.5-5.

Table 5.5-4 Estimated Construction GHG Emissions

Construction Activity	GHG Emissions (metric tons)		
	CO_2	CH_4	N_2O
Demolition	70.24	0.01	0.00
Site Preparation	46.75	0.01	0.00
Grading	1,275.62	0.13	0.00
Building Construction	963.54	0.11	0.00
Paving	578.21	0.09	0.00
Architectural Coatings Application	35.84	0.00	0.00
Total	2,970	0.35	0.00
Global Warming Potential	1	21	310
CO_2e Emissions	2,970	7	0
TOTAL Construction CO_2e Emissions	**2,977**		

Source: SRA 2013

2. Energy Use

Business-as-usual electricity use and natural gas use were estimated based on PGDSP development meeting the 2005 Title 24 standards. Residential electricity use was estimated using the average performance for southern California residences based on the California Statewide Residential Appliance Saturation Survey (KEMA-XENERGY 2004), which provided energy use for single-family homes, multi-family homes, and condominium dwellings. The energy use figures in this survey represent current statewide average uses, including those that are compliant with 2005 Title 24 standards. Because it is anticipated that the majority of PGDSP development would be multi-family and condominium dwelling units, the electricity use for condominium dwellings (4,469 kWh per unit annually) was used in this analysis as a conservative basis for evaluating GHG emissions. Residential natural gas use was calculated based on a usage rate of 326 therms per unit annually. Total utility usage rates for the office uses and retail uses were estimated using electricity and natural gas usage rates from the California Commercial End-Use Survey (Itron, Inc. 2006). Office uses were represented by small office utility usage rates, and were calculated based on an annual electricity usage rate of 13.10 kWh per square foot and an annual natural gas usage rate of 4.62 kBTU (0.0462 therms) per square foot. Retail uses were calculated based on an annual electricity usage rate of 14.06 kWh per square foot and an annual natural gas usage rate of 10.54 kBTU (0.1054 therms) per square foot. GHG emissions associated with energy use were then calculated based on emission factors in the California Climate Action Registry General Reporting Protocol, Version 3.1 (California Climate Action Registry 2009), and are presented in Table 5.5-5.

3. Water Consumption

Water use and energy use are often closely linked. The provision of potable water to commercial consumers requires large amounts of energy associated with five stages: 1) source and conveyance, 2) treatment, 3) distribution, 4) end use, and 5) wastewater treatment. This analysis estimated that delivered water for the PGDSP would have an embodied energy of 0.0127 kWh per gallon. Water use for the PGDSP was estimated based on the CalEEMod model usage rates, and assumed a total of 84,700,000 gallons per year for residential indoor use; 53,398,000 gallons per year for outdoor residential use; 8,900,000 gallons per year for office indoor use; 5,447,000 gallons per year for office outdoor use; 7,407,000 gallons per year for retail indoor use; and 4,540,000 gallons per year for retail outdoor use. In addition, the CalEEMod model assumes 5,957,000 gallons per year for the 5-acre park proposed in the PGDSP. GHG emissions associated with water consumption were then calculated based on emission factors in the California Climate Action Registry General Reporting Protocol, Version 3.1 (California Climate Action Registry 2009), and are presented in Table 5.5-5.

4. Solid Waste Management

The disposal of solid waste produces GHG emissions from anaerobic decomposition in landfills, incineration, transportation of waste, and disposal. Solid waste generation rates were estimated from the CalEEMod model. GHG emissions associated with solid waste management were then calculated using the USEPA's Waste Reduction Model (USEPA 2009), assuming landfill disposal of solid waste, and are presented in Table 5.5-5.

5. Transportation

As discussed in Section 5.5.2 above, several regulatory initiatives have been passed to reduce GHG emissions from on-road vehicles. For the purpose of calculating business-as-usual emissions associated with vehicle trips, no credit was taken for implementation of the CAFE standards, Pavley standards, or

Low Carbon Fuel Standard. Trip generation rates were based on the Mobility Study prepared for the PGDSP (LLG 2012). To evaluate business-as-usual vehicular emissions, the total trip generation rate of 14,690 net new cumulative trips for build-out conditions was used, which takes into account trip generation from the land uses proposed in the PGDSP, accounting for pass-by trips, but does not take into account reductions for mixed use development and transit use. Trip lengths were based on the default trip lengths from the CalEEMod model, which averages to 6.86 miles per trip. Without taking credit for any GHG emission reductions measures attributable to trip lengths and trip generation, the total vehicle miles travelled (VMT) would be 36,782,591 miles per year. GHG emissions associated with vehicle trips are presented in Table 5.5-5.

The results of the inventory for amortized construction and operational emissions for the business-as-usual scenario are presented in Table 5.5-5. As shown in Table 5.5-5, under business-as-usual conditions, PGDSP implementation would result in GHG emissions of 24,656 MT CO_2e per year.

Table 5.5-5 Summary of Estimated Operational GHG Emissions – Business-as-Usual Scenario

Emission Source	Annual GHG Emissions (metric tons per year)		
	Carbon Dioxide (CO_2)	Methane (CH_4)	Nitrous Oxide (N_2O)
Electricity Usage	3,522	0.15	0.0394
Natural Gas Usage	2,317	0.26	0.0044
Water Consumption	711	0.030	0.0079
Solid Waste Management	105	--	--
Transportation	17,775	0.55	0.29
Amortized Construction Emissions	99	0.00	0.00
Total	**24,529**	**0.99**	**0.34**
Global Warming Potential Factor	**1**	**21**	**310**
CO_2e Emissions	**24,529**	**21**	**106**
TOTAL Business-as-Usual CO_2e Emissions	**24,656**		

Source: SRA 2013

B. GHG Emissions with Reduction Measures

The PGDSP would comply with the Chula Vista Energy Code (CVMC Section 15.26.030) energy efficiency standards for Climate Zone 7, which requires new, remodeled, or altered residential and non-residential buildings to use 15 percent less energy than the 2008 Title 24 standards. This requirement was taken into account by assuming that electricity and natural gas usage would be reduced by 15 percent for the PGDSP.

Implementation of the Renewables Portfolio Standard would affect indirect GHG emissions associated with electricity use for the PGDSP because electricity would be purchased from San Diego Gas and Electric (SDG&E). According to the San Diego County GHG Inventory, implementation of the 20 percent Renewables Portfolio Standard mandate by year 2010, as established by Senate Bill 107, would reduce GHG emissions by 14 percent below 2006 levels. Additionally, in response to Executive Order S-21-09, the CARB has adopted a 33 percent renewable energy standard. According to the San Diego County GHG Inventory, implementation of the 33 percent Renewables Portfolio Standard mandate by year 2020

would reduce GHG emissions by an additional 13 percent; thus, implementation of Executive Order S-21-09 would serve to reduce GHG emissions by a total of 27 percent below 2006 levels. It was therefore assumed that the CO_2e emissions attributable to electricity use and the embodied energy of water would be reduced by 27 percent.

Implementation of the new federal CAFE standards would achieve reductions that are equivalent to those proposed in Assembly Bill 1493 (Pavley Bill). According to the San Diego County GHG Inventory, implementation of the Pavley standards would reduce emissions from light-duty on-road vehicles by a total of 20 percent by the year 2020. The Low Carbon Fuel Standard is designed to reduce the carbon content of fuels, thereby reducing GHG emissions even if the amount of fuel consumed is constant. Emissions of carbon dioxide were calculated using the EMFAC2011 model, which provides emission factors for carbon dioxide with implementation of the Pavley standards and Low Carbon Fuel Standard. In addition, because the PGDSP offers mixed-use and transit opportunities with planned pedestrian and bicycle connectivity surrounding the Palomar Transit Station, adjustments for mixed-use (five percent credit) and transit (10 percent credit) were applied, resulting in a reduction in the total trip generation rate from 14,690 net new cumulative trips to 12,550 net new cumulative trips for build-out conditions, based on the Mobility Study (LLG 2012). These project design features would reduce VMT from 36,782,291 miles per year to 31,423,945 miles per year.

The results of the GHG inventory for project operational emissions with reduction measures are presented in Table 5.5-6. As shown in Table 5.5-6, with the incorporation of reduction measures, PGDSP implementation would result in GHG emissions of 16,350 MT CO_2e per year. This represents a GHG emissions reduction of 33.7 percent below the business-as-usual scenario. Because the GHG emissions reduction measures incorporated into the PGDSP would reduce GHG emissions by more than 28.35 percent below business-as-usual, PGDSP implementation would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment. Therefore, impacts associated with the direct and indirect generation of GHG emissions would be less than significant.

Table 5.5-6 Summary of Estimated Operational GHG Emissions – Scenario with Reduction Measures

Emission Source	Annual Emissions (metric tons per year)		
	Carbon Dioxide (CO_2)	Methane (CH_4)	Nitrous Oxide (N_2O)
Electricity Usage	2,081	0.087	0.0232
Natural Gas Usage	1,857	0.21	0.0035
Water Consumption	519	0.022	0.0058
Solid Waste Management	105	--	--
Transportation	11,585	0.47	0.25
Amortized Construction Emissions	99	0.00	0.00
Total	**16,246**	**0.79**	**0.28**
Global Warming Potential Factor	**1**	**21**	**310**
CO_2e Emissions	**16,246**	**17**	**87**
TOTAL CO_2e Emissions with Reduction Measures	**16,350**		
Business-as-Usual CO_2e Emissions	**24,656**		
Percent Reduction from Business-as-Usual	**33.7%**		

Source: SRA 2013

5.5.4.2 Applicable GHG Emissions Reduction Plan, Policy, or Regulation

Criterion 2: Would the project conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs?

The applicable GHG emissions reduction plan, policy, or regulation for the PGDSP is Assembly Bill 32 and the associated Climate Change Scoping Plan, which establish a statewide plan for achieving the GHG emissions levels required by Executive Order S-3-05. As discussed in Section 5.5.4.1 above, various GHG emissions reduction measures would be incorporated into PGDSP development that would reduce GHG emissions from energy use, water consumption, and transportation sources. PGDSP development would be consistent with Assembly Bill 32 and the Climate Change Scoping Plan because the GHG emissions reduction measures incorporated into the PGDSP would reduce GHG emissions by more than 28.35 percent below business-as-usual, which the City has determined is the appropriate significance threshold to ensure that new development achieves its fair share of GHG emissions reductions to meet the statewide Assembly Bill 32 mandate. Furthermore, the PGDSP would also be consistent with the City's Climate Action Plan because the following Climate Change Working Group Measures would be incorporated as project design features: 1) Business Energy Assessments; 2) Green Building Standard; 3) Solar and Energy Efficiency Conversion; 4) Smart Growth around Trolley Stations; and 5) Outdoor Water Conservation. Therefore, impacts associated with the applicable GHG emissions reduction plan, policy, or regulation would be less than significant.

5.5.5 Level of Significance Prior to Mitigation

5.5.5.1 Direct and Indirect Generation of GHG Emissions

Because the GHG emissions reduction measures incorporated into the PGDSP would reduce GHG emissions by more than 28.35 percent below business-as-usual, PGDSP implementation would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment. Therefore, impacts associated with the direct and indirect generation of GHG emissions would be less than significant.

5.5.5.2 Applicable GHG Emissions Reduction Plan, Policy, or Regulation

Implementation of the proposed PGDSP would not conflict with Assembly Bill 32 and the associated Climate Change Scoping Plan and would require future projects to be consistent with the City's Climate Action Plan. Therefore, impacts associated with the applicable GHG emissions reduction plan, policy, or regulation would be less than significant.

5.5.6 Mitigation Measures

5.5.6.1 Direct and Indirect Generation of GHG Emissions

No mitigation measures are required.

5.5.6.2 Applicable GHG Emissions Reduction Plan, Policy, or Regulation

No mitigation measures are required.

5.5.7 Level of Significance after Mitigation

Implementation of the proposed PGDSP would not result in any significant impacts associated with the direct and indirect generation of GHG emissions or conflicts with the applicable GHG emissions reduction plan, policy, or regulation. No mitigation is required. Therefore, impacts related to global climate change would be less than significant.

5.6 Noise

The analysis in this section of the EIR addresses the potential impacts associated with noise that would result from implementation of the PGDSP. The following discussion of noise is based on the Noise Technical Report prepared by Atkins (2012a), which is provided as Appendix D of this EIR.

5.6.1 Existing Conditions

5.6.1.1 Noise Basics

Noise is typically defined as unwanted sound. Sound pressure magnitude is measured and quantified using a logarithmic ratio of pressures, the scale of which gives the level of sound in decibels (dB). Sound pressures in the environment have a wide range of values and the sound pressure level was developed as a way to describe this range of sound. The sound pressure level is the logarithm of the ratio of the unknown sound pressure to an agreed upon reference quantity of the same kind. To account for the pitch of sounds and the corresponding sensitivity of human hearing to them, the raw sound pressure level is adjusted with an A-weighting scheme based on frequency that is stated in units of decibels (dBA). Typical A-weighted noise levels are listed in Table 5.6-1.

Table 5.6-1 Typical A-Weighted Noise Levels

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	— 110 —	Rock band
Jet fly over at 1,000 feet		
	— 100 —	
Gas lawn mower at 3 feet		
	— 90 —	
Diesel truck at 50 feet at 50 miles per hour		Food blender at 3 feet
	— 80 —	Garbage disposal at 3 feet
Noisy urban area, daytime		
Gas lawn mower at 100 feet	— 70 —	Vacuum cleaner at 10 feet
		Normal speech at 3 feet
Commercial area heavy traffic at 300 feet	— 60 —	
		Large business office
Quiet urban daytime	— 50 —	Dishwasher next room
Quiet urban nighttime	— 40 —	Theater, large conference room (background)
Quiet suburban nighttime		
	— 30 —	Library
Quiet rural nighttime		Bedroom at night
	— 20 —	
		Broadcast/recording studio
	— 10 —	
Lowest threshold of human hearing	— 0 —	Lowest threshold of human hearing

Source: Caltrans 1998b

A given level of noise would be more or less tolerable depending on the sound level, duration of exposure, character of the noise sources, time of day during which the noise is experienced, and activity affected by the noise. For example, noise that occurs at night tends to be more disturbing than that which occurs during the day because sleep has the potential to be disturbed. Additionally, rest at night is a critical requirement in the recovery from exposure to high noise levels during the day. In consideration of these factors, different measures of noise exposure have been developed to quantify the extent of the effects anticipated from these activities. For example, some indices consider the 24-hour noise environment of a location by using a weighted average to estimate its habitability on a long-term basis. The most commonly used indices for measuring community noise levels are the following:

- **Equivalent Energy Level (L_{eq}).** L_{eq} is the average acoustical or sound energy content of noise, measured during a prescribed period, such as one minute, 15 minutes, one hour, or eight hours. It is the decibel sound level that contains an equal amount of energy as a fluctuating sound level over a given period of time.
- **Community Noise Equivalent Level (CNEL).** CNEL is the average equivalent A-weighted sound level over a 24-hour period. This measurement applies weights to noise levels during evening and nighttime hours to compensate for the increased disturbance response of people at those times. CNEL is the equivalent sound level for a 24-hour period with a +5 dBA weighting applied to all sound occurring between 7:00 p.m. and 10:00 p.m. and a +10 dBA weighting applied to all sound occurring between 10:00 p.m. and 7:00 a.m.
- **Day-Night Average Noise Level (L_{dn}).** L_{dn} is a 24-hour average L_{eq} with a +10 dBA weighting applied to noise during the hours of 10:00 p.m. to 7:00 a.m. L_{dn} and CNEL are typically within 1 dBA of each other and, for most intents and purposes, are interchangeable.

The decibel level of a sound decreases (or attenuates) exponentially as the distance from the source of that sound increases. For a single point source such as a piece of mechanical equipment, the sound level normally decreases by about 6 dBA for each doubling of distance from the source. Sound that originates from a linear, or “line” source such as a heavily traveled traffic corridor, attenuates by approximately 3 dBA per doubling of distance, provided that the surrounding site conditions lack ground effects or obstacles that either scatter or reflect noise. Noise from roadways in environments with major ground effects due to vegetation and loose soils would either absorb or scatter the sound yielding attenuation rates as high as 4.5 dBA for each doubling of distance. Other contributing factors that affect sound reception include meteorological conditions, natural topography, and the presence of manmade obstacles such as buildings and sound barriers.

Noise has a significant effect on the quality of life. An individual’s reaction to a particular noise depends on many factors such as the source of the noise, its loudness relative to the background noise level, and the time of day. The reaction to noise can also be highly subjective; the perceived effect of a particular noise can vary widely among individuals in a community. Because of the nature of the human ear, a sound must be about 10 dBA greater than the reference sound to be judged as twice as loud. In general, a 3 dBA change in community noise levels is perceivable, while 1 to 2 dBA changes generally are not noticed. A 5 dBA increase is generally perceived as a distinctly noticeable increase. Although a community’s reaction to changes in noise levels would vary by the individual, it is generally accepted that noise is a significant component of the environment, and excessively noisy conditions can affect an individual’s health and well-being. The effects of noise are often only transitory, but adverse effects can be cumulative with prolonged or repeated exposure. The effects of noise on a community can be

organized into six broad categories: sleep disturbance; permanent hearing loss; human performance and behavior; social interaction of communication; extra-auditory health effects; and general annoyance.

5.6.1.2 Groundborne Vibration Basics

Vibration consists of waves transmitted through solid material (Federal Transit Administration (FTA) 2006). Groundborne vibration propagates from the source through the ground to adjacent buildings by surface waves. Vibration may be comprised of a single pulse, a series of pulses, or a continuous oscillatory motion. The frequency of a vibrating object describes how rapidly it is oscillating, measured in Hertz (Hz). The normal frequency range of most groundborne vibration that can be felt generally starts from a low frequency of less than 1 Hz to a high of about 200 Hz.

Vibration energy spreads out as it travels through the ground, causing the vibration amplitude to decrease with distance away from the source. Groundborne vibration is measured by its peak particle velocity (PPV). The peak particle velocity is normally described in inches per second. Peak particle velocity is appropriate for determining potential structure damage, but does not evaluate human response to vibration. The ground motion caused by vibration is also given in decibel notation, referenced as vibration decibels (VdB), which serves to compress the range of numbers required to describe vibration relative to human response. The general human response to different levels of groundborne vibration velocity levels is described in Table 5.6-2.

Table 5.6-2 Human Response to Different Levels of Groundborne Vibration

Vibration Velocity Level	Human Reaction
65 VdB	Approximate threshold of perception for many people.
75 VdB	Approximate dividing line between barely perceptible and distinctly perceptible. Many people find that transportation-related vibration at this level is unacceptable.
85 VdB	Vibration acceptable only if there are an infrequent number of events per day.

Source: FTA 2006

Groundborne vibration can be a concern for nearby neighbors of a transit system route or maintenance facility, causing buildings to shake and rumbling sounds to be heard. In contrast to groundborne noise, described below, groundborne vibration is not a common environmental problem. It is unusual for vibration from sources such as buses and trucks to be perceptible, even in locations close to major roads. Some common sources of groundborne vibration are trains, buses on rough roads, and construction activities such as blasting, pile-driving and operating heavy earth-moving equipment.

The rumbling sound caused by the vibration of building structures is referred to as groundborne noise. Like broadband noise, groundborne noise is usually characterized with the A-weighted sound level, which is intended to represent the normal frequency response of the human ear. However, there are potential problems when characterizing low-frequency noise using A-weighting, because human hearing causes sounds dominated by low-frequency components to seem louder than broadband sounds that have the same A-weighted level. This is accounted for by setting the limits for groundborne noise lower than would be the case for broadband noise. The sound level accompanying vibration is generally 25 to 40 dBA lower than the vibration velocity level in VdB. Groundborne vibration levels of 65 VdB can result in groundborne noise levels up to 40 dBA, which can disturb sleep. Groundborne vibration levels of 85 VdB can result in groundborne noise levels up to 60 dBA, which can be annoying to daytime noise-sensitive land uses such as schools (FTA 2006).

5.6.1.3 Ambient Noise Levels

Existing contributors to the ambient noise environment in the PGD include primarily vehicular traffic and San Diego MTS trolley light rail activity. Intermittent noise from freight railroad transport can also be heard in various locations in the PGD. An ambient sound level survey was conducted on February 14, 2012, to quantify the noise environment in the PGD (Atkins 2012a). A total of five noise measurement locations were selected along major transit corridors and at noise-sensitive locations in the PGD, as shown on Figure 5.6-1. Table 5.6-3 summarizes the measured L_{eq} and noise sources for each monitoring location. The results of the ambient noise survey reflect noise levels that range between 54 dBA and 63 dBA L_{eq} at Sites 1 through 3 and were attributable to transportation noise sources (e.g., traffic, trolley), which complies with the exterior noise limits established within the City of Chula Vista Noise General Plan for residential uses (65 dBA L_{eq}) and offices and professional development (70 dBA L_{eq}). Measurements could not be conducted at the vacant parcels to the south of Palomar Street and west of Industrial Boulevard in the Mixed Use Corridor Sub-District (MU-2) due to restricted access. Short-term trolley pass-by event noise measurements ranged from 85 dBA to 90 dBA SEL at Sites 4 and 5. These measurements also captured trolley station operational noise. The primary noise source in the PGD was traffic from the major roadways in the area, including Palomar Street and Industrial Boulevard and MTS trolley operations along the Blue Line.

Table 5.6-3 Ambient Sound Level Measurements (dBA)

Location Number	Roadway/Ambient Noise Sources	Date/ Time	Duration (min)	L_{eq}	L_{max}	L_{min}	$L_{(10)}$	$L_{(50)}$	$L_{(90)}$
1	At the end of Trenton Avenue, north of Palomar Street, 10 feet from Trenton Avenue centerline **Noise Sources:** Traffic on Palomar Street and I-5, trolley operations, single propeller plane over-flight	2-14-12/ 9:54 a.m.	15	53.9	67.8	49.6	55.8	53.4	51.4
2	Corner of Belvia Lane and Industrial Boulevard, 50 feet from Industrial Boulevard centerline **Noise Sources:** Traffic on Industrial Boulevard, trolley crossing, fighter jet over-flight	2-14-12/ 10:47 a.m.	15	62.3	85	49.1	62.5	54.2	51.1
3	Parking lot of House of Restoration Church on Dorothy Street, 50 feet from Dorothy Street centerline **Noise Sources:** Traffic on Industrial Boulevard, trolley crossing	2-14-12/ 11:22 a.m.	15	56.8	74.6	46.1	59.1	51.6	49.1
Location Number	**Rail Noise Sources**	**Date/ Time**	**Duration (sec)**	**Distance to Centerline (feet)**		L_{eq}	**SEL**	L_{max}	L_{min}
4	South end of trolley station parking lot **Noise Sources:** Trolley passby and station operations	2-14-12/ 12:08 p.m.	117	100		65.1	85.3	80.1	51.5
5	Open space adjacent to, and east of, Blue Line north of Palomar Street **Noise Sources:** Trolley passby and Palomar Street	2-14-12/ 12:26 p.m.	64	80		71.6	89.6	79.6	57.1

Notes: For field observation notes, refer to Appendix A of the Noise Technical Report (Atkins 2012a), which is provided as Appendix D of this EIR.
Source: Atkins 2012a

Source: SanGIS, 2011; CASIL, 2011; Atkins, 2012

0 200 400
Feet

N

NOISE MEASUREMENT LOCATIONS
FIGURE 5.6-1

Estimated average daily trip values from the Mobility Study prepared for the PGDSP (LLG 2012) were used to model the change in noise levels resulting from increased traffic on roadway segments in the project vicinity. Table 5.6-4 provides the calculated existing noise levels. Noise levels are indicated at 75 feet from the centerline of each roadway segment. Noise levels at distances greater than 75 feet from the centerline would be lower due to attenuation provided by increased distance from the noise source. Generally, noise from heavily traveled roadways would experience a decrease of approximately 3 dBA for every doubling of distance. The actual sound level at any receptor location is dependent upon such factors as the source-to-receptor distance and the presence of intervening structures, barriers, vegetation, and topography; therefore, the result of the calculations is the worst-case scenario. As shown in Table 5.6-4, existing traffic noise levels throughout the PGD exceed the noise limits established by the City for residential land uses located adjacent to Palomar Street.

Table 5.6-4 Existing Traffic Noise Levels (CNEL)

Roadway	Roadway Segment		CNEL (dBA) at 75 feet	Distance (feet) from Roadway Centerline to L_{dn} Contour		
	From	To		70 dBA	65 dBA	60 dBA
Palomar Street	I-5	Walnut Avenue	68	53	168	530
Palomar Street	Walnut Avenue	Industrial Boulevard	68	52	165	521
Palomar Street	Industrial Boulevard	Transit Center Place	68	52	166	524
Palomar Street	Transit Center Place	Trolley Center	68	47	147	466
Palomar Street	Trolley Center	Broadway	68	49	156	494
Industrial Boulevard	Naples Street	Palomar Street	60	7	22	71
Industrial Boulevard	Palomar Street	Ada Street	60	8	26	83
Industrial Boulevard	Ada Street	Anita Street	60	8	24	77

Notes: The existing scenario represents traffic from 2005 to present. Noise levels are given at 75 feet from roadway centerline. Noise levels are based upon traffic data provided in the Mobility Study prepared for the PGDSP (LLG 2012). Decibel levels are rounded to the nearest whole number. For modeling inputs and results, refer to Appendix B of the Noise Technical Report (Atkins 2012a), which is provided as Appendix D of this EIR.

Source: Atkins 2012a

5.6.1.4 Transportation Noise Sources

A. Aviation

The nearest airport to the PGD is the Naval Outlying Field Imperial Beach (Ream Field), which is located approximately 2.6 miles southwest of the PGD. The PGD is subject to periodic over-flights, but is not located within the Airport Influence Area or 60 dBA CNEL contour of the Naval Outlying Field Imperial Beach and is not exposed to aircraft noise in excess of regulatory limits. Other airports in the project vicinity include Brown Field Municipal Airport located in the community of Otay Mesa and operated by the City of San Diego. Brown Field airport is located approximately 8 miles southeast of the PGD. San Diego International Airport, located in the City of San Diego, is operated by the San Diego County Regional Airport Authority. This airport is located approximately 13 miles northwest of the PGD.

B. Roadways

Vehicular traffic is the predominant noise source within the PGD and surrounding vicinity. Major roadways that traverse the PGD include Palomar Street and Industrial Boulevard. Due to distance and intervening structures, the traffic noise from I-5, which is located to the west of the PGD, is audible in the PGD, especially along Frontage Road, but is not the dominant noise source throughout the remainder of the PGD. Parking lots that serve commercial and multi-family residential developments in the PGD are also a source of traffic-related noise.

C. Railroads

The 18.8-mile Blue Line light rail trolley is operated by the San Diego MTS and runs between the Old Town Transit Center to the north of the PGD and San Ysidro Transit Center to the south. The rail line is located parallel to I-5 and bisects the PGD, separating commercial and light industrial uses to the east and residences to the west of the line. One Blue Line stop is located within the PGD. The Palomar Transit Station is located at the southeast corner of the Palomar Street and Industrial Boulevard intersection. According to the posted San Diego MTS schedule for the Blue Line (effective June 12, 2011), the trolley stops at this station 132 times per day, Monday through Friday, between 4:30 a.m. and 10:00 p.m. This includes 67 northbound trips and 65 southbound trips through the PGD in each direction, one trip in each direction approximately every 15 minutes and every 7.5 minutes during rush hours. On Saturdays, the schedule is reduced to 47 northbound trips and 47 southbound trips. On Sundays, the schedule is further reduced to 43 northbound trips and 44 southbound trips. This rail line is also utilized by the Burlington Northern Santa Fe and San Diego and Imperial Valley railroads for freight transport per a freight easement. Approximately four freight trains pass through the PGD on this rail line per day, two in each direction (SANDAG 2011).

5.6.1.5 Operational Noise Sources

Existing operational noise sources in the PGD include the operation of retail, commercial, and industrial uses. General noise sources from commercial operations include car alarms and other parking lot noises; delivery trucks; and heating, ventilating, and air conditioning (HVAC) units. Intermittent or temporary neighborhood noise from amplified music, barking dogs, landscape maintenance, stand-by power generators, and construction activities generate noise in residential areas. Manufacturing, processing, and other light industrial and commercial uses typically generate noise from delivery trucks, cargo loading, and machinery.

5.6.1.6 Noise-Sensitive Land Uses

According to the FTA, a noise receptor is a stationary position at which noise levels are specified, such as a residence or other structure (FTA 2006). Noise sensitive land uses (NSLU) include noise receptors (receivers) where an excessive amount of noise would interfere with normal activities, particularly buildings where people normally sleep and institutional land uses with primarily daytime and evening uses. NSLU where people usually sleep include residences, hospitals, health care facilities, convalescent homes, and transient lodging (hotels and motels). Daytime and evening NSLU include public and private educational facilities, churches, libraries, museums, cultural facilities, golf courses and passive recreational parks (where a quiet atmosphere is an essential part of the recreational experience). Commercial, general office uses, and industrial land uses are not considered NSLU. Sleep disturbance is the most critical concern for NSLU on a 24-hour basis compared to facilities that are occupied only a

portion of a day. NSLU, consisting primarily of residences, are located west of Industrial Boulevard within the PGD.

5.6.1.7 Vibration Sensitive Land Uses

Groundborne vibration can disrupt vibration sensitive land uses by causing movement of buildings, rattling of windows and items inside buildings, rumbling sounds, and even property damage. Vibration sensitive land uses include buildings where vibration would interfere with interior operations, such as vibration sensitive research and manufacturing, hospitals with vibration sensitive equipment, and university research operations. The degree of sensitivity to vibration depends on the specific equipment that would be affected by the vibration. Electron microscopes and high-resolution lithography equipment function within certain scientific and manufacturing tolerances that can be compromised in high vibration environments. Residences and buildings where people normally sleep are also sensitive to excessive levels of vibration of either a regular or an intermittent nature. Institutional land uses with primarily daytime operations are the least sensitive to vibration. Existing sources of groundborne vibration in the PGD include construction and trolley/railroad operations.

5.6.2 Regulatory Framework

5.6.2.1 Federal

A. Federal Aviation Administration Standards

Code of Federal Regulations Title 14, Part 150, which is enforced by the Federal Aviation Administration (FAA), regulates airport noise compatibility planning. This regulation prescribes the procedures, standards, and methodology governing the development, submission, and review of airport noise exposure maps and airport noise compatibility programs, including the process for evaluating and approving or disapproving those programs. This regulation also identifies those land uses which are normally compatible with various levels of exposure to noise by individuals. The FAA considers all land uses to be compatible with exterior noise levels less than 65 dBA L_{dn} (or CNEL).

B. Federal Highway Administration Standards

Code of Federal Regulations Title 23, Part 772, which is enforced by the FHWA, regulates procedures for the abatement of highway traffic noise and construction noise. The purpose of this regulation is to provide procedures for noise studies and noise abatement measures to help protect the public health, welfare, and livability; to supply noise abatement criteria; and to establish requirements for information to be given to local officials for use in the planning and design of highways. All highway projects which are developed in conformance with this regulation shall be deemed to be in conformance with the FHWA noise standards. The FHWA has established 67 dBA as the worst-case hourly average noise level criteria for construction noise impacts of federal highway projects to residential and recreational land uses.

C. Federal Transit Administration and Federal Railroad Administration Standards

Although the FTA standards are intended for federally funded mass transit projects, the impact assessment procedures and criteria included in the Transit Noise and Vibration Impact Assessment (FTA 2006) are routinely used for projects proposed by local jurisdictions. The FTA and Federal Railroad

Administration (FRA) have published guidelines for assessing the impacts of groundborne vibration associated with rail projects, which have been applied by other jurisdictions to other types of projects. The FTA measure of the threshold of architectural damage for conventional sensitive structures from groundborne vibration is 0.2 inch per second PPV.

5.6.2.2 State

A. California Noise Control Act of 1973

The California Noise Control Act of 1973 (California Health and Safety Code Sections 46000–46080) defines noise as "excessive undesirable sound, including that produced by persons, pets and livestock, industrial equipment, construction, motor vehicles, boats, aircraft, home appliances, electric motors, combustion engines, and any other noise-producing objects." The Noise Control Act finds and declares the following:

a) Excessive noise is a serious hazard to the public health and welfare.

b) Exposure to certain levels of noise can result in physiological, psychological, and economic damage.

c) There is a continuous and increasing bombardment of noise in the urban, suburban, and rural areas.

d) Government has not taken the steps necessary to provide for the control, abatement, and prevention of unwanted and hazardous noise.

e) The State of California has a responsibility to protect the health and welfare of its citizens by the control, prevention, and abatement of noise.

f) All Californians are entitled to a peaceful and quiet environment without the intrusion of noise which may be hazardous to their health or welfare.

g) It is the policy of the state to provide an environment for all Californians free from noise that jeopardizes their health or welfare.

For these reasons, it is the purpose of the Noise Control Act to establish a means for effective coordination of state activities in noise control and take such actions as will be necessary to achieve this end.

B. California Noise Insulation Standards

In 1974, the California Commission on Housing and Community Development adopted noise insulation standards for multi-family residential buildings (California Code of Regulations Title 24, Part 2). Title 24 establishes standards for interior room noise (attributable to outside noise sources). The regulations also specify that acoustical studies must be prepared whenever a residential building or structure is proposed to be located near an existing or adopted freeway route, expressway, parkway, major street, thoroughfare, rail line, rapid transit line, or industrial noise source, and where such noise source or sources create an exterior CNEL (or L_{dn}) of 60 dBA or greater. Such acoustical analysis must demonstrate that the residence has been designed to limit intruding noise to an interior CNEL (or L_{dn}) of at least 45 dBA.

C. California Department of Transportation Standards

For the protection of fragile, historic, and residential structures, Caltrans recommends a more conservative threshold of 0.2 inch per second PPV for normal residential buildings and 0.08 inch per second PPV for old or historically significant structures (Caltrans 2002). These standards are more stringent than the recommended guidelines established by FTA (described above).

5.6.2.3 Local

A. City of Chula Vista General Plan

The Environmental Element of the Chula Vista General Plan contains objectives and policies related to environmental noise. The General Plan defines NSLU as residences, schools, hospitals, libraries, parks, and places of worship. To establish the compatibility of various land uses with exterior noise levels, the City uses CNEL in its planning guidelines. Table 5.6-5 illustrates Chula Vista's exterior land use noise compatibility guidelines. Shading in this table represents the maximum noise level considered compatible for each land use category. These guidelines reflect the levels of noise exposure that are generally considered to be compatible with various types of land uses. The City states 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 5.6-5 City of Chula Vista Exterior Land Use/Noise Compatibility Guidelines

Land Use	Annual CNEL in Decibels					
	50	55	60	65	70	75
Residential						
School, Libraries, Daycare Facilities, Convalescent Homes, Outdoor Use Areas, and Other Similar Uses Considered Noise Sensitive						
Neighborhood Parks, Playgrounds						
Community Parks, Athletic Fields						
Offices and Professional						
Places of Worship (excluding outdoor use areas)						
Golf Courses						
Retail and Wholesale Commercial, Restaurants, Movie Theaters						
Industrial, Manufacturing						

Note: Shading represents the maximum noise level considered compatible for each land use category.

Source: City of Chula Vista 2005a

As stated in the General Plan, the City's Noise Control Ordinance (described below) establishes noise level thresholds for individual generators. The Noise Control Ordinance thresholds are used in noise impact assessments to determine mitigation requirements for proposed generators of noise to ensure that they will not adversely impact surrounding land uses. Conversely, the guidelines listed in Table 5.6-5 reflect the total noise exposure that is compatible with a particular land use, including vehicular traffic noise levels that are not regulated by the Noise Control Ordinance.

As shown in Table 5.6-5, residential, parks, schools, libraries, and other NSLU are considered compatible when located in areas where exterior noise levels are 65 dBA CNEL or lower. Community parks, athletic fields, offices, and places of worship are considered compatible when located in areas where exterior

noise levels are 70 dBA CNEL or lower. Retail, restaurants, movie theaters, golf courses, industrial, and manufacturing uses are considered compatible when located in areas where exterior noise levels are 75 dBA CNEL or lower.

B. City of Chula Vista Noise Control Ordinance

The Noise Control Ordinance (CVMC Chapter 19.68) establishes noise criteria for Chula Vista to prevent noise and vibration which may jeopardize the health or welfare of the City's citizens or degrade their quality of life. CVMC Section 19.68.030 defines exterior noise standards for various receiving land uses. The noise standards are not to be exceeded at the portion of a property used for a particular land use. For nuisance noise, the noise standards cannot be exceeded at any time. Examples of nuisance noise provided in the Noise Control Ordinance include pets in residential neighborhoods, private parties of limited duration, sound amplifiers and musical instruments, and any activities in commercial areas other than permitted uses. For environmental noise, the L_{eq} in any one hour cannot exceed the noise standards. These standards are shown in Table 5.6-6. The noise standards in Table 5.6-6 do not apply to construction activities.

CVMC Section 19.68.050 regulates vibration from construction and operational sources. It prohibits operating or permitting the operation of any device that creates a vibration that is above the vibration perception threshold of any individual at or beyond the property boundary of the source if on private property or at 150 feet from the source if on a public space or public rights-of-way.

Construction noise is regulated by CVMC Section 17.24.040, which prohibits construction and building work in residential zones that would cause noises disturbing to the peace, comfort, and quiet enjoyment of property of any person residing or working in the vicinity between the hours of 10:00 p.m. and 7:00 a.m., Monday through Friday, and between the hours of 10:00 p.m. and 8:00 a.m., Saturday and Sunday.

Table 5.6-6 City of Chula Vista Exterior Noise Limits

Receiving Land Use Category	Noise Level (dBA)[1,2,3]	
	10:00 p.m. to 7:00 a.m. (Weekdays) 10:00 p.m. to 8:00 a.m. (Weekends)	7:00 a.m. to 10:00 p.m. (Weekdays) 8:00 a.m. to 10:00 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

(1) Environmental Noise—L_{eq} in any hour; Nuisance Noise—not be exceeded any time

(2) According to CVMC Section 19.68.030(B)(2), if the alleged offensive noise contains a steady, audible sound such as a whine, screech or hum, or contains a repetitive impulsive noise such as hammering or riveting, the standard limits shall be reduced by 5 dB.

(3) If the measured ambient level, measured when the alleged noise violation source is not operating, exceeds the standard noise limit, the allowable noise exposure standard shall be the ambient noise level.

Source: CVMC Section 19.68.030

5.6.3 Criteria for Determination of Significance

According to Appendix G of the CEQA Guidelines, a significant impact related to noise would occur if implementation of the proposed project would:

- Criterion 1: Expose persons to or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies.

  This includes exposure of persons to or generation of noise levels in excess of the interior noise standard of 45 dBA CNEL in single and multi-family residences, or noise levels that violate the Chula Vista Noise Control Ordinance (CVMC Chapter 19.68).

- Criterion 2: Expose persons to or generate excessive groundborne vibration or groundborne noise levels.

  Excessive groundborne vibration is defined as groundborne vibration equal to or in excess of 0.2 inch per second PPV. Construction activities within 200 feet and pile driving within 600 feet of a vibration sensitive use would be potentially disruptive to vibration-sensitive operations (Caltrans 2002).

- Criterion 3: Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.

  A substantial permanent increase would occur if implementation of the proposed project results in an ambient noise level that exceeds the exterior noise limits established in the Chula Vista General Plan (City of Chula Vista 2005a), including 65 dBA CNEL for schools, recreational uses, and residences; 70 dBA CNEL for offices, community parks and athletic fields; and 75 dBA CNEL for commercial uses. For transportation-related noise, a significant impact would occur if the proposed project results in a 3 dBA CNEL or greater increase in traffic noise on a roadway segment and the resultant noise level would exceed the General Plan exterior noise limits.

- Criterion 4: Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

  Construction noise would be considered significant if it violates the limits established in CVMC Section 17.24.040, which prohibits construction and building work between the hours of 10:00 p.m. and 7:00 a.m., Monday through Friday, and between the hours of 10:00 p.m. and 8:00 a.m., Saturday and Sunday.

- Criterion 5: For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, expose people residing or working in the project area to excessive noise levels.
- Criterion 6: For a project within the vicinity of a private airstrip, expose people residing or working in the project area to excessive noise levels.

5.6.4 Impacts

5.6.4.1 Excessive Noise Levels

Criterion 1: Would the project expose persons to or generate noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

The implementation of the PGDSP would have the potential to generate noise levels in excess of established standards by developing new stationary sources of noise, by increasing human activity throughout the project site, and by generating additional vehicular traffic. Proposed NSLU associated within the project site include residential development. Potential noise generating land uses on site include mixed-use commercial, general commercial, residential, recreational, and educational uses. This section addresses the potential for on-site NSLU to be exposed to excessive noise levels from roadways. Permanent increases in ambient noise levels that would occur as a result of increased traffic on roadways are addressed in Section 5.6.4.3 below. Temporary increases in ambient noise levels that would occur as a result of construction activities during future development associated with PGDSP build-out are addressed in Section 5.6.4.4 below.

Impacts related to potential exposure to excessive noise levels as a result of PGDSP implementation are assessed based on a comparison of the land uses proposed in the PGDSP (described in Chapter 3, Project Description) to the noise levels potentially generated by on-site land uses and existing off-site noise sources. Estimated noise levels are based on a variety of sources, including noise technical reports for similar facilities. Noise levels at a particular receptor from a stationary noise source are based on an attenuation rate of 6 dBA for every doubling of distance. Future on-site traffic noise levels were calculated for PGDSP build-out (Year 2030) traffic volumes along roadway segments using the FHWA Traffic Noise Model (FHWA RD-77-108). The modeling calculations took into account the posted vehicle speed, traffic volume, and the estimated vehicle mix. The traffic volumes are based upon data from the Mobility Study prepared for the PGDSP (LLG 2012). The Year 2030 Scenario represents the worst-case condition for roadway noise impacts because it assumed build-out of the PGDSP. Therefore, this scenario was used for the analysis of long-term on-site traffic noise impacts on proposed NSLU.

A. Operational Noise

Operational noise sources with implementation of the PGDSP would be similar to existing conditions because land uses would be similar, as described further below; however, development intensity would increase with implementation of the PGDSP. Implementation of the PGDSP would accommodate a total of 1,300 new dwelling units, 100,000 square feet of additional retail use development, and 50,000 square feet of new office use development compared to existing conditions. Therefore, noise levels would have the potential to increase in the PGD from the intensification of uses.

Similar to existing conditions, operational noise sources associated with development accommodated by the PGDSP would include the operation of commercial, residential, mixed-use, recreational, and educational uses. As described above, general noise sources from commercial operations include parking lot noises, delivery trucks, and HVAC units. Residential areas generate temporary and intermittent nuisance noise. Hand-craft production, light manufacturing, and industrial uses may include delivery truck, machinery, and mechanical equipment noise. Noise sources from schools and

recreational facilities include parking lot noise, children at play, athletic events, landscape maintenance, school bells, and public address systems.

Commercial uses are currently located east of Industrial Boulevard and at the northwest corner of Anita Street and Industrial Boulevard. There are commercial and light industrial uses located at the corner of Anita Street and Frontage Road, south of Anita Street, and near the intersection of Walnut Avenue and Palomar Street, north of Palomar Street. Two hotel uses are located along the western boundary of the PGD to the north and south of Palomar Street along Frontage Road and Walnut Avenue. The PGDSP would allow for mixed use development in the Palomar Transit Plaza Sub-District (MU-1) and the Mixed Use Corridor Sub-District (MU-2), and neighborhood commercial development within the Palomar Neighborhood Retail Cluster Sub-District (PRNC) located at the northwest corner of the Industrial Boulevard and Anita Street intersection.

Existing NSLU include residential development located throughout the PGD. New commercial and light industrial developments located in mixed use areas are required by the noise standards established in the CVMC to reduce exterior noise sources in order to be compatible when located adjacent to or near NSLU. New commercial development accommodated by the PGDSP would have the potential to expose existing NSLU to noise levels that exceed the City's noise limits for single family and multi-family residences, 55 dBA and 60 dBA, respectively. Additionally, the PGDSP seeks to create compact walkable communities that would result in the placement of residential development in close proximity to commercial land uses. While the proposed land use plan is intended to create pedestrian-oriented areas that would reduce vehicle traffic and associated traffic noise, commercial land uses may generate noise that exceeds noise limits for NSLU. Live/work units, mixed-use development, multi-family residential, and other noise-sensitive developments would potentially be accommodated in the MU-1 and MU-2 Sub-districts, and the development plans for these areas specifically call for the close proximity of commercial and residential development. A specific objective of these sub-districts is to provide for integrated residential and commercial retail development.

Intermittent or temporary neighborhood noise from amplified music, barking dogs, landscape maintenance, and stand-by power generators are disturbing to residents but are difficult to attenuate and control. Nuisance noise impacts would be more likely to occur in densely developed areas, where residences are closer together and neighbors would be more likely to hear noises such as a barking dog or loud music. The PGDSP would accommodate intensified multi-family residential development in the Palomar Residential Village Sub-District (PRV), as well as mixed-use development in the MU-1 and MU-2 Sub-districts. Compared to existing conditions, the PGDSP would accommodate 1,300 additional dwelling units in the PGD, consisting of 700 additional dwelling units in the PRV Sub-District, 150 additional dwelling units in the MU-1 Sub-District, and 450 additional dwelling units in the MU-2 Sub-District. The increase in residential development may result in an increase in nuisance noise. However, these noises are generally temporary and intermittent in nature. Additionally, CVMC 19.68.030 (A)(4) states that no person shall operate, or cause to be operated, any source of sound at any location within the City or allow the creation of any noise on property owned, leased, occupied or otherwise controlled by such person which causes the noise level to exceed the environmental and/or nuisance interpretation of the applicable limits given in Table 5.6-6. Therefore, nuisance noise from residential development would not result in a significant increase in the ambient noise level.

To varying degrees, hand-craft production, light manufacturing, and commercial uses would be permitted in the MU-1, MU-2, and PNRC Sub-districts under the PGDSP. Currently, these types of land uses are located in the MU-1, MU-2, and PNRC Sub-districts, as well as a small area of the PRV Sub-

District. Typical noise sources from these land uses would be machinery or mechanical equipment noise. New recreational and civic land uses would be accommodated in all sub-districts and new schools may be accommodated in the MU-2 Sub-district. These land uses would generate noise from children playing at parks or on school playgrounds, parking lot noise, or public announcement systems. New facilities may result in a significant increase in the ambient noise level because each sub-district would also accommodate or be adjacent to new and existing NSLU. If hand-craft production, light manufacturing, medical laboratories, recreational facilities, civic facilities, or schools are located in close proximity to residential developments, hotels, or libraries, these facilities may expose NSLU to noise levels in excess of the City's noise limits. This would result in a potentially significant impact associated with exposure to operational noise. It should be noted that schools generate noise, but are also considered a NSLU.

B. Transportation Noise

1. Exposure to Traffic Noise

Acoustical calculations were performed for future (Year 2030) traffic volumes along roadway segments in the area most affected by PGDSP implementation using standard noise modeling equations adapted from the FHWA Traffic Noise Model (FHWA-RD-77-108). Year 2030 represents full build-out of the development accommodated by the PGDSP. The modeling calculations considered the posted vehicle speed, average daily traffic volume, and the estimated vehicle mix. The model assumed "pavement" or hard surface site propagation conditions. The future scenario is based upon data from the Mobility Study prepared for the PGDSP (LLG 2012) that includes projects in the site vicinity that would also be constructed at build-out of the PGDSP (Year 2030).

The Environmental Element of the Chula Vista General Plan (City of Chula Vista 2005a) recommends appropriate mitigation measures in order to attenuate existing and projected traffic noise levels, in accordance with applicable standards. Figure 5.6-2 shows the future noise level contours along the roadways that reflect conditions for the PGDSP build-out in year 2030. The contours reflect a conservative estimate of noise levels, as they do not account for attenuation provided by topography, buildings, or other structures. The PGDSP proposes intensified commercial, multi-family residential, and mixed-use development along area roadways. As shown in Figure 5.6-2, approximately half of the PGD is located within the roadway noise contour where noise levels would exceed 60 dBA (CNEL). Multi-family residential development and commercial development would likely be placed along major roadways, and would have the potential to be located within the roadway noise contour where noise levels would exceed 65 dBA (CNEL). This contour extends approximately 600 feet from the centerline of Palomar Street and 150 feet from the centerline of Industrial Boulevard, affecting interior noise levels and onsite exterior recreational areas. This would result in a potentially significant impact associated with exposure to traffic noise.

2. Exposure to Railroad Noise

The Blue Line light rail trolley line serves the PGD through one train station, the Palomar Transit Station, located south of the Palomar Street and Industrial Boulevard intersection. Additionally, approximately four freight railroad trains pass through the PGD nightly. Noise associated with these train operations was modeled using the Chicago Rail Efficiency and Transportation Efficiency railroad noise model, which uses FTA procedures to determine generalized L_{dn} noise contours. The model assumed that the trains travel 50 miles per hour through the PGD.

Source: SanGIS, 2011; CASIL, 2011; Atkins, 2012

0 200 400 Feet

N

FUTURE (2030) NOISE CONTOURS
FIGURE 5.6-2

Based on the posted San Diego MTS schedule for the Blue Line, the model assumed ten trolleys per hour during daytime hours (7:00 a.m. to 10:00 p.m.), and five trolleys per hour during nighttime hours (10:00 p.m. and 7:00 a.m.). The Burlington Northern Santa Fe and San Diego and Imperial Valley railroads pass through the PGD generating four freight train operations per night. Freight trains only operate during the nighttime hours when the Blue Line trolley is not utilizing the tracks. The model also assumes one engine per train for both the trolleys and freight trains. The railroad tracks are jointed rail tracks; therefore, the model assumes jointed tracks. To represent worst-case conditions, the noise model did not take into account any intervening topography or buildings that would provide noise attenuation.

Based on the Chicago Rail Efficiency and Transportation Efficiency railroad noise model for the Blue Line trolley and freight trains, the combined L_{dn} for both railroad services 100 feet from the railroad tracks is 71 dBA. Table 5.6-7 shows the calculated noise contours for the railroad. Single and multi-family residential, school, and library development planned within approximately 175 feet of the railroad centerline; office development planned approximately 90 feet from the railroad centerline; and commercial, industrial, and manufacturing development planned within 60 feet from the railroad centerline would exceed the noise limits established within the City's Noise Control Ordinance. Therefore, development planned within a noise contour which exceeds the limits established in the City's Noise Control Ordinance would result in a potentially significant impact. It should be noted that future build-out of multi-story buildings located adjacent to primary noise sources (Palomar Street and Blue Line light rail trolley line) would provide shielding and would attenuate noise levels for land uses located further from the source. The first row of proposed development would be required to include mitigation measures to achieve interior noise standards and provide exterior recreational areas that are adequately shielded from exterior roadway and railroad noise.

Table 5.6-7 Railroad Noise Contours

Noise Contour (L_{dn})	Distance from Railroad Centerline (feet)
50	1,122
55	631
60	355
65	200
70	112
75	63

Notes: For modeling inputs and results, refer to Appendix C of the Noise Technical Report (Atkins 2012a), which is provided as Appendix D of this EIR.
Source: Atkins 2012a

3. Combined Traffic and Railroad Noise

There are two sources of transportation noise that could impact the first row of proposed development adjacent to Industrial Boulevard and the Blue Line light rail trolley line. As discussed in Section 5.6.4.3 below, traffic noise attributable to Palomar Street and Industrial Boulevard in Year 2030 would be 68 dBA and 63 dBA CNEL at 75 feet from the roadway centerline, respectively. Railroad noise levels for the Blue Line trolley and freight train operations would be 71 dBA L_{dn} at 100 feet from the railroad track centerline. Combining Palomar Street traffic noise and Blue Line trolley and freight train noise would

result in a noise level of 72 dBA CNEL at 100 feet from Palomar Street and the trolley line. Combining Industrial Boulevard traffic noise and Blue Line trolley and freight train noise would result in a noise level of 71 dBA CNEL at 100 feet from the source. Provided that proposed NSLU would be located within 100 feet of both noise sources, interior noise levels of 45 dBA CNEL may not be achieved with the incorporation of standard building practices. Specifically, proposed NSLU located along Palomar Street could exceed the nighttime interior noise standard by 2 dBA and proposed NSLU located along Industrial Boulevard could exceed the nighttime interior noise standard by 1 dBA. Thus, a potentially significant impact would occur to residences along Palomar Street and Industrial Street within 100 feet of the trolley line or roadway.

5.6.4.2 Excessive Groundborne Vibration

Criterion 2: Would the project expose persons to or generate excessive groundborne vibration or groundborne noise levels?

Groundborne vibration impacts are assessed based on screening distances determined by the FTA and Caltrans. According to the FTA, vibration sensitive land uses within 600 feet of a railroad may be exposed to disruptive vibration (FTA 2006). According to Caltrans, major construction activity within 200 feet and pile driving within 600 feet may be potentially disruptive to sensitive operations (Caltrans 2002). The main concerns related to groundborne vibration are annoyance and damage. However, vibration sensitive instruments and operations can be disrupted at much lower levels. Potential vibration sensitive land uses may include machinery in manufacturing and processing uses, or medical laboratory equipment. These land uses would be permitted, to varying degrees, in the MU-1 and MU-2 Sub-districts. The primary sources of vibration within the PGD would be from trolley operations and construction activities. Because the proposed land uses accommodated under the PGDSP would be similar to existing land uses, vibration levels from operational activities would not be substantially different from existing conditions.

According to Caltrans, the highest measured vibration level during highway construction was 2.88 inches per second PPV at 10 feet from a pavement breaker (Caltrans 2002). Other typical construction activities and equipment, such as D-8 and D-9 Caterpillars, earthmovers, and trucks have not exceeded 0.10 inch per second PPV at 10 feet. Vibration sensitive instruments and operations may require special consideration during construction. Vibration criteria for sensitive equipment and operations are not defined and are often case specific. In general, the criteria must be determined based on manufacturer specifications and recommendations by the equipment user. As a guide, major construction activity within 200 feet and pile driving within 600 feet may be potentially disruptive to vibration sensitive instruments and operations (Caltrans 2002). General construction activity in the PGD in close proximity to vibration sensitive land uses would have the potential to result in a significant impact.

An additional potential source of groundborne vibration is the Blue Line light rail trolley line, which bisects the eastern portion of the PGD. The FTA provides screening distances for land use categories to screen projects that may be subject to vibration impacts from a commuter railroad (FTA 2006). For Category 1 land uses (vibration sensitive equipment), the screening distance from railroad rights-of-way is 600 feet. For Category 2 land uses (residences and buildings where people normally sleep), the screening distance from railroad rights-of-way is 200 feet. The screening distance for Category 3 land uses (institutional land uses) is 120 feet. The PGDSP would potentially accommodate Category 1 land uses in the MU-1 and MU-2 Sub-districts; Category 2 land uses in the MU-1, MU-2, and PRV Sub-districts; and Category 3 land uses in the MU-1 and MU-2 Sub-districts. According to the FTA, light rail

systems with train speeds of 50 miles per hour could generate groundborne vibration levels of up to 72 VdB, or 0.016 inch per second PPV, at a distance of 60 feet from the tracks (FTA 2006). Groundborne vibration levels of 72 VdB may be audible inside quiet rooms, but would be suitable for medium-power optical microscopes and other equipment of low sensitivity. Therefore, implementation of the PGDSP has the potential to locate new vibration sensitive land uses within the screening distance of the Blue Line light rail trolley line. New development that is proposed within the screening distance of the Blue Line light rail trolley line would require further analysis to determine vibration impacts. Thus, a potentially significant impact would occur.

5.6.4.3 Permanent Increases in Ambient Noise Levels

Criterion 3: Would the project result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

The primary way in which PGDSP implementation would change noise within the PGD and in the surrounding vicinity is by increasing traffic. Acoustical calculations were performed for existing, existing plus project, and future (Year 2030) traffic volumes along roadway segments most affected by the project using standard noise modeling equations adapted from the FHWA Traffic Noise Model (FHWA-RD-77-108). The existing plus project scenario represents the project's contribution to traffic increases and Year 2030 represents full build-out of the development accommodated by the PGDSP. The modeling calculations considered the posted vehicle speed, average daily traffic volume, and the estimated vehicle mix. The model assumed "pavement" or hard surface site propagation conditions. The future scenario is based upon data from the Mobility Study prepared for the PGDSP (LLG 2012) that includes projects in the site vicinity that would also be constructed at build-out of the PGDSP (Year 2030).

Traffic noise increases associated with existing plus project traffic are shown in Table 5.6-8. As shown in Table 5.6-8, project-related traffic would increase noise levels by 2 dBA CNEL on the segment of Industrial Boulevard between Palomar Street and Ada Street, and by 1 dBA CNEL for two segments along Industrial Boulevard (Naples Street to Palomar Street and Ada Street to Anita Street) and three segments along Palomar Street (I-5 to Walnut Avenue, Walnut Avenue to Industrial Boulevard, and Trolley Center to Broadway). Table 5.6-8 also shows that future (Year 2030) noise levels with implementation of the PGDSP would range from 63 dBA (CNEL) to 69 dBA (CNEL) at a distance of 75 feet from the roadway centerline. Noise levels along Industrial Boulevard would remain below 65 dBA (CNEL). Under both the existing plus project scenario and the future plus project scenario, noise levels along Palomar Street would exceed the City's 65 dBA (CNEL) threshold for residential uses. However, the future noise levels along these roadway segments would exceed 65 dBA (CNEL) even without implementation of the PGDSP. When PGDSP build-out traffic is added, the increase in the resulting noise level along Palomar Street would be 1 dBA or less. A 1 dBA noise increase is not considered excessive, although project-related traffic would incrementally contribute to an already noisy environment that may exceed compatibility standards for NSLU in the vicinity. The significance threshold for traffic-related noise increases is 3 dBA CNEL and exceedance of the General Plan exterior noise limits. Therefore, even though traffic noise levels along these segments would result in a noise level exceeding the General Plan exterior noise limit, the implementation of the PGDSP would not result in a substantial contribution to roadway noise because it would not result in a 3 dBA or greater noise increase. Therefore, project-related impacts associated with increases in traffic noise would be less than significant.

Table 5.6-8 Future Traffic Noise Levels (CNEL)

Roadway	Roadway Segment		Existing Noise Level[1]	Existing Noise Level + Project (dBA)	Change Due to Project (dBA)	Future Noise Level (Year 2030)	Future Noise Level + Project (dBA)[2]	Change in Future Noise Level Due to Project (dBA)
	From	To						
Palomar Street	I-5	Walnut Avenue	68	69	1	68	69	1
Palomar Street	Walnut Avenue	Industrial Boulevard	68	69	1	69	69	0
Palomar Street	Industrial Boulevard	Transit Center Place	68	69	1	69	69	0
Palomar Street	Transit Center Place	Trolley Center	68	68	0	68	68	0
Palomar Street	Trolley Center	Broadway	68	69	1	68	69	1
Industrial Boulevard	Naples Street	Palomar Street	60	61	1	63	64	1
Industrial Boulevard	Palomar Street	Ada Street	60	62	2	62	63	1
Industrial Boulevard	Ada Street	Anita Street	60	61	1	62	63	1

[1] The existing scenario represents traffic from 2005 to present.

[2] Future conditions include projects that would be constructed at PGDSP build-out (Year 2030).

Notes: Noise levels are given at 75 feet from roadway centerline. Decibel levels are rounded to the nearest whole numbers. Noise levels are based upon traffic data provided in the Mobility Study prepared for the PGDSP (LLG 2012). For data sheets, refer to Appendix B of the Noise Technical Report (Atkins 2012a), which is provided as Appendix D of this EIR.

Source: Atkins 2012a

5.6.4.4 Temporary Increases in Ambient Noise Levels

Criterion 4: Would the project result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

The future development of land uses consistent with the proposed PGDSP would have the potential to result in the exposure of on- or off-site NSLU to noise in excess of the City's noise limits. Impacts related to temporary increases in ambient noise levels were assessed using estimates of sound levels from typical construction equipment assuming an attenuation rate of 6 dBA per doubling of distance from the source. Project-related construction activities with the potential to generate noise would include, but not be limited to site grading and excavation, demolition, construction equipment movement and engine noise, truck deliveries, and construction of new buildings. Typical noise levels for common construction equipment used during site development are provided in Table 5.6-9.

As shown in Table 5.6-9, operation of construction equipment would have the potential to generate high noise levels for construction activities, depending on the type, duration, and location of the activity.

Although NSLU such as existing residences could be exposed to excessive construction noise levels, the exposure would be short-term. Additionally, construction activities would occur between the hours of 7:00 a.m. and 10:00 p.m., Monday through Friday, and between the hours of 8:00 a.m. and 10:00 p.m., Saturday and Sunday, which is the limit specified in the Chula Vista construction noise ordinance. Because construction activities in the PGD would comply with the applicable regulation for construction noise, temporary increases in noise levels from construction activities would be less than significant.

Table 5.6-9 Typical Construction Equipment Noise Levels

Equipment	Typical Noise Level (dBA) at 50 feet from source
Air Compressor	81
Backhoe	80
Compactor	82
Concrete Mixer	85
Crane, Derrick	88
Dozer	85
Grader	85
Jack Hammer	88
Loader	85
Paver	89
Pile-Driver (Impact)	101
Pump	76
Roller	74
Scraper	89
Truck	88

Source: FTA 2006

5.6.4.5 Aircraft Noise

Criterion 5: For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

Criterion 6: For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

Impacts related to aircraft noise are assessed based on the Air Installations Compatible Use Zones for Naval Outlying Field Imperial Beach (U.S. Department of Defense 2011). The project site is located 2.6 miles northeast of Naval Outlying Field Imperial Beach, which is the closest airfield to the PGD. The PGD is subject to periodic over-flights and flyovers of planes from Naval Outlying Field Imperial Beach that are audible on the project site. However, the project site is not located within the 60 dBA CNEL noise contour of Naval Outlying Field Imperial Beach and generally would not be exposed to excessive noise levels from this airport. Due to existing development in the PGD, it is not foreseeable that

additional aviation uses would be introduced in the immediate vicinity of the project site. In addition, PGDSP implementation would not result in a significant impact on future air traffic operations. Thus, NSLU would not be exposed to excessive noise levels from aircraft noise as a result of the PGDSP and impacts would be considered less than significant.

5.6.5 Level of Significance Prior to Mitigation

5.6.5.1 Excessive Noise Levels

Implementation of the proposed PGDSP would have the potential to result in exposure of NSLU to excessive noise levels from operational and transportation noise sources. Therefore, potentially significant impacts associated with excessive noise levels would occur.

5.6.5.2 Excessive Groundborne Vibration

Implementation of the proposed PGDSP would have the potential to result in the exposure of vibration sensitive land uses to excessive groundborne vibration from trolley/railroad operations and construction activities. Therefore, potentially significant impacts associated with excessive groundborne vibration would occur.

5.6.5.3 Permanent Increases in Ambient Noise Levels

Future development associated with PGDSP build-out would have the potential to generate permanent increases in ambient noise levels due to increased traffic, although the increases would be below significance thresholds. Therefore, implementation of the proposed PGDSP would result in less than significant impacts associated with permanent increases in ambient noise levels.

5.6.5.4 Temporary Increases in Ambient Noise Levels

Future development associated with PGDSP build-out would have the potential to generate temporary increases in ambient noise level due to construction activities; however, construction activities would comply with applicable regulations for construction noise. Therefore, implementation of the proposed PGDSP would result in less than significant impacts associated with temporary increases in ambient noise levels.

5.6.5.5 Aircraft Noise

Implementation of the proposed PGDSP would not result in the exposure of NSLU to excessive noise levels from aircraft noise. Therefore, impacts associated with aircraft noise would be less than significant.

5.6.6 Mitigation Measures

5.6.6.1 Excessive Noise Levels

Implementation of mitigation measure 5.6-1 would reduce potential impacts related to excessive noise levels to a less than significant level.

5.6-1 **Site-Specific Acoustic Analysis — Multi-Family Residences.** Concurrent with Design Review and prior to the approval of building permits for the following uses, an acoustical analysis shall be performed to ensure that interior noise levels due to exterior noise sources shall be below 45 dBA CNEL:

i. Multi-family residential units where the first and/or second floor exterior noise levels exceed 60 dBA CNEL;

ii. Multi-family outdoor usable areas (patios or balconies) where noise levels exceed 65 dBA CNEL;

iii. Multi-family residential units located within the same building as commercial development;

iv. Multi-family residential units located near a structure requiring a heating, ventilating, and air conditioning system, or near a school, park, or community center.

Building plans shall be available during design review and shall demonstrate the accurate calculation of noise attenuation for habitable rooms. For these areas, it may be necessary for the windows to be able to remain closed to ensure that interior noise levels meet the interior standard of 45 dBA CNEL. Consequently, based on the results of the interior acoustical analysis, the design for buildings in these areas may need to include a ventilation or air conditioning system to provide a habitable interior environment with the windows closed.

5.6.6.2 Excessive Groundborne Vibration

Implementation of mitigation measure 5.6-2 would reduce potential impacts related to excessive groundborne vibration to a less than significant level.

5.6-2 **Site-Specific Groundborne Vibration Analysis.** Concurrent with design review and prior to issuance of building permits, future projects shall implement the FTA and FRA guidelines, where appropriate, to limit the extent of exposure that sensitive uses may have to groundborne vibration from trains, construction equipment, and other sources. Specifically, Category 1 uses (vibration-sensitive equipment) within 600 feet, Category 2 uses (residences and buildings where people normally sleep) within 200 feet, and Category 3 uses (institutional land uses) within 120 feet of railroad rights-of-way or other major sources of groundborne vibration shall require a site-specific groundborne vibration analysis conducted by a qualified groundborne vibration specialist in accordance with FTA and FRA guidelines. Vibration control measures deemed appropriate by the site-specific groundborne vibration analysis shall be implemented by the project applicant.

5.6.6.3 Permanent Increases in Ambient Noise Levels

No mitigation measures are required.

5.6.6.4 Temporary Increases in Ambient Noise Levels

No mitigation measures are required.

5.6.6.5 Aircraft Noise

No mitigation measures are required.

5.6.7 Level of Significance after Mitigation

With implementation of mitigation measures 5.6-1 and 5.6-2, impacts related to noise resulting from implementation of the proposed PGDSP would be reduced to below a level of significance.

5.7 Cultural Resources

The analysis in this section of the EIR addresses the potential impacts to cultural resources that would result from implementation of the PGDSP. Cultural resources include prehistoric resources and historic resources. Prehistoric resources are physical properties resulting from human activities that predate written records and are generally identified as isolated finds or sites. Prehistoric resources can include village sites, temporary camps, lithic (stone tool) scatters, roasting pits/hearths, milling features, rock features, and burials. Historic resources are physical properties, structures, or built items resulting from human activities after the time of written records. In North America, the historic period is generally considered equivalent to the time period since European contact, beginning in Anno Domini (A.D.) 1492. Historic resources can include archaeological remains and architectural structures. The following discussion of cultural resources within the PGD is based on the project-specific Cultural Resources Report prepared by ASM Affiliates, Inc. (ASM) in January 2013 (ASM 2013), and a comprehensive citywide historic resources survey conducted by ASM from February 2012 to November 2012 (ASM 2012). The Cultural Resources Report contains a constraints-level programmatic analysis for the purposes of this Program EIR. It does not, and is not intended to, analyze project-specific impacts of future development projects in the PGD. The Cultural Resources Report is provided as Appendix E of this EIR.

5.7.1 Existing Conditions

5.7.1.1 Cultural Setting

A. Regional History

1. Prehistory

Archaeological fieldwork along the southern California coast has yielded a diverse range of human occupation extending from the early Holocene into the Ethnohistoric period. A variety of different regional chronologies, often with overlapping terminology, have been used in coastal southern California and vary from region to region. Today, the prehistory of San Diego County is generally divided into three major temporal periods: Paleo-Indian, Archaic, and Late Prehistoric. These time periods are characterized by patterns in material culture that are thought to represent distinct regional trends in the economic and social organization of prehistoric groups. Particular scholars referring to specific areas utilize a number of cultural terms synonymously with these temporal labels: San Dieguito for Paleo-Indian, La Jolla for Archaic, and San Luis Rey for Late Prehistoric.

2. Paleo-Indian Period

As in most of North America, the earliest recognized period of California prehistory is termed Paleo-Indian. In southern California, the Paleo-Indian period is usually considered to date from at least 10,000 years before present (B.P.) until 8500 to 7200 B.P., and is represented by what is known as the San Dieguito complex. Within the local classificatory system, San Dieguito assemblages are composed almost entirely of flaked stone tools, including scrapers, choppers, and large projectile points.

3. Archaic Period

The Archaic period (also referred to as the Early Milling period) extends back at least 7,200 years, possibly to as early as 9000 B.P. Archaic subsistence is generally considered to have differed from Paleo-

Indian subsistence in two major ways. First, gathering activities were emphasized over hunting, with shellfish and seed collecting having a high importance. Second, milling technology, frequently employing portable ground stone slabs, was developed. The shift from a mostly maritime subsistence focus to a land-based focus is traditionally held to mark the transition from the Paleo-Indian period to the Archaic period. Early Archaic occupations in San Diego County are most apparent along the coast and the major drainage systems that extend inland from the coastal plains. Coastal Archaic sites are characterized by cobble tools, basin metates, manos, discoidals (disk-shaped grinding stones), a small number of "Pinto" and "Elko" series dart points, and flexed burials. Together these elements typify what is termed the La Jolla complex in San Diego County, which appears as the early coastal manifestation of a more diversified way of life.

4. Late Prehistoric Period

Assemblages derived from Late Prehistoric sites in San Diego County differ in many ways from those in the Archaic tradition. The occurrence of small, pressure-flaked projectile points, the replacement of flexed inhumations with cremations, the introduction of ceramics, and an emphasis on inland plant food collection, processing, and storage (especially acorns) are only a few of the cultural patterns that were well established by the second millennium A.D. The centralized and seasonally permanent residential patterns that had begun to emerge during the Archaic period became well established in most areas. Inland semi-sedentary villages appeared along major watercourses in the foothills and in montane valleys where seasonal exploitation of acorns and piñon nuts were common, resulting in permanent milling stations on bedrock outcrops. Mortars for acorn processing increased in frequency relative to seed-grinding basins.

5. Ethnohistoric Period

In ethnohistoric times, two main cultural groups occupied coastal San Diego County: 1) the Shoshonean-speaking Luiseño and Juaneño in the north; and 2) the Yuman-speaking (Ipai and Tipai dialects) Kumeyaay or Diegueño in the south. Traditionally, Luiseño territory encompassed an area from roughly Agua Hedionda on the coast, east to Lake Henshaw, north into Riverside County, and west through San Juan Capistrano to the coast. The region inhabited by various bands of the Kumeyaay was much larger and probably extended from Agua Hedionda lagoon eastward into the Imperial Valley and southward through much of northern Baja California, including present-day Chula Vista. The Kumeyaay inhabited a diverse environment including marine, foothill, mountain, and desert resource zones.

There seems to have been considerable variability in the level of social organization and settlement patterns among the Kumeyaay. The Kumeyaay were organized bands containing members of non-localized patrilineal, patrilocal lineages that claimed prescribed territories, but did not own the resources except for some minor plants and eagle nests. Some of the bands occupied procurement ranges that required considerable residential mobility, such as those in the deserts. In the mountains, some of the larger bands occupied a few large residential bases that would be inhabited bi-annually, such as those inhabited in Cuyamaca in the summer and fall, and in Guatay or Descanso during the rest of the year. Many desert and mountain Kumeyaay spent the spring to autumn in larger residential bases in the upland procurement ranges, and wintered in mixed groups in residential bases along the eastern foothills on the edge of the desert (i.e., Jacumba and Mountain Springs). This variability in settlement mobility and organization reflects the great range of environments within Kumeyaay territory. Most of Kumeyaay mythology was quite similar to the Quechan and Mojave of the Colorado River, as well as other Yuman groups in the southwest.

6. Historic Period

Although the earliest historical exploration of the San Diego area can be traced to 1542 with the arrival of the first Europeans, particularly the exploration of San Miguel Bay by Juan Rodriguez Cabrillo, the widely accepted start of the historic period is 1769 with the founding of the joint Mission San Diego de Alcalá and Royal Presidio. The Hispanic period in California's history includes the Spanish Colonial (1769-1820) and Mexican Republic (1820-1846) periods. This era witnessed the transition from a society dominated by religious and military institutions consisting of missions and presidios to a civilian population residing on large ranchos or in pueblos.

The first intensive encounter of Spanish explorers and coastal villages of Native Americans was in 1769 with the establishment of Mission San Diego de Alcalá. The Mission of San Juan Capistrano was subsequently established in 1776, followed by San Luis Rey de Francia in 1798. The missions "recruited" the Native Americans to use as laborers and convert them to Catholicism. Local Native Americans rebelled briefly against Spanish control in 1775. Most of the individuals that participated in the attack were from Tipai settlements south of the San Diego River Valley. The Ipai to the north apparently did not participate in the rebellion, reflecting possible political affiliations at the time of the attack. The effects of missionization, along with the introduction of European diseases greatly reduced the Native American population of southern California. Many of the local Kumeyaay were incorporated into the Spanish sphere of influence at a very early date. However, most villagers continued to maintain many of their aboriginal customs and simply adopted the agricultural and animal husbandry practices learned from the Spaniards.

By the early 1820s, California came under Mexico's rule, and in 1834, the missions were secularized. This resulted in political imbalance and Native American uprisings against the Mexican rancheros. Many of the Kumeyaay left the missions and ranchos and returned to their original village settlements. When California became a sovereign state in 1850, the Kumeyaay were heavily recruited as laborers and experienced even harsher treatment. Conflicts between Native Americans and encroaching Anglos finally led to the establishment of reservations for some villages, such as Pala and Sycuan. Other mission groups were displaced from their homes, moving to nearby towns or ranches. The reservation system interrupted the social organization and settlement patterns, yet many aspects of the original culture still persist today. Certain rituals and religious practices are maintained and traditional games, songs, and dances continue, as well as the use of foods such as acorns, yucca, and wild game.

The subsequent American period (1846 to present) witnessed the development of San Diego County in various ways. This time period includes the rather rapid dominance of Anglo-Victorian (Yankee) culture over Spanish Californio culture, and the rise of urban centers and rural communities. A frontier period from 1845 to 1870 saw the region's transformation from a feudal-like society to an aggressive capitalistic economy in which American entrepreneurs gained control of most large ranchos and transformed San Diego into a merchant-dominated market town. Between 1870 and 1930, urban development established the cities of San Diego, National City, and Chula Vista, while a rural society based on family owned farms organized by rural school district communities also developed. The U.S. Army and Navy took an increased interest in the San Diego harbor between 1900 and 1940. The Army established coastal defense fortifications at Fort Rosecrans on Point Loma and the Navy developed major facilities in San Diego Bay. The 1920s brought a land boom that stimulated development throughout San Diego County. Development stalled during the depression years of the 1930s, but World War II ushered in a period of growth based on expanding defense industries.

B. History of the City of Chula Vista

During Spanish control of Alta California, the present-day City of Chula Vista was part of a 42-square-mile Spanish land grant known as Rancho del Rey, granted in 1795. The land grant later became known as Rancho de la Nación once Mexico gained independence from Spain in 1821. In 1845 Rancho de la Nación was granted to John Foster, the son-in-law of the last Mexican governor of California, Pio Pico. Foster maintained the ranch land for ten years, until he sold it to a French developer.

In 1868, the land was then sold to brothers Frank, Warren, and Levi Kimball, who wished to develop it into a city with surrounding farms. The Kimball family, in partnership with the directors of the Santa Fe Railroad, formed the San Diego Land and Town Company. The company set out to develop portions of what was then called Nation Ranch, which included the area of present-day National City and Chula Vista. It issued promotional material to attract settlers to the new Chula Vista tract, which then consisted of 5,000 acres. In 1887, the land was divided into 5-acre lots, each selling for $300 per acre. The San Diego Land and Town Company adopted the name "Chula Vista" at the suggestion of resident James D. Schulyer, meaning "beautiful view" in Spanish.

With the completion of the Sweetwater Dam in 1888, the Chula Vista community began to engage in agricultural production. For a brief period, the area became the largest lemon-growing center in the world. In 1911, the state approved the official incorporation of Chula Vista after a citizen's election. During the 1910s, Chula Vista's economy expanded into the production of military explosives, largely due to the onset of World War I. In 1916, the Hercules Powder Company constructed a plant that harvested kelp to create cordite, a smokeless powder used extensively by the British government during the war. Because the plant manufactured over 20 million kilos of cordite during the war on 30-acres of Chula Vista land, the site of the plant is now known as Gunpowder Point. During the 1920s and 1930s, a large population of Mexican and Japanese immigrants migrated to Chula Vista for agricultural work. Due to the efforts of these immigrants, agriculture was a profitable endeavor during the Great Depression; lemon orchards produced $1 million in revenue and celery fields contributed $600,000 in 1931. In 1940, Chula Vista had the highest concentration of Japanese-American farmers of any area of San Diego County. During World War II, Rohr Aircraft Corporation employed 9,000 workers in Chula Vista, and the City's population increased from 5,000 residents in 1940 to more than 16,000 by 1950. During the 1950s, the population continued to grow as agriculture gave way to housing developments, schools, and shopping centers. At this time, more extensive areas to the east and southeast were annexed, along with tidelands and more than 2 square miles of the southern portion of San Diego Bay.

The City continued to grow eastward over the next several decades including land that was annexed east of I-805 in the 1980s, as well as the Montgomery area southwest of I-805, adding 23,000 to the City's population and the largest inhabited annexation approved in California. During the latter half of the 1980s and the 1990s, Rancho del Rey, Eastlake, and other master-planned communities in eastern Chula Vista began to develop, and more than 14 square miles of Otay Ranch were annexed and planned for future development. By 2000, Chula Vista reached 173,556 residents and had established itself as the second-largest city in San Diego County.

C. History of the Palomar Gateway District

In 1885, the Santa Fe Railroad connected San Diego with Los Angeles and the remainder of the U.S., and in turn facilitated the population boom of the 1880s. A handful of small independent railroad lines followed suit in an attempt to capitalize on projected growth, which included the Coronado Railroad that connected Coronado with National City via Chula Vista. During the boom, Zachary Montgomery,

father of John J. Montgomery (a local aviation pioneer), owned a ranch, Fruitdale, in present-day Chula Vista. The Fruitdale stop on the Coronado Railroad provided locals with easier access for traveling greater distances in a shorter period of time and transporting agriculture on refrigerated cars. Although the Coronado Railroad terminated in National City, the Santa Fe's Surfline continued from National City to the greater Los Angeles area and beyond. In the early 1900s, the Santa Fe's Surfline and John Spreckel's San Diego and Arizona Eastern Railway absorbed all the remaining independent railways. Today, the San Diego and Arizona Eastern Railway/Southern Pacific Railroad extends along Industrial Boulevard (previously Bay Boulevard) in the PGD as one of two main railroad lines constructed during the late 1800s that continued to operate in the twentieth century.

In 1919, the San Diego and Arizona Eastern Railway had been extended through San Diego and Imperial counties via Palm City and through the present-day PGD. By 1928, Fruitdale developed into a rural community bordered by the Coronado Railroad to the west and the San Diego and Arizona Eastern Railway. The nearest community was Otay Townsite, subdivided in 1887, located to the east of Fruitdale and the present-day PGD. Within Fruitdale, the streets of Palomar, Ada, Dorothy, and Anita had been created and large farm tracts largely characterized the properties. Expansive farms surrounded the present-day PGD north of Palomar Street, south of Anita Street, and east of the San Diego and Arizona Eastern Railway/Industrial Boulevard. By 1953, I-5 had been constructed and bisected Fruitdale.

As late as the mid-twentieth century, there were no buildings west of Walnut Avenue or at the corner of Walnut Avenue and Anita Street or north of Dorothy Street and west of Industrial Boulevard. By 1964, residential infill continued west of Industrial Boulevard between Anita and Dorothy Streets around Belvia Lane as well as Ada Street and north of Palomar Street. Pockets of farmland abutted residential properties. Land east of Industrial Boulevard largely remained farmland.

By 1980, land east of Industrial Boulevard retained farmland and land west of Industrial Boulevard had largely been infilled with residential houses and pockets of commercial buildings. Commercial areas developed north and south of Palomar Street and east of Industrial Boulevard during the 1980s. In 1985, the Montgomery Area was annexed to Chula Vista. Among the communities in that annexation was the former Fruitdale, an area that was by then referred to as Harborside B. The Montgomery Area is characterized by the diversity of its residential areas, the result of slow development that grew around several small towns. The Harborside area is roughly bounded by Broadway Boulevard, Palomar Street, I-5, Main Street, and Palm Avenue. It is an area of mixed uses and contains a higher degree of commercial and industrial development than residential.

5.7.1.2 Known Cultural Resources

As documented in the PGDSP Cultural Resources Report (ASM 2013), a cultural resources survey was conducted to identify cultural resources in the PGD. The survey included a records search, Native American consultation, and field surveys, as discussed below.

A. Records Search

A records search was performed at the South Coastal Information Center (SCIC) on August 19, 2011. The search area included the PGD and a half-mile buffer zone around the site. The records search included a search of all relevant site records on file with the SCIC, as well as a search of the National Register of Historic Places (NRHP), the California Register of Historical Resources (CRHR), and other local registers to determine if significant archaeological or historical sites have previously been recorded within or near the PGD. The records search identified 29 cultural resources, consisting of three prehistoric lithic scatter

sites, two prehistoric isolates, two potential historic linear features, and 22 potential historic buildings or structures, which have been recorded within a half-mile radius of the PGD, as listed in Table 5.7-1. Of those 29 resources, 11 potential historic buildings and one potential historic linear feature (P-37-025680, San Diego and Arizona Eastern Railway) are located within the PGD, and are further described below. The remaining 17 resources identified during the records search are located outside the PGD.

Table 5.7-1 Previously Recorded Cultural Resources within Half-Mile Radius of PGD

Resources Within the PGD	
Resource	**Trinomial/Primary**
San Diego and Arizona Eastern Railway	P-37-025680
1196 Industrial Boulevard	P-37-017656
817 Dorothy Street	P-37-028145
809 Dorothy Street	P-37-028144
805 Dorothy Street	P-37-028143
761 Dorothy Street	P-37-028142
753 Dorothy Street	P-37-028141
751 Dorothy Street	P-37-028191
749 Dorothy Street	P-37-028190
745 Dorothy Street	P-37-028189
765 Dorothy Street	P-37-028193
763 Dorothy Street	P-37-028192
Resources Outside the PGD	
Resource	**Trinomial/Primary**
Western Salt Company Works Main Processing Plant	P-37-026576
Western Salt Company Works Electrical Building	P-37-026578
Western Salt Company Works Generator Building	P-37-026579
Western Salt Company Works Maintenance Shop	P-37-026580
Western Salt Company Works Compressor Building	P-37-026581
Western Salt Company Works Salt Ponds and Levees	P-37-026582
Western Salt Company Works Narrow Gauge Rail Crossing	P-37-026584
Western Salt Company Works Storage Shed	P-37-026585
Western Salt Company Works Salt Grinder	P-37-026586
Western Salt Company Works Conveyor and Machinery	P-37-026587
Western Salt Company Works Scale Office	P-37-026588
Prehistoric Isolate	CA-SDI-04886
Prehistoric Lithic Scatter	CA-SDI-04887
Prehistoric Isolate	CA-SDI-04888
Prehistoric Lithic Scatter	CA-SDI-05513
Prehistoric Lithic Scatter	CA-SDI-07941
Coronado Railroad	CA-SDI-13073

Source: ASM 2013

1. P-37-025680, San Diego and Arizona Eastern Railway

The San Diego and Arizona Railway, later known as the San Diego and Arizona Eastern Railway, was completed in 1911. It extended 150 miles from San Diego to El Centro. The San Diego and Arizona Railway was the last of the major railroads built in the U.S. It connected San Diego directly to the eastern U.S. via a connection with the Southern Pacific Railroad network from El Centro. The San Diego and Arizona Railway route extended south from San Diego to the border crossing at San Ysidro, through Tijuana and Garcia before swinging north and crossing the U.S./Mexico international border east of Tecate at Lindero. From the border, the railroad line climbs to 3,660 feet in elevation near Tecate and then descends to Jacumba, Ocotillo, Seeley, and El Centro. In 1979, the Metropolitan Transit Development Board purchased the San Diego and Arizona Eastern Railway for $18.1 million. The 15.9-mile San Diego Trolley "South Line" was constructed in 1981. The inaugural run of the service between the international border and downtown San Diego took place on July 19, 1981. Segments of the San Diego and Arizona Eastern Railway were recorded and evaluated by JRP Consulting in 2000 and by ASM in 2009. JRP Consulting recommended the 25-mile segment of the San Diego and Arizona Eastern Railway line from Ocotillo to Seeley as not eligible for listing in the NRHP. ASM evaluated a segment of the San Diego and Arizona Eastern Railway at the San Ysidro Port of Entry as eligible for listing in the City of San Diego Historic Resources Register.

2. P-37-017656, Buildings at 1196 Industrial Boulevard

The buildings were evaluated under the historic designation criteria for the NRHP and the CRHR. This historic address was recorded by Dolan et al. in 1999 as a single-family home, a gas station, and ancillary building. The buildings are Spanish Colonial and Mission Revival in style, and were constructed in the late 1920s. The buildings were recommended ineligible for listing on the NRHP or the CRHR. A recommendation of eligibility for the Chula Vista local register was not made as part of this cultural resource study record.

3. P-37-028145, Building at 817 Dorothy Street

This building was evaluated under the historic designation criteria for the CRHR and as a Chula Vista Historical Resource. This historic address was recorded by Hirsch in 2006 as a single-family property. This vernacular style residence was constructed in 1953. The building was recommended ineligible for listing on the CRHR or as a Chula Vista Historical Resource. It should be noted that this evaluation took place in 2006, prior to the recent adoption of the City's Historic Preservation Ordinance and the new criteria for local eligibility established therein (discussed below in Section 5.7.2.3 (b)).

4. P-37-028144, Building at 809 Dorothy Street

This building was evaluated under the historic designation criteria for the CRHR and as a Chula Vista Historical Resource. This historic address was recorded by Hirsch in 2006 as a single-family property. This vernacular style residence was constructed in 1959. The building was recommended ineligible for listing on the CRHR or as a Chula Vista Historical Resource. It should be noted that this evaluation took place in 2006, prior to the recent adoption of the City's Historic Preservation Ordinance and the new criteria for local eligibility established therein (discussed below in Section 5.7.2.3 (b)).

5. P-37-028143, Building at 805 Dorothy Street

This building was evaluated under the historic designation criteria for the CRHR and as a Chula Vista Historical Resource. This historic address was recorded by Hirsch in 2006 as a single-family property. This

Craftsman style residence was constructed in 1910. The building was recommended ineligible for listing on the CRHR or as a Chula Vista Historical Resource. It should be noted that this evaluation took place in 2006, prior to the recent adoption of the City's Historic Preservation Ordinance and the new criteria for local eligibility established therein (discussed below in Section 5.7.2.3 (b)).

6. P-37-028142, Building at 761 Dorothy Street

This building was evaluated under the historic designation criteria for the CRHR and as a Chula Vista Historical Resource. This historic address was recorded by Hirsch in 2006 as a single-family property. The building is vernacular in style and the approximate construction date is 1910 to 1920. The building was recommended ineligible for listing on the CRHR or as a Chula Vista Historical Resource. It should be noted that this evaluation took place in 2006, prior to the recent adoption of the City's Historic Preservation Ordinance and the new criteria for local eligibility established therein (discussed below in Section 5.7.2.3 (b)).

7. P-37-028141, Building at 753 Dorothy Street

This building was evaluated under the historic designation criteria for the CRHR and as a Chula Vista Historical Resource. This historic address was recorded by Hirsch in 2006 as a single-family property. This Spanish Colonial style residence was constructed in 1929. The building was recommended ineligible for listing on the CRHR or as a Chula Vista Historical Resource. It should be noted that this evaluation took place in 2006, prior to the recent adoption of the City's Historic Preservation Ordinance and the new criteria for local eligibility established therein (discussed below in Section 5.7.2.3 (b)).

8. P-37-028191, Building at 751 Dorothy Street

This building was evaluated under the historic designation criteria for the CRHR and as a Chula Vista Historical Resource. This historic address was recorded by Hirsch in 2006 as a single-family property. This minimal traditional style residence was constructed in 1965. The building was recommended ineligible for listing on the CRHR or as a Chula Vista Historical Resource. It should be noted that this evaluation took place in 2006, prior to the recent adoption of the City's Historic Preservation Ordinance and the new criteria for local eligibility established therein (discussed below in Section 5.7.2.3 (b)).

9. P-37-028190, Building at 749 Dorothy Street

This building was evaluated under the historic designation criteria for the CRHR and as a Chula Vista Historical Resource. This historic address was recorded by Hirsch in 2006 as a single-family property. This minimal traditional style residence was constructed in 1965. The building was recommended ineligible for listing on the CRHR or as a Chula Vista Historical Resource. It should be noted that this evaluation took place in 2006, prior to the recent adoption of the City's Historic Preservation Ordinance and the new criteria for local eligibility established therein (discussed below in Section 5.7.2.3 (b)).

10. P-37-028189, Building at 745 Dorothy Street

This building was evaluated under the historic designation criteria for the CRHR and as a Chula Vista Historical Resource. This historic address was recorded by Hirsch in 2006 as a single-family property. This minimal traditional style residence was constructed in 1956. The building was recommended ineligible for listing on the CRHR or as a Chula Vista Historical Resource. It should be noted that this evaluation took place in 2006, prior to the recent adoption of the City's Historic Preservation Ordinance and the new criteria for local eligibility established therein (discussed below in Section 5.7.2.3 (b)).

11. P-37-028193, Building at 765 Dorothy Street

This building was evaluated under the historic designation criteria for the CRHR and as a Chula Vista Historical Resource. This historic address was recorded by Hirsch in 2006 as a single-family property. This minimal traditional style residence was constructed in 1959. The building was recommended ineligible for listing on the CRHR or as a Chula Vista Historical Resource. It should be noted that this evaluation took place in 2006, prior to the recent adoption of the City's Historic Preservation Ordinance and the new criteria for local eligibility established therein (discussed below in Section 5.7.2.3 (b)).

12. P-37-028192, Building at 763 Dorothy Street

This building was evaluated under the historic designation criteria for the CRHR and as a Chula Vista Historical Resource. This historic address was recorded by Hirsch in 2006 as a single-family property. This minimal traditional style residence was constructed in 1959. The building was recommended ineligible for listing on the CRHR or as a Chula Vista Historical Resource. It should be noted that this evaluation took place in 2006, prior to the recent adoption of the City's Historic Preservation Ordinance and the new criteria for local eligibility established therein (discussed below in Section 5.7.2.3 (b)).

B. Native American Consultation

The Native American Heritage Commission (NAHC) was contacted to request a search of their Sacred Lands File. The NAHC records search was completed on December 5, 2011, and Native American cultural resources were not identified within a half-mile radius of the PGD. Follow-up correspondence from the NAHC on December 15, 2011, confirmed that sacred sites identified in the Native American Sacred Lands Inventory are located outside of the project area. The NAHC also indicated that pursuant to Senate Bill 18, the City of Chula Vista, as the lead agency, would need to conduct a formal government to government consultation with the Native American Tribal Government contacts. The NAHC provided a list of Native American Tribes and individuals to contact regarding the proposed PGDSP. On December 5, 2011, letters were sent to each of the Native American contacts identified by the NAHC. As of the date of the Cultural Resources Report (ASM 2013), no responses have been received.

C. Historic Resources Field Survey

A constraints analysis was conducted on December 19, 2011, to identify historic built-environment resources within the PGD. Three buildings were noted as being the most likely to be eligible for the NRHP, CRHR, and Chula Vista local register, as representative examples of architectural styles and/or early Fruitdale residential buildings, which retain a good degree of integrity: 805 Dorothy Street, 753/765 Dorothy Street, and 755 Ada Street. As discussed above, the buildings at 805 Dorothy Street and 753/765 Dorothy Street have been previously recorded and recommended as ineligible for the CRHR or as a Chula Vista Historical Resource. It should be noted that both evaluations took place in 2006, prior to the recent adoption of the City's Historic Preservation Ordinance and the new criteria for local eligibility established therein.

After completion of the constraints analysis for this project, a citywide historic survey was conducted by ASM that consisted of both a reconnaissance level survey (Phase 1) and an intensive level survey (Phase 2). The resources surveyed as part of the city-wide survey Phase I are included in the Cultural Resources Report (see Appendix D to Appendix E, Cultural Resources Report). Of those resources surveyed in Phase 1, 366 were further evaluated in Phase 2 (see Appendix E to Appendix E, Cultural Resources Report). After Phase 1, ASM determined that 59 buildings within the PGDSP project area met the age threshold of 45 years or more, requiring further evaluation (see Appendix F to Appendix E, Cultural Resources

Report). Of the approximately 59 potential historical resources further evaluated , the survey determined that the above-noted three buildings (805 Dorothy Street, 753/765 Dorothy Street, and 755 Ada Street) are considered Historical Resources (California Historical Resource Status Code 5S3 – appears to be individually eligible for local listing or designation through survey evaluation). In addition, the six buildings listed in Table 5.7-2 require further evaluation (California Historical Resource Status Code 7N – needs to be reevaluated). For a complete listing of the California Historical Resource Status Codes, refer to Appendix C of Appendix E, Cultural Resources Report (ASM 2013).

Table 5.7-2 Potential Historical Resources Recommended for Further Evaluation (Status Code 7N)

Resource Location	Assessor's Parcel Number
754 Dorothy Street	6220714400
729 Dorothy Street	6220721200
778 Ada Street	6220202300
799 Ada Street	6220701400
1196 Industrial Boulevard	6170720800
715 Ada Street	6220712400

Source: ASM 2013

D. Archaeological Resources Field Survey

An archaeological resources field survey was conducted on December 5, 2011, to record archaeological sites, isolates, and features within the PGD. One previously recorded historic linear feature (P-37025680, San Diego and Arizona Eastern Railway) was identified within the PGD. No new archaeological resources were identified within the PGD as a result of the field survey. Visibility within the PGD was less than 10 percent, as thick non-native vegetation obscured the ground surface. Building remains, imported gravel, landscaping, water drainage channels, and paved areas were also present within the PGD. As determined during the archaeological resources field survey, the PGD appears to be a completely modified landscape which has undergone extensive grading and development.

5.7.2 Regulatory Framework

5.7.2.1 Federal

A. National Register of Historic Places

The National Historic Preservation Act of 1966 established the NRHP as the official federal list of cultural resources that have been nominated by state offices for their historical significance at the local, state, or national level. The NRHP, which is administered by the National Park Service, is "an authoritative guide to be used by federal, state, and local governments, private groups, and citizens to identify the nation's cultural resources and to indicate what properties should be considered for protection from destruction or impairment." Listing in the NRHP assists in preservation of historic properties through the following actions: recognition that a property is of significance to the nation, the state, or the community; consideration in planning for federal or federally assisted projects; eligibility for federal tax benefits; consideration in the decision to issue a federal permit; and qualification for federal assistance for historic preservation grants, when funds are available.

A property may qualify for NRHP listing if the quality of significance in American history, architecture, archaeology, engineering, and culture is present in a district, site, building, structure, or object that possesses "integrity" (described below) and it meets at least one of the following criteria:

- Criterion A: Is associated with events that have made a significant contribution to the broad patterns of history.
- Criterion B: Is associated with the lives of persons significant in the past.
- Criterion C: Embodies the distinctive characteristics of a type, period, or method of construction; or represents the work of a master; or possesses high artistic values; or represents a significant and distinguishable entity whose components may lack individual distinction.
- Criterion D: Has yielded, or may be likely to yield, information important in prehistory or history.

As noted above, in order to be eligible for listing on the NRHP, a property must also retain sufficient integrity, which is the ability of a property to convey its significance. The evaluation of integrity must be grounded in an understanding of a property's physical features, and how they relate to the concept of integrity. Determining which of these aspects are most important to a property requires knowing why, where, and when a property is significant. To retain historic integrity, a property must possess several, and usually most, of the following seven aspects of integrity:

1) Location—the place where the historic property was constructed or the place where the historic event occurred.

2) Design—the combination of elements that create the form, plan, space, structure, and style of a property.

3) Setting—the physical environment of a historic property.

4) Materials—the physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property.

5) Workmanship—the physical evidence of the crafts of a particular culture or people during any given period of history or prehistory.

6) Feeling—a property's expression of the aesthetic or historic sense of a particular period of time.

7) Association—the direct link between an important historic event or person and a historic property.

The relevant aspects of integrity depend upon the NRHP criteria applied to the property. For example, a property nominated under Criterion A (events) would be likely to convey its significance primarily through integrity of location, setting, and association. A property nominated under Criterion C (design) would usually rely primarily on integrity of design, materials, and workmanship.

Ordinarily cemeteries, birthplaces, or graves of historical figures, properties owned by religious institutions or used for religious purposes, structures that have been moved from their original locations, reconstructed historic buildings, properties primarily commemorative in nature, and properties that have achieved significance within the past 50 years shall not be considered eligible for

the NRHP. However, such properties will qualify if they are integral parts of districts that do meet the criteria or if they fall within any of the following categories:

a) Religious property deriving primary significance from architectural or artistic distinction or historical importance;

b) Building or structure removed from its original location but which is significant primarily for architectural value, or which is the surviving structure most importantly associated with a historic person or event;

c) Birthplace or grave of a historical figure of outstanding importance if there is no appropriate site or building directly associated with his productive life;

d) Cemetery which derives its primary significance from graves of persons of transcendent importance, from age, from distinctive design features, or from association with historic events;

e) Reconstructed building when accurately executed in a suitable environment and presented in a dignified manner as part of a restoration master plan, and when no other building or structure with the same association has survived;

f) Property primarily commemorative in intent if design, age, tradition, or symbolic value has invested it with its own exceptional significance; or

g) Property achieving significance within the past 50 years if it is of exceptional importance.

B. Native American Graves Protection and Repatriation Act

The Native American Graves Protection and Repatriation Act (NAGPRA) is a federal law passed in 1990, which provides a process for museums and federal agencies to return certain Native American cultural items—human remains, funerary objects, sacred objects, or objects of cultural patrimony—to lineal descendants, and culturally affiliated Indian tribes. NAGPRA includes provisions for unclaimed and culturally unidentifiable Native American cultural items, intentional and inadvertent discovery of Native American cultural items on federal and tribal lands, and penalties for noncompliance and illegal trafficking.

5.7.2.2 State

A. California Register of Historical Resources

Created by Assembly Bill 2881, which was signed into law on September 27, 1992, the CRHR is defined as “an authoritative listing and guide to be used by state and local agencies, private groups, and citizens in identifying the existing historical resources of the state and to indicate which resources deserve to be protected, to the extent prudent and feasible, from substantial adverse change” (California Public Resources Code Section 5024.1(a)). The criteria for eligibility for the CRHR are based upon NRHP criteria (California Public Resources Code Section 5024.1(b)). In order to be eligible for listing on the CRHR, a prehistoric or historic property must be significant at the local, state, and/or federal level under at least one of the following criteria:

- Criterion 1: Is associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage.

- Criterion 2: Is associated with the lives of persons important in our past.
- Criterion 3: Embodies the distinctive characteristics of a type, period, region, or method of construction; or represents the work of an important creative individual; or possesses high artistic values.
- Criterion 4: Has yielded, or may be likely to yield, information important in prehistory or history.

In addition to meeting one of the criteria above, a historic resource eligible for CRHR listing must retain enough of its historic character or appearance to be recognizable as a historical resource and to convey the reason for its significance ("integrity"). It is possible that a historic resource may not retain sufficient integrity to meet the criteria for listing on the NRHP, but may still be eligible for listing on the CRHR.

The CRHR consists of resources that are listed automatically and those that must be nominated through an application and public hearing process. Resources that are automatically listed on the CRHR include the following:

1) California properties listed on the NRHP and those formally determined eligible for the NRHP;
2) California Registered Historical Landmarks from No. 770 onward; and
3) California Points of Historical Interest that have been evaluated by the Office of Historic Preservation and have been recommended to the State Historical Commission for inclusion on the CRHR.

Other resources that may be nominated to the CRHR include the following:

1) Historical resources identified as eligible for listing on the NRHP, the CRHR, and/or a local jurisdiction register;
2) Individual historical resources;
3) Historical resources contributing to historic districts; and
4) Historical resources designated or listed as local landmarks, or designated under any local ordinance, such as an historic preservation overlay zone.

B. CEQA Guidelines Section 15064.5

Section 15064.5 of the CEQA Guidelines provides guidance on determining the significance of impacts to archaeological and historical resources. The term "historical resources" is defined to include the following:

1) A resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the CRHR.
2) A resource included in a local register of historical resources (as defined in California Public Resources Code Section 5020.1(k)) or identified as significant in a historical resource survey (meeting the requirements of California Public Resources Code Section 5024.1(g)), unless the preponderance of evidence demonstrates that is it not historically or culturally significant.

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

The fact that a resource does not meet one of the criteria listed above does not preclude a lead agency from determining that the resource may be a historical resource.

C. Mills Act Program

In 2001, the Chula Vista City Council adopted a policy implementing the Mills Act program, thereby giving the City the authority to enter into Mills Act contracts with private owners of qualified historic properties. Mills Act contracts are legally binding agreements with a minimum term of 10 years that specify what preservation, maintenance, and restoration efforts will be made by the historic property owner in exchange for tax abatement. The County Assessor's Office determines what the new assessed value and property tax savings will be. Property tax savings can be substantial and must be used toward the preservation of the historic property.

D. California Native American Graves Protection and Repatriation Act

The California NAGPRA, enacted in 2001, requires all state agencies and museums that receive state funding and that have possession or control over collections of human remains or cultural items, as defined, to complete an inventory and summary of these remains and items on or before January 1, 2003, with certain exceptions. The California NAGPRA also provides a process for the identification and repatriation of these items to the appropriate tribes. Implementation of the proposed project would be conducted in compliance with the California NAGPRA.

E. California Health and Safety Code Section 7050.5

California Health and Safety Code Section 7050.5, Disturbance of Human Remains, establishes intentional disturbance, mutilation, or removal of interred human remains as a misdemeanor and specifies protocol for the inadvertent discovery of human remains. In the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, Section 7050.5(b) requires that there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the County Coroner has determined the circumstances, manner, and cause of death, and has provided recommendations concerning the treatment and disposition of the human remains. If the human remains are recognized or believed to be those of a Native American, Section 7050.5(c) requires the County Coroner to contact the NAHC by telephone within 24 hours.

F. California Public Resources Code Section 5097.9

California Public Resources Code 5097.9 prohibits interference with Native American religion or damage to cemeteries or places of worship and requires the NAHC to immediately notify the most likely descendants when it receives notification of a discovery of Native American human remains pursuant to California Health and Safety Code 7050.5 (described above). Section 5097.98(a) allows the most likely descendants, with permissions from the landowner, to inspect the site of discovery and make recommendations for the treatment and disposition of the Native American human remains and any associated grave goods within 48 hours of their notification by the NAHC. Section 5097.98(b) requires the landowner to ensure that the immediate vicinity of the Native American human remains is not

damaged or disturbed by further development activity until the landowner has discussed and conferred with the most likely descendants regarding their recommendations and preferences for all reasonable treatment options, which may include the following:

a) Nondestructive removal and analysis of the Native American human remains and associated items.

b) Preservation of the Native American human remains and associated items.

c) Relinquishment of the Native American human remains and associated items to the descendants for treatment.

d) Other culturally appropriate treatment.

5.7.2.3 Local

A. City of Chula Vista General Plan

The Land Use and Transportation Element of the Chula Vista General Plan includes the following citywide objective and policies regarding historic resources:

Objective LUT 12
Protect Chula Vista's important historic resources.

Policy LUT 12.1: Establish a formalized process for historic preservation by evaluating requirements for certified local government status, as defined by the state historic preservation office.

Policy LUT 12.2: Amend City zoning codes, as necessary, to implement the recommendations contained in "An Evaluation of Historic Preservation in Chula Vista" and related subsequent evaluations and studies.

Policy LUT 12.3: Adopt a Historic Preservation Ordinance that implements the goals established by the City Council in February 2000; the City Council strategic themes of 2003; and the document "An Evaluation of Historic Preservation in Chula Vista."

Policy LUT 12.4: Conduct an objective, comprehensive City-wide survey of Chula Vista's historical assets for the purpose of establishing a list of buildings appropriate for formal historical designation.

Policy LUT 12.5: Recognize the inherent public value of historic preservation in contributing to the beauty, character, and sense of place in Chula Vista, and promote and facilitate participation in the Mills Act and other appropriate incentive programs to encourage the preservation of cultural resources.

Policy LUT 12.6: Through the City's development regulations, acknowledge and recognize those areas of the City that have historic resources. Examine current and future zoning and development regulations and design guidelines to ensure they support preservation and restoration of designated historic resources, and, as appropriate, require new development or redevelopment to acknowledge these in context.

Policy LUT 12.7: Continue to assess and mitigate the potential impacts of private development and public facilities and infrastructure to historic resources in accordance with CEQA.

Policy LUT 12.8: As practicable, the City will support and encourage the rehabilitation of sound, historic buildings.

Policy LUT 12.9: Encourage and promote the adaptive reuse of historic resources and buildings, and, where appropriate, the non-historic buildings that embody Chula Vista's cultural or historic character.

Policy LUT 12.10: Promote the maintenance; repair; stabilization; rehabilitation; restoration; and preservation of historical resources in a manner consistent with federal and state standards.

Policy LUT 12.11: Prior to the approval of any projects that propose the demolition or significant alteration of a potentially significant historic resource (as defined pursuant to applicable state and federal laws), require the completion of an historic survey report to determine significance. If determined to be significant, require appropriate and feasible mitigation pursuant to CEQA Guidelines Section 15064.5.

Policy LUT 12.12: In instances where projects may adversely affect significant historic resources, require the implementation of an appropriate conservation program in accordance with applicable state and federal laws.

Policy LUT 12.13: Protect, preserve, and seek to restore publicly owned historical resources (such as Rohr Manor House and the Chula Vista Women's Club).

The Environmental Element of the Chula Vista General Plan includes the following citywide objective and policies regarding cultural resources:

Objective E 9

Protect Chula Vista's important cultural resources and support and encourage their accessibility to the public.

Policy E 9.1: Continue to assess and mitigate the potential impacts of private development and public facilities and infrastructure to cultural resources in accordance with CEQA.

Policy E 9.2: Support and encourage the accessibility of Chula Vista's important cultural resources to the public for educational; religious; cultural; scientific; and other purposes, including the establishment of museums and facilities accessible to the public, where such resources can be appropriately studied, exhibited, curated, etc.

Policy E 9.3: Discourage disruption, demolition, and other negative impacts to historic cultural resources.

B. City of Chula Vista Historic Preservation Ordinance

The Historic Preservation Ordinance (CVMC Title 21) establishes regulations for the identification, recognition, preservation, protection, and adaptive reuse of historical resources. Pursuant to CVMC 21.04.100, the designation of historical resources, excluding exceptional historical resources, may occur when the following findings of fact are made:

1) A resource is at least 45 years old; and

2) A resource possesses historical integrity defined under CVMC Section 21.03.084 and the resource is determined to have historical significance by meeting at least one of the following criteria:

   - Criterion 1: It is associated with an event that is important to prehistory or history on a national, state, regional, or local level.
   - Criterion 2: It is associated with a person or persons that have made significant contributions to prehistory or history on a national, state, or local level.
   - Criterion 3: It embodies the distinctive characteristics of a style, type, period, or method of construction, or represents the work of a master or important creative individual, and/or possesses high artistic values.
   - Criterion 4: It is an outstanding example of a publicly owned historical landscape that represents the work of a master landscape architect, horticulturalist, or landscape designer, or a publicly owned historical landscape that has potential to provide important information to the further study of landscape architecture or history.
   - Criterion 5: It has yielded or may be likely to yield information important in prehistory or the history of Chula Vista, the state, region, or nation.

The designation of an exceptional historical resource may be considered only if:

1) The Historic Preservation Commission (HPC) considers and makes a recommendation to City Council; and

2) It has been demonstrated through expert technical analysis and verifiable evidence that all of the following findings of fact are made:

   a) The resource meets criteria and the findings of fact for designation found in CVMC Section 21.04.100 (see Items 1 and 2 above); and

   b) The resource is best representative sample of its kind or the last of its kind; and

   c) The resource is an exceptionally important component of the City's history and loss or impairment of the resource would be detrimental to the City's heritage; and

3) Four-fifths vote of the City Council to designate the resource as an exceptional historical resource.

Groupings of historical resources may qualify for designation as either a geographical historic preservation district (GHD) or a thematic historic preservation district (THD). Pursuant to CVMC Section 21.06.050, designation of an historic preservation district (HPD) may occur when all of the following findings of fact (see Item A below) are made and it is found that one or more of the established HPD eligibility criteria (see Item B below) apply:

A) HPD Findings of Fact

a) That the proposed HPD has significant architectural or historical character or cultural value; and

b) That the proposed HPD will preserve and enhance the collective integrity of the contributing resources; and

c) GHDs only: There are at least 60 percent of the individual properties within the boundaries of the proposed GHD that are contributing resources which possess character, interest, or value as part of the heritage of the City and are found to meet one or more of the established criteria as set forth in Item B below.

d) THDs only: All properties within the proposed THD possess character, interest, and value Citywide and collectively are found to meet one or more of the established criteria as set forth in Item B below.

B) HPD Eligibility Criteria

- Criterion 1: The proposed historic preservation district is identified with an event, person, or group that contributed significantly to the City's prehistory or history.
- Criterion 2: Buildings, structures, objects, sites, signs or landscape elements within the proposed historic preservation district exemplify a particular architectural style, way of life, or period of development in the City.
- Criterion 3: Buildings or structures within the proposed historic preservation district are the best remaining examples of an architectural style, or are verified as having been designed or constructed by a master architect, designer or builder, and retain integrity.

5.7.3 Criteria for Determination of Significance

According to Appendix G of the CEQA Guidelines, a significant impact related to cultural resources would occur if implementation of the proposed project would:

- Criterion 1: Cause a substantial adverse change in the significance of an historical resource as defined in CEQA Guidelines Section 15064.5.
- Criterion 2: Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5.
- Criterion 3: Disturb any human remains, including those interred outside of formal cemeteries.

5.7.4 Impacts

5.7.4.1 Historical Resources

Criterion 1: Would the project cause a substantial adverse change in the significance of an historical resource as defined in CEQA Guidelines Section 15064.5?

As discussed in Section 5.7.1.2 above, ASM identified that there were approximately 59 buildings that met the 45-year-old age threshold at which structures should be considered for potential eligibility for the NRHR, CRHR, and local designation were identified within the PGD during the December 2011 historic resources field survey conducted for the constraints level analysis in the Cultural Resources Report (ASM 2013). Based on the results of the comprehensive citywide historic resources survey (ASM 2012), it was determined that, of these approximately 59 potential historical resources: three buildings (805 Dorothy Street, 753/765 Dorothy Street, and 755 Ada Street) are considered Historical Resources (California Historical Resource Status Code 5S3 – appears to be individually eligible for local listing or designation through survey evaluation); six buildings (see Table 5.7-2) require further evaluation (California Historical Resource Status Code 7N – needs to be reevaluated); and the remaining buildings are not considered Historical Resources (California Historical Resource Status Code 6Z – found ineligible for NRHP, CRHR, or local designation through survey evaluation). If future PGDSP development projects occur on or in the vicinity of the three buildings that have been recommended as Historical Resources (California Historical Resource Status Code 5S3) or the six buildings that have been recommended for further historical resources evaluation (California Historical Resource Status Code 7N), and result in demolition, alteration, or any other adverse changes in the significance of these historical resources, a potentially significant impact would occur.

5.7.4.2 Archaeological Resources

Criterion 2: Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines Section 15064.5?

As discussed in Section 5.7.1.2 above, one previously recorded historic linear feature (P-37025680, San Diego and Arizona Eastern Railway) was identified within the PGD during the December 2011 archaeological resources survey. A segment of the San Diego and Arizona Eastern Railway was recommended as eligible for listing in the City of San Diego Historic Resources Register; however, it is not anticipated that the railway line would be affected by the proposed PGDSP.

While no new archaeological resources were identified within the PGD as a result of the field survey, and a NAHC records search of the Sacred Lands File did not identify Native American cultural resources within a half-mile radius of the PGD, the extent of ground disturbance within the PGD is unknown. Thus, it is possible that presently obscured or buried archaeological resources may occur within the PGD. If unknown archaeological resources are encountered during ground-disturbing activities associated with the construction of future PGDSP development projects, thereby resulting in damage or any other adverse changes in the significance of an archaeological resource, a potentially significant impact would occur.

5.7.4.3 Human Remains

Criterion 3: Would the project disturb any human remains, including those interred outside of formal cemeteries?

As discussed in Section 5.7.1.2 above, a NAHC records search of the Sacred Lands File did not identify Native American cultural resources within a half-mile radius of the PGD. Thus, it is unlikely that known human remains would be affected by the proposed PGDSP. However, there is always a possibility that ground-disturbing activities associated with construction of future PGDSP development projects may uncover presently obscured or buried human remains. If human remains are encountered during construction, the County Coroner would be notified immediately and the find would be handled in accordance with California Health and Safety Code Section 7050.5 and California Public Resources Code Section 5097.98.

In the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, California Health and Safety Code Section 7050.5(b) requires that there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the County Coroner has determined the circumstances, manner, and cause of death, and has provided recommendations concerning the treatment and disposition of the human remains. If the human remains are recognized or believed to be those of a Native American, California Health and Safety Code Section 7050.5(c) requires the County Coroner to contact the NAHC by telephone within 24 hours. Pursuant to California Public Resources Code Section 5097.98, the NAHC shall immediately notify those persons it believes to be most likely descendants of the Native American human remains. With permissions from the landowner, the most likely descendants may inspect the site of discovery and make recommendations for the treatment and disposition of the Native American human remains and any associated grave goods within 48 hours of their notification by the NAHC. The landowner shall discuss and confer with the most likely descendants all reasonable options regarding the descendants' preferences for treatment, which may include the following:

1) Nondestructive removal and analysis of the Native American human remains and associated items.

2) Preservation of the Native American human remains and associated items.

3) Relinquishment of the Native American human remains and associated items to the descendants for treatment.

4) Other culturally appropriate treatment.

Compliance with California Health and Safety Code Section 7050.5 and California Public Resources Code Section 5097.98 in the unlikely event that human remains are encountered during construction of future PGDSP development projects would ensure proper treatment and disposition of human remains. Therefore, impacts to human remains would be less than significant.

5.7.5 Level of Significance Prior to Mitigation

A. Historical Resources

Because three buildings that have been recommended as Historical Resources (California Historical Resource Status Code 5S3) and the six buildings that have been recommended for further historical

resources evaluation (California Historical Resource Status Code 7N) were identified in the PGD, it is possible that future PGDSP development projects could cause a substantial adverse change in the significance of an historical resource. Therefore, PGDSP implementation would result in potentially significant impacts to historical resources.

B. Archaeological Resources

Because presently obscured or buried archaeological resources may occur within the PGD, it is possible that ground-disturbing activities associated with construction of future PGDSP development projects could cause a substantial adverse change in the significance of an archaeological resource. Therefore, PGDSP implementation would result in potentially significant impacts to archaeological resources.

C. Human Remains

Compliance with California Health and Safety Code Section 7050.5 and California Public Resources Code Section 5097.98 in the unlikely event that human remains are encountered during construction of future PGDSP development projects would ensure proper treatment and disposition of human remains. Therefore, impacts to human remains would be less than significant.

5.7.6 Mitigation Measures

5.7.6.1 Historical Resources

Implementation of mitigation measure 5.7-1 would reduce potential impacts to historical resources to a less than significant level.

5.7-1 **Historical Resources Mitigation Program.** Future PGDSP development projects shall be required to implement the following measures to prevent potential impacts to historical resources:

i. Impacts to any resource(s) that is/are listed in a Historical Resources Survey as being a historical resource, or that has been substantiated through completion of a DPR Form, an Expert Technical Analysis report, or by the City, to be an Eligible Historical Resource, as defined in CVMC Section 21.03.044, shall require a Certificate of Appropriateness and shall follow the requirements set forth in CVMC Sections 21.07.070 and 21.07.080.

ii. Prior to any modification or alteration, as defined in CVMC Section 21.03.002, to a resource 45 years or older that may meet the findings of fact and eligibility criteria established in CVMC Section 21.04.100, or any resource that has been determined through a survey to need further evaluation (California Historical Resource Status Code 7N), an evaluation of historical significance shall be conducted pursuant to CVMC Section 21.07.020. Any resource determined to be an Eligible Historical Resource, as defined in CVMC Section 21.03.044, shall follow the procedure described in Item i) above.

5.7.6.2 Archaeological Resources

Implementation of mitigation measure 5.7-2 would reduce potential impacts to archaeological resources to a less than significant level.

5.7-2 **Archaeological Resources Mitigation Program.** Future PGDSP development projects that involve ground disturbance beyond that previously disturbed shall be required to implement the following measures to prevent potential impacts to archaeological resources:

i. Cultural resource significance evaluations shall be required when new resources are identified as a result of a survey, when previously recorded resources that have not been previously evaluated are relocated during a survey, and when previously recorded sites are relocated during the survey and if there is a likelihood that the resource still exists. A property shall be reevaluated if its condition or setting has either improved or deteriorated, if new information is available, or if the resource is becoming increasingly rare due to the loss of other similar resources. In such cases, an archaeological testing program shall be required, which includes evaluating the horizontal and vertical dimensions of a site, the chronological placement, site function, artifact/ecofact density and variability, presence/absence of subsurface features, and research potential. It should be noted that Tribal representatives and/or Native American monitors shall be involved in making recommendations regarding the significance of prehistoric archaeological sites during this phase of the process. The testing program may require reevaluation of the project in consultation with the Native American representative which could result in a combination of project redesign to avoid and/or preserve significant resources as well as mitigation in the form of data recovery and monitoring (as recommended by the qualified archaeologist and Native American representative).

ii. If significant cultural resources are identified within the proposed PGDSP project site, those resources may be eligible for designation for the NRHP, CRHR, or local register. If no significant resources are found, then no further action is required. Resources found to be non-significant as a result of a survey and/or assessment will require no further work beyond documentation of the resources on the appropriate DPR 523 site forms and inclusion of results in the survey and/or assessment report. If no significant resources are found but results of the initial evaluation and testing phase indicates there is still a potential for resources to be present in portions of the property that could not be tested, then mitigation monitoring shall be required. Preferred mitigation for cultural resources is to avoid the resource through project redesign. If the resource cannot be entirely avoided, all prudent and feasible measures to minimize harm shall be taken.

iii. For archaeological resources where preservation is not an option, a data recovery program shall be implemented. The data recovery program shall be based on a written research design, which will outline research questions and data recovery methodology, and is subject to the provisions outlined in CEQA Section 21083.2. Archaeological monitoring may be required during building demolition and/or construction grading when significant resources are known or suspected to be present on the proposed PGDSP project site, but cannot be recovered prior to grading due to obstructions such as, but not limited to, existing development or dense vegetation.

iv. A Native American observer shall be retained for all subsurface investigations, including geotechnical testing and other ground disturbing activities whenever a Native American Traditional Cultural Property or archaeological site within the proposed PGDSP project site would be impacted. The Native American monitor shall be consulted during the preparation of the written report, at which time they may express concerns about the treatment of sensitive resources. If the Native American community requests participation of an observer for subsurface investigations on private property, the request shall be honored.

5.7.6.3 Human Remains

No mitigation measures are required.

5.7.7 Level of Significance after Mitigation

With implementation of mitigation measures 5.7-1 and 5.7-2, impacts to cultural resources resulting from implementation of the proposed PGDSP would be reduced to below a level of significance.

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5.8 Paleontological Resources

The analysis in this section of the EIR addresses the potential impacts to paleontological resources that would result from implementation of the PGDSP. Paleontology is a branch of geology that studies the life forms of the past, especially prehistoric life forms, through the study of plant and animal fossils. Paleontological resources are the fossilized remains or traces of multi-cellular invertebrate and vertebrate animals and multi-cellular plants, including their imprints from a previous geologic period. Fossil remains, such as bones, teeth, shells, and leaves, are found in the geologic deposits (rock formations) where they were originally buried, and are important because they provide indicators of the earth's chronology and history. Paleontological resources include not only the actual fossil remains, but also the collecting localities and the geologic formations containing those localities. Paleontological resources represent a limited, non-renewable, and impact-sensitive scientific and educational resource. The following discussion of paleontological resources within the PGD is based on information provided in Section 5.6 of the Chula Vista General Plan Update EIR (available for review at the City of Chula Vista Development Services Department at 276 Fourth Avenue; at the Chula Vista Civic Center Library at 365 F Street; and on the City of Chula Vista website at www.chulavistaca.gov), which is incorporated by reference pursuant to CEQA Guidelines Section 15150.

5.8.1 Existing Conditions

5.8.1.1 Paleontological Sensitivity

The PGD is located in the Coastal Terraces Region of Chula Vista, which is underlain by a thick accumulation of Pleistocene to recent marine and non-marine sedimentary rocks deposited within a seismically active, fault-bounded, pull-apart basin formed by faults of the Rose Canyon fault zone (City of Chula Vista 2005b). These faults generally strike north-south and are responsible for the formation of modern San Diego Bay. The general flat topography of this region is largely a factor of deposition at or near sea level in a broad coastal floodplain. For the most part, the low topographic relief, extensive residential and commercial development, and widespread native and introduced vegetation that characterize the Coastal Terraces Region are also responsible for the limited number of areas where the underlying geology is exposed in outcrop. In turn, this lack of geologic exposure is probably also responsible for the paucity of paleontological collecting sites recorded from the Coastal Terraces Region. These few sites have produced a limited assemblage of terrestrial mammals including fossil species of tapir, horse, and rabbit.

The PGD is underlain by Quaternary-age marine terrace deposit sediments, mapped as Bay Point Formation together with unnamed nearshore marine sandstone, which is assigned a moderate paleontological sensitivity level (City of Chula Vista 2005b). Moderate sensitivity, which corresponds to a moderate resources potential rating, is assigned to geologic formations known to contain paleontological localities. These geologic formations are judged to have a strong, but often unproven, potential for producing unique fossil remains.

5.8.2 Regulatory Framework

5.8.2.1 Local

A. City of Chula Vista General Plan

The Environmental Element of the Chula Vista General Plan includes the following citywide objective and policies regarding paleontological resources:

Objective E 10
Protect important paleontological resources and support and encourage public education and awareness of such resources.

Policy E 10.1: Continue to assess and mitigate the potential impacts of private development and public facilities and infrastructure to paleontological resources in accordance with CEQA.

Policy E 10.2: Support and encourage public education and awareness of local paleontological resources, including the establishment of museums and educational opportunities accessible to the public.

5.8.3 Criteria for Determination of Significance

According to Appendix G of the CEQA Guidelines, a significant impact related to paleontological resources would occur if implementation of the proposed project would:

- Criterion 1: Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

5.8.4 Impacts

5.8.4.1 Paleontological Resources

Criterion 1: Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Future development associated with PGDSP build-out would involve ground-disturbing activities such as grading and excavation. Based on the moderate paleontological sensitivity of the Bay Point Formation and unnamed nearshore marine sandstone underlying the PGD, exposure of this geologic formation during ground-disturbing activities has a moderate potential to unearth fossil remains. Because the specific location and significance of potential fossil remains are unknown, ground-disturbing activities could potentially damage or destroy unique paleontological resources. Since the PGD is highly developed, grading activities associated with future PGDSP development projects would typically be minimal, with the exception of sub-garages or sub-floors. The grading thresholds shown in Table 5.8-1 would be used to determine whether future PGDSP development projects would potentially result in significant impacts to sensitive paleontological resources, and thus require mitigation. Due to the moderate paleontological sensitivity of the Bay Point Formation underlying the PGD, future PGDSP development projects that propose grading in excess of 2,000 cubic yards volume and five feet depth would represent a potentially significant impact to sensitive paleontological resources.

Table 5.8-1 Paleontological Grading Thresholds

Paleontological Sensitivity	Excavation Volume and Depth Thresholds
High	>1,000 cubic yards and >5 feet deep
Moderate	>2,000 cubic yards and >5 feet deep
Zero to Low	Mitigation not required

Source: City of Chula Vista 2005b

5.8.5 Level of Significance Prior to Mitigation

Ground-disturbing activities during future development associated with PGDSP build-out may expose the underlying Bay Point Formation, which has a moderate paleontological sensitivity level and resources potential rating, and could potentially damage or destroy unique paleontological resources. Therefore, implementation of the proposed PGDSP would result in potentially significant impacts to paleontological resources.

5.8.6 Mitigation Measures

Implementation of mitigation measure 5.8-1 would reduce potential impacts to paleontological resources to a less than significant level.

5.8-1 **Paleontological Resources Mitigation Program.** Future PGDSP development projects that propose grading in excess of 2,000 cubic yards volume and five feet depth shall be required to implement a pre-construction or construction mitigation program, or both, as a condition of approval. All mitigation programs shall be performed by a qualified professional paleontologist, defined as an individual with a M.S. or Ph.D. in paleontology or geology who has proven experience in San Diego County paleontology and who is knowledgeable in professional paleontological procedures and techniques. Fieldwork may be conducted by a qualified paleontological monitor, defined as an individual who has experience in the collection and salvage of fossil materials. The paleontological monitor shall always work under the direction of a qualified paleontologist.

<u>Pre-construction mitigation.</u> This method of mitigation is only applicable to instances where well-preserved and significant fossil remains, discovered in the assessment phase, would be destroyed during initial brush clearing and equipment move-on. The individual tasks of this program include:

i. Surface prospecting for exposed fossil remains, generally involving inspection of existing bedrock outcrops but possibly also excavation of test trenches;

ii. Surface collection of discovered fossil remains, typically involving simple excavation of the exposed specimen, but possibly also plaster jacketing of large and/or fragile specimens or more elaborate quarry excavations of richly fossiliferous deposits;

iii. Recovery of stratigraphic and geologic data to provide a context for the recovered fossil remains, typically including description of lithologies of fossil-bearing strata, measurement and description of the overall stratigraphic section, and photographic documentation of the geologic setting;

iv. Laboratory preparation (cleaning and repair) of collected fossil remains, generally involving removal of enclosing rock material, stabilization of fragile specimens (using glues and other hardeners), and repair of broken specimens;

v. Cataloging and identification of prepared fossil remains, typically involving scientific identification of specimens, inventory of specimens, assignment of catalog numbers, and entry of data into an inventory database;

vi. Transferral, for storage, of cataloged fossil remains to an accredited institution (museum or university) that maintains paleontological collections (including the fossil specimens, copies of all field notes, maps, stratigraphic sections, and photographs); and

vii. Preparation of a final report summarizing the field and laboratory methods used, the stratigraphic units inspected, the types of fossils recovered, and the significance of the curated collection.

Construction mitigation. Under this program, mitigation occurs while excavation operations are underway. The scope and pace of excavation generally dictate the scope and pace of mitigation. The individual tasks of a construction mitigation program shall typically include:

i. Monitoring of excavation operations to discover unearthed fossil remains, generally involving inspection of ongoing excavation exposures (e.g., sheet graded pads, cut slopes, roadcuts, basement excavations, and trench sidewalls);

ii. Salvage of unearthed fossil remains, typically involving simple excavation of the exposed specimen but possibly also plaster jacketing of large and/or fragile specimens, or more elaborate quarry excavations of richly fossiliferous deposits;

iii. Recovery of stratigraphic and geologic data to provide a context for the recovered fossil remains, typically including description of lithologies of fossil-bearing strata, measurement and description of the overall stratigraphic section, and photographic documentation of the geologic setting;

iv. Laboratory preparation (cleaning and repair) of collected fossil remains, generally involving removal of enclosing rock material, stabilization of fragile specimens (using glues and other hardeners), and repair of broken specimens;

v. Cataloging and identification of prepared fossil remains, typically involving scientific identification of specimens, inventory of specimens, assignment of catalog numbers, and entry of data into an inventory database;

vi. Transferral, for storage, of cataloged fossil remains to an accredited institution (museum or university) that maintains paleontological collections, including the fossil specimens, copies of all field notes, maps, stratigraphic sections and photographs; and

vii. Preparation of a final report summarizing the field and laboratory methods used, the stratigraphic units inspected, the types of fossils recovered, and the significance of the curated collection.

5.8.7 Level of Significance after Mitigation

With implementation of mitigation measure 5.8-1, impacts to paleontological resources resulting from implementation of the proposed PGDSP would be reduced to below a level of significance.

5.9 Biological Resources

The analysis in this section of the EIR addresses the potential impacts to biological resources that would result from implementation of the PGDSP. The following discussion of biological resources within the PGD is based on the Biological Resources Report prepared by Atkins (2012b). The Biological Resources Report is provided as Appendix F of this EIR.

5.9.1 Existing Conditions

5.9.1.1 General Biological Survey

A general biological survey of the PGD and approximately 100 feet beyond the site, hereinafter referred to as the survey area, was conducted on January 19, 2012. The survey was conducted on-foot and included 100 percent coverage of the survey area. The survey included a general inventory of existing conditions and focused primarily on mapping existing vegetation communities or habitat types, assessing suitability for sensitive plant and wildlife species, and identifying potential wetlands and other sensitive resources. Physical parameters assessed included vegetation and soil conditions, presence of indicator plant and wildlife species, slope, aspect, and hydrology, as discussed below.

A. Anthropogenic Disturbances

The survey area contains a number of anthropogenic-related disturbances. The residential, commercial, and transit-related developments that occur on and in the immediate vicinity of the survey area create a significant disturbance on the existing biological resources. The survey area experiences a high volume of vehicular traffic, which imposes adverse disturbances associated with noise, lighting, illegal dumping, and off-highway activity. In addition, the survey area is regularly used by pedestrians, which has led to encroachment into the undeveloped areas, accumulation of litter, and use by domestic pets. Adverse spillover effects from existing residential and commercial developments are evident throughout the survey area, including a high number of non-native and exotic ornamental plant species, runoff, and trash. These disturbances degrade the existing habitat and limit use by most wildlife species.

B. Topography and Soils

The topography of the survey area is relatively flat, with elevations that range from approximately 36 to 60 feet (11 to 18 meters) above MSL. There are no prominent land features that occur within the survey area. A single contiguous drainage feature occurs within the survey area. This drainage feature is moderately incised and runs along a small, shallow east/west-trending gully that occurs between Industrial Boulevard and East Frontage Road. In addition, two shallow man-made swales occur within the northern and eastern portions of the survey area, respectively.

The soils within the survey area are mapped as Huerhuero loam (2 to 9 percent slopes) and Huerhuero loam (5 to 9 percent slopes, eroded) (U.S. Department of Agriculture [USDA] 2012). Huerhuero loams consist of moderately well-drained soils that have a clay subsoil component and have developed in sandy marine sediments at elevations ranging from 10 to 400 feet above MSL. The observed soils within the entirety of the survey area are highly disturbed and compacted as a result of existing development and routine disturbances. These soils do not provide suitable conditions for most rare plants known to occur in the region.

C. Vegetation Communities

As shown on Figure 5.9-1, four vegetation communities or habitat types were mapped within the survey area during the general biological survey including: developed land, disturbed land, non-native grassland, and disturbed wetland. For a complete list of plant species observed within the survey area, refer to the Biological Resources Report (Atkins 2012b), which is provided as Appendix F of this EIR. The existing vegetation communities mapped within the survey area are summarized in Table 5.9-1 and described below.

Table 5.9-1 Vegetation Communities within the Survey Area

Vegetation Community	Habitat Tier[(1)]	Existing Acres
Developed Land	N/A	111.80
Disturbed Land	Tier IV	4.03
Disturbed Wetland	Wetlands[(2)]	0.68
Non-Native Grassland	Tier III	8.42
SURVEY AREA TOTAL		**124.93**

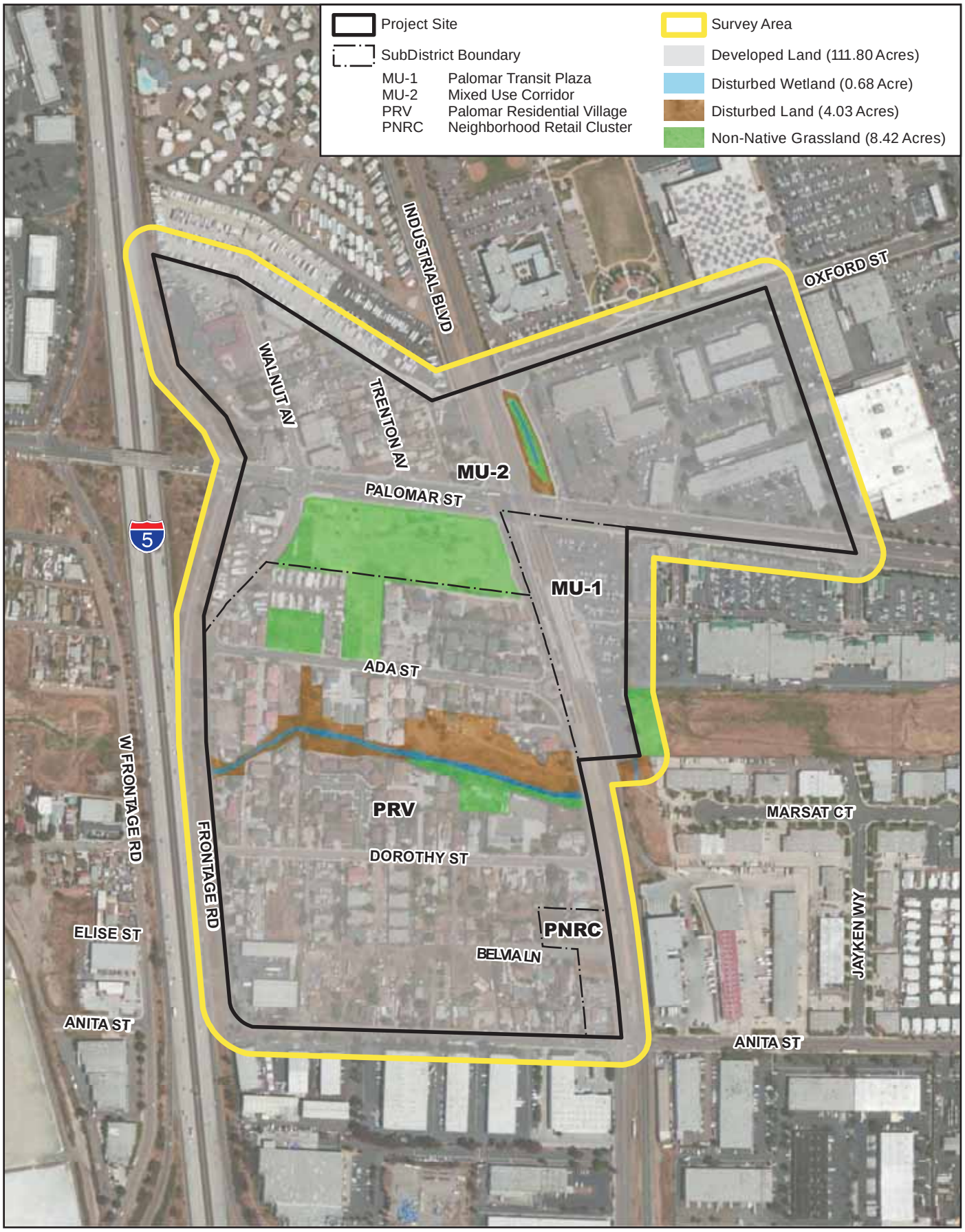
[(1)] Upland vegetation communities (excluding developed areas) within Chula Vista and the MSCP study area are divided into four tiers of sensitivity based on rarity and ecological importance, as defined in the City's MSCP Subarea Plan. Tier I habitats are considered to be the most sensitive, and Tier IV habitats are considered to be the least sensitive.
[(2)] Wetlands are defined in the City's MSCP Subarea Plan. These areas may not necessarily qualify as wetlands or other resources under the jurisdiction of the regulatory agencies.
Source: Atkins 2012b

1. Developed Land

Developed land generally includes areas that have been permanently altered due to the construction of aboveground developments such as buildings, roads, and golf courses. Developed land is characterized by a high percentage of non-vegetated bare earth or asphalt, concrete, and other permanent surfaces. For the purposes of this assessment, developed land may include isolated stands of non-native ornamental vegetation planted for landscaping improvements such as pine (*Pinus* spp.), gum (*Eucalyptus* spp.), pepper (*Schinus* spp.), palm (Arecaceae family), wattle (*Acacia pycnantha*, *Acacia* spp.), oleander (*Nerium oleander*), pittosporum (*Pittosporum* spp.), and various turf grasses (*Fescuta* spp., *Cynodon* spp., *Digitaria* spp., *Eremochloa* spp., *Zoysia* spp.). Developed land is the most prevalent community mapped within the survey area, encompassing approximately 111.80 acres. This community type occurs as existing roads, residential and commercial developments, including asphalt surface streets, parking lots, buildings, and ornamental landscaping. Areas characterized by developed land within the PGDSP area provide limited biological function and value.

2. Disturbed Land

Disturbed land includes areas in which there is sparse vegetative cover and where there is evidence of soil surface disturbance and compaction from previous human activity and/or the presence of building foundations and debris. For the purposes of this assessment, areas mapped as disturbed land include elements of Tier IV habitats, as classified by the City's MSCP Subarea Plan (City of Chula Vista 2003a). Vegetation within disturbed habitat will have a high predominance of non-native plant species, including exotic species recruited to the area from adjacent ornamental landscaped areas, and/or ruderal (weedy) annual species that are indicators of disturbance such as non-native grasses (e.g., *Avena* ssp., *Bromus* spp., *Hordeum* spp.), Russian thistle (*Salsola tragus*), telegraph weed (*Heterotheca grandiflora*), horehound (*Marrubium vulgare*), and sow-thistle (*Sonchus oleraceus*), among others.



Source: Atkins 2011

0 250 500
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N

VEGETATION COMMUNITIES MAP
FIGURE 5.9-1

Approximately 4.03 acres of disturbed land is mapped throughout the survey area. These areas are comprised of disturbed open patches of bare earth and land dominated by non-native broadleaf herbaceous plants or ornamental plants that have recruited from adjacent landscaped areas. Dominant plant species observed include ripgut (*Bromus diandrus*), Bermuda grass (*Cynodon dactylon*), filaree (*Erodium cicutarium*), sow-thistle, Russian thistle, telegraph weed, horseweed (*Conyza canadensis*), red apple ice plant (*Drosanthemun hispidum*), freeway ice plant (*Carpobrotus edulis*), and black mustard (*Brassica nigra*), among other non-natives and escaped ornamentals. In addition, the disturbed land within the survey area hosts several notable non-native exotic and/or invasive plant species, including castor bean (*Ricinus communis*), Brazilian pepper tree (*Schinus terebinthifolius*), olive (*Olea europaea*), and Mexican fan palm (*Washingtonia robusta*). Overall, the habitat is of poor quality and provides limited biological function and value.

3. Disturbed Wetland

Disturbed wetlands may support persistent or seasonal wetland conditions and are dominated by low growing, perennial wetland species. This habitat is often found in proximity to urbanized areas and is typically characterized by man-made channels, drainage ditches, and bio-swales constructed for the purposes of collecting, conveying, and treating nuisance runoff from adjacent developed areas. This community is known to support both freshwater and alkali wetlands. Characteristic species may include sedges (*Carex* spp.), spike rush (*Eleocharis* spp.), rushes (*Juncus* spp.), dock (*Rumex* spp.), and burr reed (*Sparganium eurycarpum*), among others. This community occurs at seasonally and permanently wet sites throughout San Diego County.

Approximately 0.68 acre of disturbed wetland is mapped at three locations throughout the survey area. These locations are associated with the east/west-trending, earthen-lined drainage feature that traverses the southern half of the survey area, in addition to existing drainage ditches and storm drain facilities. Dominant species observed include Italian ryegrass (*Lolium multiflorum*), rabbitsfoot grass (*Polypogon monspeliensis*), curly dock (*Rumex crispus*), and non-native grasses. The drainage feature in the southern half of the survey area is characterized by a sparse, open canopy of non-native and non-riparian trees and shrubs, including gum tree (*Eucalyptus* spp.), Brazilian pepper tree, Mexican fan palm, Canary Island palm (*Phoenix canariensis*), pine (*Pinus* sp.), and castor bean, among others. Investigation of the hydrology and soil conditions suggests that the disturbed wetlands are seasonal and supplemented with nuisance runoff from dry season irrigation of the surrounding landscaped areas. Overall, the quality of the disturbed wetlands is low due to proximity to existing developments, low biophysical function, and lack of species diversity.

4. Non-Native Grassland

Non-native grassland is a grassland habitat type dominated by one or several non-native grass species. In general, this designation is applied where non-native broadleaf species account for less than 50 percent of the total vegetative cover. Site factors of non-native grasslands include disturbance and/or a proximity to nearby seed source resulting in the establishment of extensive and persistently dominant non-native grasses and broadleaf species. Characteristic species include non-native grasses such as oats (*Avena* sp.), bromes (*Bromus* sp.), and barley (*Hordeum* sp.), in addition to non-native broadleaf forbs such as black mustard, short-pod mustard (*Hirschfeldia incana*), fennel (*Foenicularium vulgare*), star-thistle (*Centaurea* spp.), and other non-native broadleaf species. This community is prevalent throughout San Diego County.

Approximately 8.42 acres of non-native grassland occurs as relatively small, low-quality, isolated patches within the survey area. The largest patches are associated with the vacant lots south of Palomar Street and north of Ada Street. The lot adjacent to Palomar Street contains evidence of off-highway vehicle use, dumping, and temporary retail use (e.g., Christmas tree lot). An off-site patch occurs in the eastern portions of the survey area that continues further east into an existing transmission line corridor. Dominant species observed include ripgut and Bermuda grass. Other species present include cheeseweed (*Malva parviflora*), filaree, Johnny jump up (*Viola pedunculata*), short-pod mustard, black mustard, sow-thistle, and prickly lettuce (*Lactuca serriola*), among others. The non-native grassland within the survey area provides relatively low-quality habitat and limited biological function and value due to its small size, isolation, disturbance, and lack of suitable conditions for sensitive species.

D. General Wildlife

The survey area is disturbed and does not provide extensive high quality habitat for wildlife species. Overall wildlife activity during the general surveys was low. Eight bird and four mammal species were observed or otherwise detected by call or sign within the survey area during the general biological survey. Common species observed or otherwise detected (e.g., call, feathers, scat, tracks) within or flying over the survey area included common birds such as black phoebe (*Sayornis nigricans*), northern mockingbird (*Mimus polyglottos*), house sparrow (*Passer domesticus*), house finch (*Carpodacus mexicanus*), Anna's hummingbird (*Calypte anna*), American crow (*Corvus brachyrhynchos*), rock dove (*Columba livia*), and mourning dove (*Zenaida macroura*), in addition to common mammals such as Botta's pocket gopher (*Thomomys bottae*), domestic cat (*Felis catus*), and domestic dog (*Canis familiaris*). No rare, threatened, or endangered species were observed or otherwise detected within the survey area. For a complete list of wildlife species observed or otherwise detected within the survey area, including which habitat types they were observed within, refer to the Biological Resources Report (Atkins 2012b), which is provided as Appendix F of this EIR.

5.9.1.2 Sensitive Biological Resources

Sensitive biological resources generally include the following: 1) vegetation communities or habitat types that are unique, of relatively limited distribution, or of particular value to wildlife; and 2) species and other resources that have been given special recognition by federal or state agencies, and/or are included in the City's MSCP Subarea Plan due to limited, declining, or threatened populations or extent. CVMC Section 17.35.030 defines sensitive biological resources as lands that contain natural vegetation and/or wetlands, and/or habitat occupied by covered species, other listed noncovered species, and/or narrow endemic species. Sensitive biological resources determined to occur or have a potential to occur within the survey area are described below with respect to special-status species, sensitive natural communities, jurisdictional waters and wetlands, and wildlife corridors and linkages.

A. Special-Status Plant Species

Special-status plant species include those that are 1) federally listed as threatened or endangered by the U.S. Fish and Wildlife Service (USFWS); 2) state-listed as threatened or endangered or considered sensitive by the California Department of Fish and Wildlife (CDFW); 3) California Native Plant Society (CNPS) List 1A, 1B, or 2 species, as recognized in the CNPS Inventory of Rare and Endangered Vascular Plants of California and consistent with the CEQA Guidelines; and/or 4) covered species, other listed noncovered species, and/or narrow endemic species identified in the City's MSCP Subarea Plan and regulations. Based on the City's MSCP Subarea Plan and a query of the California Natural Diversity Database (CNDDB) and other sources, eighteen special-status plant species are known to occur or have

suitable habitat within the vicinity of the PGD, as listed in Table 5.9-2. None of the eighteen special-status plant species have been reported as occupying habitat within the survey area. No special-status plant species were observed within the survey area during the general biological survey, which included 100 percent visual coverage of potential habitat and a complete botanical inventory for the time of year the survey was conducted.

No special-status plant species are likely to occur within the survey area because there are a number of disturbance factors associated with the survey area that would preclude the presence and persistence of special-status plant species. Perhaps most limiting is the presence of existing developments; disturbed soils; prevalence of non-native plant species; and the low-quality of the undeveloped vegetation associations present within the survey area. The underlying soils of the survey area (Huerhuero loams) are not reported to be specifically associated with any rare endemic plants known to the local area. The undeveloped land within the survey area is highly disturbed, and where vegetation is present, it is comprised of nearly 100 percent coverage by non-native grasses and forbs, or non-native exotics and ornamentals. Previous soil disturbance is evident throughout the undeveloped areas, including dumping of import soils, surface agitation, and compaction. These activities have promoted the establishment of non-native plant species and conditions that are unsuitable for most sensitive species. The poor soil conditions and presence of aggressive non-natives would pose a significant constraint on the ability for most rare endemic plants to naturally recruit to the area and become established.

Due to comments received from the CDFW (CDFG December 22, 2011) on the NOP for this EIR, a focused discussion addressing the potential for Otay tarplant (*Deinandra conjugens*) to occur within the PGD is provided below.

1. Otay Tarplant

Otay tarplant (*Dienandra conjugens*) is a federally threatened and state endangered species, and is designated by the CNPS as a List 1B.1 sensitive plant. It is a Covered Species and Narrow Endemic Species under the City's MSCP Subarea Plan. Most known sites for this rare plant species occur within Chula Vista. Otay tarplant is known to occur at elevations between approximately 82 to 984 feet above MSL and coastal plain, mesa, and river bottom locations supported by fractured clay soils and grasslands or sparse coastal sage scrub, where there is little competition from woody shrubs. Diablo clay is known to be associated with this species at many locations. Otay tarplant is an annual ranging from 25 to 100 inches tall with yellow flower heads that bloom from May to June. The flower heads of this species have a characteristic eight to ten ray flowers, which distinguishes it from other tarplants.

The general biological survey included a directed habitat assessment survey for Otay tarplant. The survey included an inspection of the areas mapped as disturbed land and non-native grassland for evidence of suitable conditions and any remnant plant material (aerial stems) left over from the previous growing season. No evidence of Otay tarplant or potential habitat was observed. The survey confirmed the absence of suitable soils and vegetation association conditions for the species. The Huerhuero loam soils mapped within the survey area are not known to be specifically associated with Otay tarplant, and the remaining undeveloped surface soils observed in the survey area were highly disturbed from previous activities. No sign of clay soils were evident. The vegetation observed included a strong dominance of non-native grasses, forbs, and exotic ornamentals that are not typically found in association with Otay tarplant. In addition, the survey area is likely located too far west and at too low of an elevation to support this species. The survey area is located approximately 0.25-mile from sea level elevations and the southern portion of San Diego Bay. The lower limit of this species' known range is

82 feet above MSL. The highest elevation within the survey area is approximately 60 feet above MSL, which is 22 feet lower than the species' known lower limit. In combination with unsuitable soils and vegetation associations, the location of the survey area at low elevations near the coast strongly reduces the likelihood for the species to occur. Therefore, Otay tarplant is not likely to occur within the PGD.

B. Special-Status Animal Species

Special-status animal species include those that are 1) listed as threatened or endangered, proposed for listing, or candidates for listing by the USFWS; 2) considered sensitive animals by the CDFW; and/or 3) covered species and/or other listed noncovered species under the City's MSCP Subarea Plan. Based on the City's MSCP Subarea Plan and a query of the CNDDB, thirty-seven special-status animal species are known to occur or have suitable habitat within the vicinity of the PGD, as listed in Table 5.9-3. None of the thirty-seven special-status animal species have been reported as occupying habitat within the survey area. No special-status animal species were observed or otherwise detected within the survey area during the general biological survey.

No special-status animal species have a moderate or high potential to occur within the survey area because there are a number of disturbance factors associated with the survey area and vicinity that would preclude most special-status animal species from using the habitat. Perhaps most limiting is the proximity to existing developments and disturbances, including regular lighting, noise, vehicle, and pedestrian activity; regional isolation and lack of direct connectivity or reasonable proximity to larger, better quality stands of habitat; and overall low quality of the habitat present within the survey area with respect to providing nesting, foraging, dispersal, refuge, or other habitat for special-status animals known to occur in the region. The existing developments are regularly used by vehicles and pedestrians, which may result in adverse direct and indirect effects to the habitat, and special-status animal species attempting to use the habitat. The survey area is subject to encroachment into the habitat by pedestrians, which was evident from existing foot trails, litter, and debris. Pedestrian activity and trash reduce the quality of the habitat and likelihood for special-status animal species to occur. The survey area is also subject to adverse indirect effects from noise and night lighting, the effects of which could deter special-status animal species from using the area. The area is constrained in all directions by existing developments, thereby reducing the likelihood for special-status animal species to disperse or migrate onto the property. The little amount of undeveloped land that remains has been reduced to small, fragmented, and low-quality stands, which are disconnected and isolated from habitat in the local and regional area. The existing development and isolation of habitat present a challenge to regional animal species attempting to disperse into the area due to their dependency on habitat connectivity and lack of development barriers along their travel route. Furthermore, the small size and low quality of the existing habitat do not offer the space and resources required by most of the special-status animal species known to be associated with the habitat types present within the survey area. In conclusion, due to isolation, existing disturbances, and vegetation composition, the habitat present within the survey area is not suitable for any special-status animal species, and none would be expected to occur.

Due to comments from the CDFW (CDFG December 22, 2011) received on the NOP for this EIR, a focused discussion addressing the potential for the burrowing owl (*Athene cunicularia*) to occur within the PGD is provided below.

1. Burrowing Owl

The burrowing owl (Athene cunicularia) is designated as a California species of special concern due to its decline throughout the state over the past 30 years. The burrowing owl is not federally or state-listed as

endangered or threatened, and is a covered species considered to be adequately conserved under the City's MSCP Subarea Plan. Burrowing owls require large open expanses of sparsely vegetated areas on gently rolling or level terrain with an abundance of active small mammal burrows. Typical habitat associated with the species includes short-grass prairies, grasslands, lowland scrub, agricultural lands (particularly rangelands), coastal dunes, desert floors, and some artificial open areas as a year-round resident habitat. Burrowing owls may also use golf courses, cemeteries, road allowances within cities, airports, vacant lots in residential areas, and irrigation ditches. Although open areas with short vegetation are critical for nesting, there is some evidence that the owls prefer a vegetation mosaic with nesting habitat interspersed with taller vegetation for hunting. The primary requirement for suitable burrowing owl foraging habitat appears to be low vegetation cover that allows visibility and access to prey. Due to an inability to construct their own burrows, burrowing owls often require the use of existing rodent or other burrows for roosting and nesting cover. They may also use pipes, culverts, and nest boxes where burrows are scarce. One burrow is typically selected for use as the nest; however, satellite burrows are usually found within the immediate vicinity of the nest burrow within the defended territory of the owl. If left undisturbed, a burrowing owl pair will use the same burrow year after year for nesting. A clutch of seven to nine eggs is laid between March and July. Burrowing owls are generally considered a monogamous species. Both parents take part in incubation for about 28 days. The young emerge from the nest and spend daylight hours at the burrow entrance with one or both adults. Burrowing owls are crepuscular owls, being most active during the early morning and evening hours. Their diet is predominantly comprised of large insects and small rodents, but they will also take small birds, reptiles, amphibians, fish, scorpions, and other available prey. Burrowing owls are often observed perched on fence posts or utility wires. Reasons for their decline include habitat destruction, insecticide poisoning, rodenticide (particularly for squirrel eradication), and shooting.

The general biological survey included a directed habitat assessment and focused burrow survey for burrowing owl in accordance with protocol recommended by the California Burrowing Owl Consortium and the CDFW. The directed survey was conducted between the hours of 0700 and 0900, and included an inspection of the areas mapped as disturbed land and non-native grassland within the survey area for potential burrows, burrowing owl sign (e.g., owl pellets, discarded prey items, whitewash, feathers), foraging habitat, and perch locations. No evidence of burrowing owl or potential habitat was observed. The survey confirmed the absence of suitable burrows and adequate space, cover, and foraging resources for the species. The PGD does not contain suitable conditions to support a breeding territory of burrowing owl and the species is not likely to occur. The existing disturbed land and non-native grassland could provide temporary habitat for owls migrating or dispersing through the general area; however, owls are unlikely to permanently reside due to the limited amount of available space and cover, fragmentation of the habitat, and lack of potential burrows and good quality foraging habitat. In the unlikely event that individuals do migrate or disperse directly over the survey area, they would not likely use the area for long periods of time, and would likely continue on to better quality habitat in the local area (e.g., San Diego National Wildlife Refuge, Sweetwater Marsh National Wildlife Refuge). Therefore, although burrowing owl could migrate or disperse over the general area, the species is not likely to occur within the PGD.

Table 5.9-2 Special-Status Plant Species Known to Occur in the Vicinity of the PGD

Common Name	Scientific Name	Federal Status[1]	State Status[2]	CNPS List[3]	MSCP Subarea Plan[4]	Habitat Associations	Life Form	Blooming Period	Potential to Occur[5]
San Diego thorn-mint	*Acanthomintha ilicifolia*	FT	SE	1B.1	Covered, Narrow Endemic	Chaparral, coastal scrub, valley and foothill grassland, vernal pools supported by clay soils. Known elevation limits: 10–960 meters	Annual herb	Apr–Jun	**Not Likely to Occur.** This species' soil associations do not occur within the site. The existing non-native grassland habitat is highly disturbed and does not support suitable conditions for this species.
San Diego ambrosia	*Ambrosia pumila*	FE	—	1B.1	Covered, Narrow Endemic	Chaparral, coastal sage scrub, Valley and foothill grassland, vernal pools supported by sandy loam or clay, often in disturbed areas, sometimes at alkaline sites. Known elevation limits: 20–415 meters	Rhizomatous herb	Apr–Oct	**Not Likely to Occur.** This species' soil associations do not occur within the site. The existing non-native grassland and disturbed land habitat types are highly disturbed and do not support suitable conditions for this species. This conspicuous species was not observed during the general biological survey.
Orcutt's brodiaea	*Brodiaea orcuttii*	—	—	1B.1	Covered, Narrow Endemic	Closed-cone coniferous forest, chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland, and vernal pools at mesic sites supported by clay, sometimes at serpentinic sites. Known elevation limits: 30–1,692 meters	Bulbiferous herb	May–Jul	**Not Likely to Occur.** This species' soil associations do not occur within the site. The existing non-native grassland is highly disturbed and does not support suitable mesic conditions for this species.
Slender-pod jewelflower	*Caulanthus stenocarpus*	—	—	**	Covered	Disturbed places, burns, coastal sage scrub, chaparral. Known elevation limits: Below 900 meters	Annual herb	Mar–May	**Not Likely to Occur.** This species' vegetation associations do not occur within the site. The existing disturbed land does not support suitable conditions for this species. The site is likely located too far west and at too low of elevations to support this species.
Salt marsh bird's-beak	*Cordylanthus maritimus* ssp. *maritimus*	FE	SE	1B.2	Covered, Narrow Endemic	Coastal dunes, coastal salt marshes and swamps. Known Elevation Limits: 0–30 meters	Annual herb hemiparasitic	May–Oct	**Not Likely to Occur.** No suitable habitat occurs. The site does not support coastal dune, salt marsh, or swamp habitat.
Orcutt's bird's-beak	*Dicranostegia (Cordylanthus) orcuttianus*	—	—	2.1	Covered	Coastal scrub. Known Elevation Limits: 10–350 meters	Annual herb hemiparasitic	Apr–Jul	**Not Likely to Occur.** No suitable habitat occurs. The site does not support coastal scrub habitat types.

Table 5.9-2 continued

Common Name	Scientific Name	Federal Status[1]	State Status[2]	CNPS List[3]	MSCP Subarea Plan[4]	Habitat Associations	Life Form	Blooming Period	Potential to Occur[5]
Variegated dudleya	*Dudleya variegata*	—	—	1B.2	Covered, Narrow Endemic	Openings in sage scrub and chaparral supported by clays, rocky grasslands, and vernal pools. Known Elevation Limits: 3–580 meters	Perennial herb	Apr–Jun	**Not Likely to Occur.** No suitable habitat occurs. The site does not contain coastal sage scrub or chaparral supported by clay soils, grassland supported by rocky substrates, or vernal pools. This perennial was not observed during the general biological survey.
Palmer's ericameria	*Ericameria palmeri* ssp. *palmeri*	—	—	1B.1	Covered, Narrow Endemic	Coastal sage scrub and chaparral at mesic sites. Known elevation limits: 30–600 meters	Evergreen shrub	Sep–Nov	**Not Likely to Occur.** This species' vegetation associations do not occur within the site. The existing non-native grassland is highly disturbed and does not support suitable mesic conditions for this species. This conspicuous evergreen was not observed during the general biological survey.
San Diego button-celery	*Eryngium aristulatum* var. *parishii*	FE	SE	1B.1	Covered	Coastal sage scrub, grasslands, and vernal pools supported by clay soils and mesic conditions. Known elevation limits: 20–620 meters	Annual/ Perennial herb	Apr–Jun	**Not Likely to Occur.** No suitable habitat occurs.
San Diego barrel cactus	*Ferocactus viridescens*	—	—	2.1	Covered	Coastal sage scrub, chaparral, grassland, and vernal pools. Known Elevation Limits: 3–450 meters	Stem succulent	May–Jun	**Not Likely to Occur.** This species' preferred habitat does not occur within the site. The existing non-native grassland habitat is highly disturbed and does not support suitable conditions for this species. This conspicuous succulent was not observed during the general biological survey.
Otay tarplant	*Deinandra conjugens*	FT	SE	1B.1	Covered, Narrow Endemic	Coastal plain, mesa, and river bottom locations supported by fractured clay soils and grasslands or sparse coastal sage scrub, where there is little competition from woody shrubs. Known Elevation Limits: 25–300 meters	Annual herb	May–Jun	**Not Likely to Occur.** This species' required soils and vegetation associations do not occur within the site. The existing disturbed land and non-native grassland habitat types are highly disturbed and do not support suitable conditions for this species. The location of the site at low elevations near the coast strongly reduces the likelihood for the species to occur.

Table 5.9-2 continued

Common Name	Scientific Name	Federal Status[1]	State Status[2]	CNPS List[3]	MSCP Subarea Plan[4]	Habitat Associations	Life Form	Blooming Period	Potential to Occur[5]
San Diego goldenaster	*Muilla clevelandii*	—	—	1B.1	Covered	Chaparral, coastal sage scrub, valley and foothill grassland, and vernal pools supported by clay soils. Known elevation limits: 50–465 meters	Bulbiferous herb	Apr–May	**Not Likely to Occur.** This species' soil associations do not occur within the site. The existing non-native grassland is highly disturbed and does not support suitable conditions for this species.
Spreading navarretia	*Navarretia fossalis*	FT	—	1B.1	Covered	Chenopod scrub, freshwater marshes and swamps, playas, and vernal pools. Known elevation limits: 30–655 meters	Annual herb	Apr–Jun	**Not Likely to Occur.** This species' preferred habitat does not occur within the site.
Snake cholla	*Opuntia parryi* var. *serpentina*	—	—	1B.1	Covered, Narrow Endemic	Chaparral and coastal sage scrub. Known Elevation Limits: 30–150 meters	Stem succulent	Apr–May	**Not Likely to Occur.** This species preferred habitat does not occur within the site. This conspicuous succulent was not observed during the January 2012 general biological survey.
California Orcutt grass	*Orcuttia californica*	FE	SE	1B.1	Covered	Vernal pools. Known elevation limits: 15–660 meters	Annual herb	Apr–Aug	**Not Likely to Occur.** This species preferred habitat does not occur within the site. No vernal pools are present.
Otay Mesa mint	*Pogogyne nudiscula*	FE	SE	1B.1	Covered	Vernal pools. Known elevation limits: 90–250 meters	Annual herb	May–Jul	**Not Likely to Occur.** This species preferred habitat does not occur within the site. No vernal pools are present.
San Miguel savory	*Satureja chandleri*	—	—	1B.2	Covered	Chaparral, cismontane woodland, coastal scrub, riparian woodland, and valley and foothill grassland supported by rocky, gabbroic, or metavolcanic soils. Known elevation limits: 120–1,075 meters	Shrub	Mar–Jul	**Not Likely to Occur.** This species preferred habitat does not occur within the site. The existing grassland is highly disturbed and is not supported by the appropriate soils. This conspicuous shrub was not observed during the general biological survey.

Table 5.9-2 continued

Common Name	Scientific Name	Federal Status[1]	State Status[2]	CNPS List[3]	MSCP Subarea Plan[4]	Habitat Associations	Life Form	Blooming Period	Potential to Occur[5]
Narrow-leaved nightshade	*Solanum tenuilobatum*	—	—	**	Covered	Yellow pine forest, red fir forest, lodgepole forest, northern oak woodland, southern oak woodland, foothill woodland, and chaparral. Known elevation limits: 0–300 meters	Perennial herb/shrub	Variable	**Not Likely to Occur.** This species preferred habitat does not occur within the site.

[1] Federal Status: **FE** = Federally Endangered; **FT** = Federally Threatened; **PE** = Proposed Endangered; **PT** = Proposed Threatened; **FC** = Candidate for federal listing; **FSC** = Species of Concern (no longer recognized as a federal designation)

[2] State Status: **SE** = California Endangered; **ST** = California Threatened; **SR** = California Rare

[3] CNPS List: **1A** = Plants presumed extinct in California; **1B** = Plants rare, threatened, or endangered in California and elsewhere; **2** = Plants rare, threatened, or endangered in California, but more common elsewhere; **3** = Plants in need of more information; **4** = Plants of limited distribution; ****** = No longer recognized as Sensitive by CNPS

[4] MSCP Subarea Plan: **Covered** = Plant species from Tables 4-1 and 4-2 of the City's MSCP Subarea Plan which are adequately conserved by the City's MSCP Subarea Plan, together with other subarea plans within the San Diego MSCP Subregional Plan area; **Narrow Endemic** = Plant species from Table 5-4 of the City's MSCP Subarea Plan that are highly restricted by their habitat affinities or other ecological factors.

[5] Potential to Occur: **Not Likely to Occur** = There are no present or historical records of the species occurring on or in the immediate vicinity (within 5 miles) of the site. The diagnostic habitats strongly associated with the species do not occur on or in the immediate vicinity of the site. The site is located well outside the species known range and/or elevation limits. **Low Potential to Occur** = There is a historical record of the species and potentially suitable habitat on or in the vicinity of the site, but existing conditions, such as density of cover, prevalence of non-native species, evidence of disturbance, limited habitat area, isolation, substantially reduce the possibility that the species would occur. The site is located just outside the species known range and/or elevation limits. **Moderate Potential to Occur** = The diagnostic habitat associated with the species occurs on or in the immediate vicinity of the site, but there is not a recorded occurrence of the species within the immediate vicinity (within 5 miles). Some species that contain extremely limited distributions may be considered moderate, even if there is a recorded occurrence in the immediate vicinity. The site is located within the species known range and/or elevation limits. **High Potential to Occur** = There is both suitable habitat associated with the species and a historical record of the species on or in the immediate vicinity of the site (within 5 miles). The site is located within the species known range and/or elevation limits. **Species Present** = The species was observed on within the site at the time of the survey or during a previous biological survey.

Source: Atkins 2012b

Table 5.9-3 Special-Status Animal Species Known to Occur in the Vicinity of the PGD

Common Name	Scientific Name	Federal Status[1]	State Status[2]	MSCP Subarea Plan[3]	Habitat Associations	Potential to Occur
AQUATIC INVERTEBRATES						
San Diego fairy shrimp	*Branchinecta sandiegonensis*	FE	—	Covered	Vernal pools and shallow, short-lived ephemeral ponds.	**Not Likely to Occur.** No suitable ephemeral pool habitat occurs on and in the immediate vicinity of the site.
Riverside fairy shrimp	*Streptocephalus woottoni*	FE	—	Covered	Vernal pools and long-lived ephemeral ponds.	**Not Likely to Occur.** No suitable ephemeral pool habitat occurs on and in the immediate vicinity of the site.
INVERTEBRATES						
Quino checkerspot butterfly	*Euphydryas editha quino*	FE	—	Covered	Sunny openings within chaparral and coastal sage shrublands. Host plants include *Plantago erecta*, *Cordylanthus rigidus*, *Collinsia* spp., *Plantago patagonica*, *Antirrhinum coulterianum*, and *Castilleja exserta*.	**Not Likely to Occur.** This species host plants do not occur within the site. Marginal nectar sources occur; however, this species does not range as far west as the site.
Salt marsh (wandering) skipper	*Panoquina errans*	—	—	Covered	Southern California coastal salt marshes. Requires moist saltgrass for larval development.	**Not Likely to Occur.** No suitable salt marsh habitat occurs on and in the immediate vicinity of the site.
REPTILES AND AMPHIBIANS						
Arroyo toad	*Anaxyrus californicus*	FE	SSC	Covered	Found in semi-arid regions near washes or intermittent streams, including valley-foothill and desert riparian, desert wash, etc. Requires rivers with sandy banks, willows, cottonwoods, and sycamores; loose, gravelly areas of streams in drier parts of range.	**Not Likely to Occur.** No suitable aquatic habitat occurs on or in the immediate vicinity for breeding site. The drainage that occurs on-site does not support suitable substrate, cover, or hydrology for this species. Due to lack of known breeding sites in immediate area, this species is not likely to aestivate or disperse over the site.
Orange-throated whiptail	*Aspidoscelis hyperythra*	—	SSC	Covered	Coastal scrub, chaparral, and valley and foothill hardwood habitats. Prefers washes and sandy areas with patches of brush and rocks. Perennial plants required to support its primary prey termites.	**Not Likely to Occur.** No suitable vegetation associations, washes, sandy soils, or cover occurs within the site for this species.
Western pond turtle	*Clemmys (Emmys) marmorata pallida*	—	SSC	Covered	A thoroughly aquatic turtle of ponds, marshes, rivers, streams and irrigation ditches, usually with aquatic vegetation. Requires basking sites and suitable (sandy banks or grassy open fields) upland habitat up to 0.5 km from water for egg-laying.	**Not Likely to Occur.** No suitable aquatic habitat occurs on or in the vicinity of the site.

Table 5.9-3 continued

Common Name	Scientific Name	Federal Status[1]	State Status[2]	MSCP Subarea Plan[3]	Habitat Associations	Potential to Occur
Coast (San Diego) horned lizard	*Phrynosoma coronatum (blainvillii population)*	—	SSC	Covered	Inhabits coastal sage scrub and chaparral in arid and semi-arid climate conditions.	**Not Likely to Occur.** No suitable vegetation associations, washes, sandy soils, or cover occurs within the site for this species. The highly urbanized nature of the site and surrounding area would likely preclude this species from occurring.
BIRDS						
Cooper's hawk	*Accipiter cooperii*	—	SSC	Covered	(Nesting) Open, uninterrupted, or marginal type woodland. Nest sites mainly found in riparian growths of deciduous trees, live oaks.	**Low Potential to Occur.** Marginal nesting and foraging habitat occurs within the mature non-native trees and urban developed land throughout the site. No individuals or potential nests were observed within the site during the January 2012 survey.
Tricolored blackbird	*Agelaius tricolor*	—	SSC	Covered	Requires open water, protected nesting substrate, and foraging area with available insect prey.	**Not Likely to Occur.** No suitable habitat occurs on or in the vicinity of the site.
Southern California rufous-crowned Sparrow	*Aimophila ruficeps canescens*	—	—	Covered	Found in coastal sage scrub and sparse mixed chaparral.	**Not Likely to Occur.** No suitable coastal sage scrub or chaparral habitat occurs on or in the immediate vicinity of the site for this species.
Golden eagle	*Aquila chrysaetos*	—	SSC, SFP	Covered	(Nesting and Wintering) Rolling foothills and mountain areas, juniper-sage flats, and deserts. Primarily associated with cliff-walled canyons and large trees in open habitats for nesting.	**Not Likely to Occur.** No suitable habitat occurs on or in the vicinity of the site. This species is not likely to range over the site vicinity.
Burrowing owl	*Athene cunicularia*	—	SSC	Covered	Open grasslands and habitat with low vegetation and long lines of sight. Requires small mammal burrows and crevices for burrowing.	**Not Likely to Occur.** The site does not support suitable burrows or adequate space and cover. Marginal foraging habitat exists for this and other raptor species, and owls may migrate or disperse through the general area, however this species is not likely to nest or forage at the site.
Canada goose	*Branta canadensis*	—	—	Covered	Nests located in elevated areas near water such as streams, lakes, ponds.	**Not Likely to Occur.** No suitable habitat occurs on or in the vicinity of the site.
Ferruginous hawk	*Buteo regalis*	—	SSC	Covered	Open grasslands, sagebrush flats, desert scrub, low foothills and fringes of pinyon-juniper habitats. Eats mostly lagomorphs, ground squirrels, and mice. Population trends may follow lagomorph population cycles.	**Not Likely to Occur.** No suitable nesting habitat occurs on or in the immediate vicinity of the site for this species. Marginal foraging habitat exists for this and other raptors, however this species is not likely to range over the project vicinity.

Table 5.9-3 continued

Common Name	Scientific Name	Federal Status[1]	State Status[2]	MSCP Subarea Plan[3]	Habitat Associations	Potential to Occur
Swainson's hawk	*Buteo swainsoni*	—	ST	Covered	Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, and agricultural or ranch properties. Requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations.	**Not Likely to Occur.** No suitable nesting habitat occurs on or in the immediate vicinity of the site for this species. Marginal foraging habitat exists for this and other raptors, however this species is not likely to range over the project vicinity.
Coastal cactus wren	*Campylorhynchus brunneicapillus couesi*	—	—	Covered	Southern California coastal sage scrub. Requires tall *Opuntia* spp. cactus for nesting and roosting.	**Not Likely to Occur.** This species habitat does not occur on or in the immediate vicinity of the site. No coastal sage scrub or suitable cactus patches occur.
Western snowy plover	*Charadrius alexandrines nivosus*	FT	SSC	Covered	Sandy beaches, salt pond levees and shores of large alkali lakes. Needs sandy, gravelly or friable soils for nesting.	**Not Likely to Occur.** This species habitat does not occur on or in the immediate vicinity of the site.
Northern harrier	*Circus cyaneus*	—	SSC	Covered	Coastal salt and freshwater marsh. Nests and forages in grasslands, from salt grass in desert sink to mountain Cienegas. Nests on ground in shrubby vegetation, usually at marsh edge; nest built of a large mound of sticks in wet areas.	**Low Potential to Occur.** No suitable nesting habitat occurs on or in the immediate vicinity of the site for this species. However, marginal foraging habitat exists and this species may range over the project vicinity.
Reddish egret	*Egretta rufescens*	—	—	Covered	Colonial nester in swamps, coastal salt and freshwater marsh, lake margins.	**Not Likely to Occur.** No suitable habitat occurs on or in the vicinity of the site.
Southwestern willow flycatcher	*Empidonax traillii extimus*	FE	SE	Covered	Riparian woodlands in Southern California.	**Not Likely to Occur.** No suitable nesting or foraging habitat occurs on or in the immediate vicinity of the site. The existing drainage feature on-site lacks suitable riparian habitat for this species.
American peregrine falcon	*Falco peregrines anatum*	—	SE, SFP	Covered	Near wetlands, lakes, rivers, or other water. On cliffs, banks, dunes, mounds; also, human-made structures. Nest consists of a scrape or a depression or ledge in an open site.	**Not Likely to Occur.** No suitable nesting or foraging habitat occurs on or in the immediate vicinity of the site.
Bald eagle	*Haliaeetus leucocephalus*	FD	CE	Covered	(Wintering) Ocean shore, lake margins, and rivers for both nesting and wintering. Most nests within 1.0 mile of water. Nests in large, old-growth, or dominant live tree with open branches, especially ponderosa pine. Roosts communally in winter.	**Not Likely to Occur.** No suitable nesting or wintering habitat occurs on or in the vicinity of the site.
Long-billed curlew	*Numenius americanus*	—	—	Covered	Breeds in upland shortgrass prairies and wet meadows in northeastern California. Habitats on gravelly soils and gently rolling terrain are favored over others.	**Not Likely to Occur.** The site occurs outside of this species breeding range. This species is not likely to migrate or winter over the site.

Table 5.9-3 continued

Common Name	Scientific Name	Federal Status[1]	State Status[2]	MSCP Subarea Plan[3]	Habitat Associations	Potential to Occur
Belding's savannah sparrow	*Passerculus sandwichensis beldingi*	—	SE	Covered	Inhabits coastal salt marshes, from Santa Barbara south through San Diego county. Nests in Salicornia on and around the margins of tidal flats.	**Not Likely to Occur.** This species habitat does not occur on or in the immediate vicinity of the site.
Large-billed savannah sparrow	*Passerculus sandwichensis rostratus*	—	SSC	Covered	Breeds along the Colorado River Delta in Mexico. Winters at the Salton Sea. Saline emergent wetlands at the Salton Sea and Southern Coast.	**Not Likely to Occur.** This species habitat does not occur on or in the immediate vicinity of the site.
California brown pelican	*Pelecanus occidentalis californicus*	FD	—	Covered	Colonial nester on coastal islands just outside the surf line. Nests on coastal islands of small to moderate size which afford immunity from attack by ground-dwelling predators.	**Not Likely to Occur.** No suitable nesting or foraging habitat occurs on or in the immediate vicinity of the site.
White-faced ibis	*Plegadis chihi*	—	—	Covered	Shallow freshwater marsh. Dense tule thickets for nesting interspersed with areas of shallow water for foraging.	**Not Likely to Occur.** No suitable nesting or foraging habitat occurs on or in the immediate vicinity of the site.
Coastal California gnatcatcher	*Polioptila californica californica*	FT	SSC	Covered	Obligate, permanent resident of coastal sage scrub below 2,500 ft in southern California. Low, coastal sage scrub in arid washes, on mesas and slopes. Not all areas classified as coastal sage scrub are occupied.	**Not Likely to Occur.** No suitable nesting or foraging habitat occurs on or in the immediate vicinity of the site.
Light-footed clapper rail	*Rallus longirostris levipes*	FE	SE, SFP	Covered	Found in salt marshes traversed by tidal sloughs, where cordgrass and pickleweed are the dominant vegetation. Requires dense growth of either cordgrass or pickleweed for nesting or escape cover. Feeds on molluscs and crustaceans.	**Not Likely to Occur.** No suitable nesting or foraging habitat occurs on or in the immediate vicinity of the site.
Western bluebird	*Sialia mexicana*	—	—	Covered	Open coniferous and deciduous woodlands, wooded riparian areas, grasslands, farmlands, and edge and burned areas. Prefers open forest habitats. Nest in cavities in trees and snags, or between bark and trunk. Nest woven of dry grasses, straw, conifer needles, fur, string, or cedar bark strips. Uses nest boxes.	**Not Likely to Occur.** No suitable nesting habitat occurs within the site for this species. Marginal foraging habitat occurs; however, this species is not likely to range over the project vicinity.
California least tern	*Sterna antillarum browni*	FE	SE, SFP	Covered	Nests along the coast from San Francisco Bay south to northern Baja California. Colonial breeder on bare or sparsely vegetated, flat substrates including sand beaches, alkali flats, landfills, or paved areas.	**Not Likely to Occur.** No suitable nesting or foraging habitat occurs on or in the immediate vicinity of the site.
Elegant tern	*Sterna elegans*	—	—	Covered	Breeds in dense colonies on coasts and islands, and occasionally at interior lakes.	**Not Likely to Occur.** No suitable habitat occurs on or in the vicinity of the site.

Table 5.9-3 continued

Common Name	Scientific Name	Federal Status[1]	State Status[2]	MSCP Subarea Plan[3]	Habitat Associations	Potential to Occur
Least Bell's Vireo	*Vireo bellii pusillus*	FE	SE	Covered	Summer resident of southern California in low riparian in vicinity of water or in dry river bottoms; below 2,000 ft. Nests placed along margins of bushes or on twigs projecting into pathways, usually willow, Baccharis, mesquite.	**Not Likely to Occur.** No suitable nesting or foraging habitat occurs on or in the immediate vicinity of the site. The existing drainage feature on-site lacks suitable riparian habitat for this species.
MAMMALS						
Mountain lion	*Felis concolor*	—	—	Covered	Uses rocky areas, cliffs, and ledges that provide cover within open woodlands and chaparral, as well as riparian areas that provide protective habitat connections for movement between fragmented core habitat. Also, need both vertical and horizontal cover components, such as rocks and downed logs, to feel secure enough to bed.	**Not Likely to Occur.** No suitable habitat occurs on or in the vicinity of the site. This species does not likely range over the project vicinity.
Southern mule deer	*Odocoileus hemionus*	—	—	Covered	Mule deer occupy to some extent almost all types of habitat within their range but, in general, they seem to prefer the more arid, open situations.	**Not Likely to Occur.** No suitable habitat occurs on or in the vicinity of the site. This species does not likely range over the project vicinity.
American badger	*Taxidea taxus*	—	SSC	Covered	Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Requires sufficient food, friable soils and open, uncultivated ground. Preys on burrowing rodents. Digs its own burrows.	**Not Likely to Occur.** No suitable nesting and burrowing habitat occurs. Marginal foraging habitat occurs, but the land uses associated with the site strongly reduce the potential for this species to occur. There are a number of human-related and other disturbances present on and in the immediate vicinity of the site which would likely deter this species from using the area.

[1] Federal Status: **FE** = Federally Endangered; **FT** = Federally Threatened; **FC** = Candidate for federal listing; **FD** = Delisted
[2] State Status: **SE** = State Endangered; **ST** = State Threatened; **SFP** = State Fully Protected; **SSC** = State Species of Special Concern
[3] MSCP Subarea Plan: **Covered** = Plant species from Tables 4-1 and 4-2 of the City's MSCP Subarea Plan which are adequately conserved by the City's MSCP Subarea Plan, together with other subarea plans within the San Diego MSCP Subregional Plan area.
[4] Potential to Occur: **Not Likely to Occur** = There are no present or historical records of the species occurring on or in the immediate vicinity (within 5 miles) of the site. The diagnostic habitats strongly associated with the species do not occur on or in the immediate vicinity of the site. The site is located well outside the species known range and/or elevation limits. **Low Potential to Occur** = There is a historical record of the species and potentially suitable habitat on or in the vicinity of the site, but existing conditions, such as density of cover, prevalence of non-native species, evidence of disturbance, limited habitat area, isolation, substantially reduce the possibility that the species would occur. The site is located just outside the species known range and/or elevation limits. **Moderate Potential to Occur** = The diagnostic habitat associated with the species occurs on or in the immediate vicinity of the site, but there is not a recorded occurrence of the species within the immediate vicinity (within 5 miles). Some species that contain extremely limited distributions may be considered moderate, even if there is a recorded occurrence in the immediate vicinity. The site is located within the species known range and/or elevation limits. **High Potential to Occur** = There is both suitable habitat associated with the species and a historical record of the species on or in the immediate vicinity of the site (within 5 miles). The site is located within the species known range and/or elevation limits. **Species Present** = The species was observed on within the site at the time of the survey or during a previous biological survey.
Source: Atkins 2012b

C. Sensitive Natural Communities

Sensitive natural communities include wetlands and Tier I, Tier II, Tier IIIA, or Tier IIIB habitats as identified in the City's MSCP Subarea Plan or other sensitive natural community identified by the CDFW. Based on a list compiled through the CNDDB, six sensitive natural communities are known to occur in the vicinity of the PGD, as listed in Table 5.9-4. None of the six sensitive natural communities have been reported as occurring within the survey area. Although none of the six sensitive natural communities identified in Table 5.9-4 were observed during the general biological survey, the survey area was determined to support wetland (0.68 acre of disturbed wetlands) and Tier III habitats (8.42 acres of non-native grassland), both of which are considered sensitive under the City's MSCP Subarea Plan.

Table 5.9-4 Sensitive Natural Communities Known to Occur in the Vicinity of the PGD

Sensitive Natural Community	Habitat Tier	Global Ranking(1)	State Ranking(2)
Maritime Succulent Scrub	Tier I	G2	S1.1
San Diego Mesa Claypan Vernal Pool	Wetland	G2	S2.1
Southern Coastal Saltmarsh	Wetland	G2	S2.1
Southern Riparian Scrub	Wetland	G3	S3.2
Southern Willow Scrub	Wetland	G3	S2.1
Southern Interior Cypress Forest	N/A	G2	S2.1

(1) Global Rankings

G2 = Approximately 2,000 to 10,000 acres exist worldwide.

G3 = Approximately 10,000 to 50,000 acres exist worldwide.

(2) State Rankings

S1.1 = Considered very threatened in California; less than 2,000 acres exist statewide.

S2.1 = Considered very threatened in California; approximately 2,000 to 10,000 acres exist statewide.

S3.2 = Considered very threatened in California; approximately 10,000 to 50,000 acres exist statewide.

Note: The list of natural communities included in this table is based on database queries for areas within approximately 5 miles of the PGD, including selected results from the Imperial Beach, National City, Point Loma, Jamul Mountains, and Otay Mesa, California USGS 7.5 Minute Quadrangles.

Source: Atkins 2012b

D. Jurisdictional Waters and Wetlands

In the context of this assessment, jurisdictional waters and wetlands generally include those resources regulated by the U.S. Army Corps of Engineers (USACE) pursuant to Section 404 of the federal Clean Water Act (CWA); by the Regional Water Quality Control Board (RWQCB) pursuant to Section 401 of the CWA and the Porter-Cologne Water Quality Control Act; by the CDFW pursuant to Sections 1600 et. seq. of the California Fish and Game (CFG) Code; and by the City pursuant to the City's MSCP Subarea Plan Wetland Protection Program and the CVMC.

The central portions of the survey area are transected by a highly disturbed reach of an unnamed east/west-trending drainage feature. The unnamed drainage feature supports disturbed wetland habitat and an observable ordinary high water mark (OHWM) throughout the majority of its length, from the estimated location of its headwaters at an existing culvert beneath Industrial Boulevard, downstream to where it discharges off the survey area beneath East Frontage Road. Several non-native ornamental trees occur intermittently along the drainage corridor. Although not confirmed, downstream flows presumably continue to the west, beneath I-5, and eventually discharge into a developed portion (South

Bay Saltworks) of the San Diego Bay, a Traditional Navigable Water (TNW). Due to the presence of an observable OHWM and presumed connectivity to a downstream TNW, the unnamed drainage feature and associated wetlands would likely fall under the regulatory jurisdiction of the USACE and RWQCB. Due to an observable streambed, although no riparian habitat exists, the unnamed drainage feature would also likely fall under the regulatory jurisdiction of the CDFW. Furthermore, due to the presence of surface water flows and wetland conditions, the unnamed drainage feature and associated wetlands could meet the City's requirement for wetlands protection.

In addition to the unnamed drainage feature described above, two round-bottom swales associated with existing storm drain developments occur within the northern and eastern portions of the survey area. The northernmost swale is located within the PGD and is associated with a man-made basin designed to detain storm water runoff from developed areas north of Palomar Street and east of Industrial Avenue. This swale lacks an OHWM and is characterized by a sub-dominance of non-native ornamental landscape plantings. The easternmost swale is located to the immediate east of the PGD and is associated with a man-made drainage ditch and culvert outlet designed to convey storm water runoff from developed areas east of Industrial Boulevard and south of Palomar Street. This swale conveys nuisance flows into the culvert beneath Industrial Boulevard, which also serves as the headwaters of the unnamed drainage feature described above. This swale also lacks an OHWM and is dominated by non-native grasses and forbs. Due to the lack of an observable OHWM, location between existing storm drain facilities, and lack of direct connectivity to a jurisdictional waterway or wetland, the two round-bottom swales would not likely meet the minimum criteria to be considered jurisdictional by the USACE, RWQCB, or CDFW. Furthermore, due to their extreme low quality and low function and value, the two round bottom swales would not likely meet the City's requirement for wetlands protection.

E. Wildlife Corridors and Linkages

Development in the region has reduced the total available open space for wildlife populations and, in some instances, created isolated "islands" of habitat. In general, wildlife corridors and linkages are smaller constrained areas of habitat that connect larger areas of habitat which are otherwise separated by rugged terrain, changes in vegetation, or urban development. This allows for an exchange of gene pools between wildlife populations, which increases the genetic viability of otherwise isolated populations. Wildlife corridors and linkages are especially important for species with large habitat ranges or seasonal migrations. A corridor is a specific route that is used for the movement and migration of species, and may be different from a linkage in that it represents a smaller or narrower avenue for movement. A linkage is an area of land that supports or contributes to the long-term movement of wildlife and genetic exchange by providing live-in habitat that connects to other habitat areas. Many linkages occur as stepping-stone linkages that are comprised of a fragmented archipelago arrangement of habitat over a linear distance. Corridors and linkages are comprised of land features which accommodate the movement of all sizes of wildlife, including large animals on a regional scale. Their contributing areas support adequate vegetation cover, providing visual continuity and long lines of sight, so as to encourage the use of the corridor by all types of wildlife.

Based on the City's MSCP Subarea Plan and the SanGIS Interactive Map, no known wildlife corridors or linkages occur on or in the immediate vicinity of the survey area. The survey area and immediate vicinity are constrained by existing developments and do not support habitat that would contribute substantially to the assembly and function of any local or regional wildlife corridors or linkages. The survey area is not located within or adjacent to any areas designated as Preserve under the City's MSCP

Subarea Plan. As described above, existing developments surround the immediate vicinity of the survey area. The little amount of habitat that remains has been reduced to small, fragmented, and low quality stands, which are disconnected and isolated from better quality habitat in the local and regional area. Animal species that require direct or less-constrained habitat connectivity along their travel routes would be challenged to find access to the habitat within the survey area and immediate vicinity. Although the general habitat in the immediate vicinity of the survey area could be used as potential stepping-stone habitat for certain migratory and resident birds, the habitat is highly disturbed and does not provide adequate cover or resources. Therefore, the survey area does not support habitat that would contribute substantially to the assembly and function of any local or regional wildlife corridors or linkages.

5.9.2 Regulatory Framework

5.9.2.1 Federal

A. Federal Endangered Species Act

The U.S. Congress passed the federal Endangered Species Act (ESA) in 1973 to provide a means for conserving the ecosystems that endangered and threatened species require in order to prevent species extinctions. The federal ESA has four major components: 1) Section 4, which provides for listing species and designating critical habitat; 2) Section 7, which requires federal agencies, in consultation with the USFWS, to ensure that their actions are not likely to jeopardize the continued existence of species or result in the modification or destruction of critical habitat; 3) Section 9, which prohibits “take” of listed species; and 4) Section 10, which provides for permitting incidental “take” of listed species. Under the federal ESA, the term “take” is defined as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in any such conduct.” Critical habitat is defined as "the specific areas within the geographic area occupied by a species on which are found those physical and biological features essential to the conservation of the species, and that may require special management considerations or protection; and specific areas outside the geographic area occupied by a species at the time it is listed, upon determination that such areas are essential for the conservation of the species.” Critical habitat has been designated for several species in Chula Vista.

B. Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) of 1918 (16 U.S. Code 703-711) implements an international treaty for the conservation and management of bird species that may migrate through more than one country. The MBTA protects all common wild birds found in the United States, except the house sparrow, starling, feral pigeon, and resident game birds such as pheasant, grouse, quail, and wild turkey. Enforced in the United States by the USFWS, the MBTA makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in 50 CFR Part 10, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR 21). Disturbance that causes nest abandonment and/or loss of reproductive effort (e.g., killing or abandonment of eggs or young) may be considered a “take” and is potentially punishable by fines and/or imprisonment. In 1972, the MBTA was amended to include protection for migratory birds of prey (raptors). Generally, applicants who obtain an ESA Section 10(a) permit simultaneously receive a three-year MBTA permit for ESA-listed migratory birds.

C. Federal Water Pollution Control Act (Clean Water Act)

The federal Water Pollution Control Act, passed by Congress in 1948, authorized the Surgeon General of the Public Health Service to prepare comprehensive programs for eliminating or reducing the pollution of interstate waters and tributaries and improving the sanitary condition of surface and underground waters. This Act was later amended to become the federal Water Pollution Control Act Amendments of 1972, commonly known as the CWA. The CWA was designed to restore and maintain the chemical, physical, and biological integrity of the waters of the United States and gave the USEPA the authority to implement pollution control programs, including setting wastewater standards for industry and water quality standards for contaminants in surface waters. The USEPA has delegated responsibility for implementation of portions of the CWA in California to the State Water Resources Control Board (SWRCB) and the nine RWQCBs, including water quality control planning and control programs.

The CWA also prohibits the discharge of any pollutants from a point source into navigable waters, except as allowed by permits issued under certain sections of the CWA. Specifically, Section 404 authorizes the USACE to issue permits for and regulate the discharge of dredged or fill materials into wetlands or other waters of the United States. Under the CWA and its implementing regulations, waters of the United States are broadly defined as rivers, creeks, streams, and lakes extending to their headwaters, including adjacent wetlands. Furthermore, Section 401 allows states to certify or deny federal permits or licenses that might result in a discharge to state waters, including wetlands. Section 401 certifications are issued by the RWQCB for activities requiring a federal permit or license that may result in the discharge of pollutants into waters of the United States.

5.9.2.2 State

A. California Fish and Game Code

The CFG Code regulates the taking or possession of birds, mammals, fish, amphibians, and reptiles, as well as natural resources such as wetlands and waters of the State. The CFG Code includes the California Endangered Species Act (CESA) (Sections 2050–2115) and Streambed Alteration Agreement regulations (Sections 1600–1616), which are both discussed in more detail below, as well as provisions for legal hunting and fishing, and tribal agreements for activities involving take of native wildlife. The CFG Code also includes protection of birds (Sections 3500 et seq.) and the California Native Plant Protection Act (NPPA) of 1977 (Sections 1900–1913), which directed the CDFW to carry out the Legislature's intent to "preserve, protect, and enhance rare and endangered plants in this State." In addition, Sections 2800 et seq. of the CFG Code addresses NCCP.

The CESA, which is administered by CDFW, is similar in many ways to the federal ESA. The CESA provides a process for the CDFW to list species as threatened or endangered in response to a citizen petition or by its own initiative (CFG Code Sections 2070 et seq.). Section 2080 prohibits the take of species listed as threatened or endangered pursuant to the CESA. Section 2081 allows the CDFW to authorize take prohibited under Section 2080 provided that 1) the taking is incidental to an otherwise lawful activity, 2) the taking will be minimized and fully mitigated, 3) the applicant ensures adequate funding for minimization and mitigation, and 4) the authorization will not jeopardize the continued existence of the listed species.

The Streambed Alteration Agreement regulations require any person, state, or local governmental agency to provide advance written notification to the CDFW prior to initiating any activity that would 1) divert or obstruct the natural flow of, or substantially change or remove material from the bed,

channel, or bank of any river, stream, or lake; or 2) result in the disposal or deposition of debris, waste, or other material into any river, stream, or lake (CFG Code Section 1602). The State definition of "rivers, streams, and lakes" includes all rivers or streams that flow at least periodically or permanently through a bed or channel with banks that support fish or other aquatic life, and watercourses with surface or subsurface flows that support or have supported riparian vegetation.

B. Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (California Water Code, Division 7) provides for statewide coordination of water quality regulations. The Act established the SWRCB as the statewide authority and nine separate RWQCBs to oversee smaller regional areas within the State. The Act authorizes the SWRCB to adopt, review, and revise policies for all waters of the State (including both surface and ground waters), and directs the RWQCBs to develop regional Basin Plans. Section 13170 of the California Water Code also authorizes the SWRCB to adopt water quality control plans on its own initiative. The San Diego Basin Plan (San Diego RWQCB 1994) is designed to preserve and enhance the quality of water resources in the San Diego region for the benefit of present and future generations. The purpose of the plan is to designate beneficial uses of the region's surface and ground waters, designate water quality objectives for the reasonable protection of those uses, and establish an implementation plan to achieve the objectives.

C. Natural Community Conservation Planning Act

The NCCP Act is designed to conserve natural communities at the ecosystem scale while accommodating compatible land uses. The CDFW is the principal state agency implementing the NCCP program. Sections 2800 et seq. of the CFG Code addresses NCCPs and a Section 2835 permit is issued by the CDFW for all NCCPs. The NCCP Act established a process to allow for comprehensive, regional multi-species planning in a manner that satisfies the requirements of the federal ESA and CESA (through a companion regional Habitat Conservation Plan). The NCCP program has provided the framework for innovative efforts by the State, local governments, and private interests to plan for the protection of regional biodiversity and the ecosystems upon which it depends. NCCPs seek to ensure the long-term conservation of multiple species, while allowing for compatible and appropriate economic activity to proceed.

5.9.2.3 Local

A. City of Chula Vista Multiple Species Conservation Program Subarea Plan

The Chula Vista MSCP Subarea Plan (City of Chula Vista 2003a) is a regional conservation plan prepared by the City pursuant to the NCCP Act and the San Diego MSCP Subregional Plan. The Subarea Plan generally identifies lands within Chula Vista for the purposes of conserving sensitive plant and wildlife species habitat. The Subarea Plan establishes a Preserve system within Chula Vista that encompasses habitat located within existing public and private lands that are already in preservation, as well as lands that will be acquired through the development entitlement process. As a participating jurisdiction in the MSCP subregional planning effort, the City approved the Subarea Plan in 2003 and adopted ordinance regulations in CVMC Title 17 as a condition of receiving an incidental take permit from the USFWS pursuant to Section 10(a)(1)(B) of the federal ESA and incidental take authorization from the CDFW pursuant to the CESA and Section 2835 of the CFG Code in 2005. Through the Subarea Plan approval process, the City was granted authority to allow for incidental take of certain plant and wildlife species

that are listed as threatened or endangered under the federal ESA and/or CESA. The Subarea Plan authorizes take in two ways: 1) it establishes Covered Projects for which take is authorized, and 2) for projects located within mapped Development Areas Outside of Covered Projects, take of covered species requires the issuance of a Habitat Loss and Incidental Take (HLIT) permit (described below).

B. City of Chula Vista Habitat Loss and Incidental Take Ordinance

The HLIT Ordinance (CVMC Chapter 17.35) establishes regulations for the protection and conservation of native habitats within Chula Vista and the viability of the species supported by those habitats. The HLIT regulations are intended to implement the City's MSCP Subarea Plan by placing priority on the preservation of biological resources within the planned and protected Preserve. As part of the project entitlement and environmental review process with the City, project applicants are required to obtain a HLIT permit from the City for projects occurring within the following mapped areas identified in the City's MSCP Subarea Plan, unless otherwise exempt pursuant to CVMC Section 17.35.050: 100 Percent Conservation Areas, 75 to 100 Percent Conservation Areas, and Development Areas Outside of Covered Projects. Mitigation for project impacts to sensitive biological resources, such as sensitive natural vegetation and wetlands, is addressed during the HLIT permit process. Permanent impacts to sensitive natural vegetation are required to be mitigated pursuant to the mitigation standards contained in Table 5-3 of the City's MSCP Subarea Plan. Impacts to wetlands are required to be mitigated pursuant to Section 5.2.4 and Table 5-6 of the City's MSCP Subarea Plan, as discussed in more detail below.

Wetlands protection is addressed during the HLIT permit process, whereby applicants are required to prepare and submit documentation to evaluate proposed developments in relation to sensitive wetlands and propose mitigation. As part of the CEQA review, development projects that contain wetlands are required to demonstrate that impacts to wetlands have been avoided and minimized to the greatest extent practicable. In general, all jurisdictional waters under state and federal regulations are addressed as City wetlands. For unavoidable impacts to wetlands, the City will apply the wetlands mitigation ratios identified in Table 5-6 of the City's MSCP Subarea Plan and follow the Wetlands Protection Program procedures identified Section 5.2.4 of the City's MSCP Subarea Plan. The wetlands mitigation ratios provide a standard for each habitat type, but may be adjusted depending on the functions and values of both the impacted wetlands as well as the wetlands mitigation proposed by a project. The City may also consider the wetland habitat type(s) being impacted and utilized for mitigation in establishing whether the City's MSCP Subarea Plan standards have been met.

5.9.3 Criteria for Determination of Significance

According to Appendix G of the CEQA Guidelines, a significant impact related to biological resources would occur if implementation of the proposed project would:

- Criterion 1: Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS.
- Criterion 2: Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the CDFW or USFWS.
- Criterion 3: Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool,

coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

- Criterion 4: Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.
- Criterion 5: Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.
- Criterion 6: Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

5.9.4 Impacts

5.9.4.1 Special-Status Species

Criterion 1: Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the CDFW or USFWS?

A. Special-Status Plant Species

No special-status plant species were determined to have a high potential to occur within the survey area due to lack of suitable habitat and other factors. Additionally, no special-status plant species were observed within the survey area during the general biological survey in January 2012. Where vegetation is present within the survey area, it is dominated by non-native plant species typical of ornamental landscaping and disturbed areas, which do not provide suitable conditions for special-status plants. The underlying soils within the survey area are highly disturbed and not known to be specifically associated with any special-status plant species. Future development associated with PGDSP build-out would primarily occur within existing developed areas and would result in limited direct impacts to undeveloped habitat that is highly disturbed, surrounded by existing developments, and generally unsuitable for special-status plants. Therefore, PGDSP implementation is not anticipated to result in any impacts to special-status plant species based on the current existing conditions and findings of the January 2012 general biological survey. The results of biological surveys are generally considered to be valid for a period of one year by the USFWS and CDFW.

As discussed in Section 5.9.1.1 above, the majority of the PGD is comprised of developed land, which is not suitable for any special-status species. Of the remaining undeveloped areas, a substantial portion is characterized by disturbed land that is highly degraded, fragmented, and unlikely to support any sensitive biological resources under present and future conditions, including special-status species. As such, future PGDSP development proposals within those portions of the PGD characterized by developed land or disturbed land would not be expected to have any impact on biological resources, and updated, project-level biological resources surveys and reports would not be warranted for these areas. The biological survey results and findings in this document would not be required to be repeated and would be considered adequate to inform future development proposals within the portions of the PGD characterized by developed land or disturbed land.

However, as discussed in Section 5.9.1.2 above, limited portions of the PGD were determined to support non-native grassland or disturbed wetland habitat, which are designated under the City's MSCP Subarea Plan as sensitive Tier III and Wetland habitat types, respectively. Wetland habitats are further regulated as jurisdictional resources under federal and state policy. Therefore, project applicants of future PGDSP development proposals within those portions of the PGD that are characterized by non-native grassland or disturbed wetland habitat may be required to provide an updated, project-level biological resources survey and report to document the current conditions and biological resources impacts associated with each specific project. As depicted within Figure 5.9-1, the sub-districts within the PGD that support non-native grassland and disturbed wetland include the Palomar Mixed Use Corridor Sub-district (MU-2) and Palomar Residential Village Sub-district (PRV). If deviations to the findings of the January 2012 general biological survey are not documented and addressed in subsequent project-level studies, future PGDSP development projects could result in potentially significant impacts to special-status plant species.

B. Special-Status Animal Species

No special-status animal species were determined to have a high potential to occur within the survey area. Future development associated with PGDSP build-out would result in limited direct impacts to existing habitat that is highly disturbed and generally unsuitable for most special-status animal species. Much of the existing habitat within the areas planned for development occurs within land that has been severely degraded and fragmented. The existing undeveloped land is highly disturbed, surrounded by existing development, locally and regionally isolated, and relatively small in size, and would not be expected to support any special-status animal species. Therefore, PGDSP implementation is not anticipated to result in any impacts to special-status animal species based on the current existing conditions and findings of the January 2012 general biological survey. The results of biological surveys are generally considered to be valid for a period of one year by the USFWS and CDFW.

As stated above for special-status plant species, project applicants of future PGDSP development proposals within those portions of the MU-2 and PRV sub-districts that are characterized by non-native grassland or disturbed wetland habitat may be required to provide an updated, project-level biological resources survey and report to document the current conditions and biological resources impacts associated with each specific project. If deviations to the findings of the January 2012 general biological survey are not documented and addressed in subsequent project-level studies, future PGDSP development projects could result in potentially significant impacts to special-status animal species.

C. Nesting Birds

Although no special-status animal species would be expected to occur, the survey area and immediate vicinity contain trees, shrubs, and man-made structures (e.g., buildings) that provide suitable nesting habitat for common (non-sensitive) birds, including common raptors, protected under the MBTA and CFG Code. Future PGDSP development projects could result in the removal or trimming of trees and shrubs during the general bird nesting season (January 15 through August 31). Direct impacts could occur as a result of removal of vegetation supporting an active nest. Indirect impacts could occur as a result of construction noise and vibration in the immediate vicinity of an active nest, such that the disturbance results in a nest failure. Therefore, PGDSP implementation would result in potentially significant impacts to nesting birds in violation of the MBTA and CFG Code.

D. Raptor Foraging

Future PGDSP development projects within portions of the MU-2 and PRV sub-districts could result in the removal of non-native grassland that provides marginal foraging opportunities for raptors known to occur in the region. The potential loss of raptor foraging habitat at this location is not anticipated to have a substantial adverse effect on the long-term survival of any raptor species due to the relatively small size and poor quality of the existing habitat and the presence of additional raptor foraging habitat in the local area. However, direct impacts to non-native grassland, which is designated under the City's MSCP Subarea Plan as sensitive Tier III habitat type, would be considered significant, as discussed in Section 5.9.4.2 below.

5.9.4.2 Sensitive Natural Communities

Criterion 2: Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the CDFW or USFWS?

Table 5.9-5 below provides a summary of the sensitive natural communities that occur within the PGD based on the January 2012 general biological survey and the associated mitigation ratios identified in the City's MSCP Subarea Plan. Much of the existing non-native grassland and disturbed wetland habitat that remains within the PGD has been previously disturbed. The remaining habitat is of very low quality and biological function and value, and is not likely to support any special-status species.

Table 5.9-5 Sensitive Natural Communities and Required Mitigation Ratios

Vegetation Community	Habitat Tier	Existing Acres	Required Mitigation Ratio[1]
Non-Native Grassland	Tier III	8.42	0.5:1 to 1:1
Disturbed Wetland	Wetland	0.68	1:1 to 2:1

[1] Mitigation ratios are derived from Table 5-3 and Table 5-6 of the City's MSCP Subarea Plan and are subject to change at the discretion of the City or other approving agencies.

Source: Atkins 2012b

Although the majority of future PGDSP development impacts would occur on existing developed land or disturbed land, PGDSP build-out could result in impacts to the existing 8.42 acres of non-native grassland and 0.68-acre of disturbed wetland habitat within the MU-2 and PRV sub-districts, which are designated under the City's MSCP Subarea Plan as sensitive Tier III and Wetland habitat types, respectively. Future PGDSP development projects in these areas could result in the removal of the existing non-native grassland and disturbed wetland habitat. Despite the low quality of the existing habitat, impacts resulting in the permanent loss of sensitive Tier III and Wetland habitat types would be considered significant per the City's MSCP Subarea Plan. Future PGDSP project construction could also occur immediately adjacent to non-native grassland and disturbed wetland habitat. Construction activities could result in adverse impacts due to inadvertent encroachment into adjacent habitat by construction vehicles and personnel. Therefore, PGDSP implementation would result in potentially significant direct impacts to sensitive natural communities.

Construction and operational activities associated with future PGDSP development projects located immediately upstream and upslope of non-native grassland and disturbed wetland habitat could result in adverse water quality-related indirect impacts due to the inadvertent placement of contaminants that could enter the existing stream course and discharge into downstream habitat. However, as discussed in

further detail in Section 5.10, Hydrology and Drainage, future PGDSP development projects would be required to comply with NPDES permits and the Chula Vista Development Storm Water Manual pursuant to the City's Storm Water Management and Discharge Control Ordinance (CVMC Chapter 14.20). These regulations require implementation of construction and permanent BMPs to minimize sediment and other pollutants in storm water and non-storm water discharges, thereby preventing degradation of downstream water quality. Therefore, potential water quality-related indirect impacts to sensitive natural communities would be less than significant.

5.9.4.3 Wetlands

Criterion 3: Would the project have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

Although the majority of future PGDSP development impacts would occur on existing developed land or disturbed land, PGDSP build-out could result in impacts to the existing 0.68-acre of disturbed wetland habitat within the MU-2 and PRV sub-districts, which is designated under the City's MSCP Subarea Plan as sensitive Wetland habitat. In addition, all or portions of the existing disturbed wetland habitat could support the physical characteristics to be considered waters of the United States under the regulatory jurisdiction of the USACE pursuant to Section 404 of the CWA; waters of the State under the regulatory jurisdiction of the RWQCB pursuant to Section 401 of the CWA and the Porter-Cologne Water Quality Control Act; and/or jurisdictional streambed under the regulatory jurisdiction of the CDFW pursuant to CFG Code Sections 1600 et seq. Temporary and permanent fills, discharges, and dredging associated with future PGDSP project construction or operation activities in jurisdictional wetlands would be considered significant. Future PGDSP project construction could also occur immediately adjacent to existing jurisdictional wetlands. Construction activities could result in adverse impacts due to inadvertent encroachment into adjacent wetlands by construction vehicles and personnel. Therefore, PGDSP implementation would result in potentially significant direct impacts to wetlands.

Construction and operational activities associated with future PGDSP development projects located immediately upstream and upslope of existing jurisdictional wetlands could result in adverse water quality-related indirect impacts due to the inadvertent placement of contaminants that could enter the existing stream course and discharge into downstream habitat. However, as discussed in further detail in Section 5.10, Hydrology and Drainage, future PGDSP development projects would be required to comply with NPDES permits and the Chula Vista Development Storm Water Manual pursuant to the City's Storm Water Management and Discharge Control Ordinance (CVMC Chapter 14.20). These regulations require implementation of construction and permanent BMPs to minimize sediment and other pollutants in storm water and non-storm water discharges, thereby preventing degradation of downstream water quality. Therefore, potential water quality-related indirect impacts to wetlands would be less than significant.

5.9.4.4 Wildlife Movement and Nursery Sites

Criterion 4: Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

No known wildlife corridors or linkages occur on or in the immediate vicinity of the survey area. The survey area and immediate vicinity are constrained by existing developments and do not support habitat that would contribute substantially to the assembly and function of any local or regional wildlife corridors or linkages. The closest known corridor or linkage occurs approximately 0.5 mile south of the survey area within the Otay River Valley, which has been designated as a Significant Biological Linkage under the City's MSCP Subarea Plan. The survey area is separated and disconnected from this Significant Biological Linkage by existing developments. Therefore, future development associated with PGDSP build-out would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, including linkages identified in the City's MSCP Subarea Plan, or impede the use of native wildlife nursery sites. Impacts to wildlife movement and nursery sites resulting from PGDSP implementation would be less than significant.

5.9.4.5 Local Policies, Ordinances, and Adopted Conservation Plans

Criterion 5: Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Criterion 6: Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

The City's MSCP Subarea Plan, which was prepared pursuant to the NCCP Act and the San Diego MSCP Subregional Plan, was adopted on May 13, 2003, and development regulations have been incorporated into the HLIT Ordinance (CVMC Chapter 17.35). The PGD lies within the boundaries of the City's MSCP Subarea Plan, within Development Areas Outside of Covered Projects and outside of the Preserve area. Based on the findings of the January 2012 general biological survey, PGDSP implementation is not expected to result in impacts to any special-status plant or animal species, including MSCP-covered species, other listed noncovered species, or narrow endemic species, and would not result in impacts to any wildlife corridors or linkages, including lands identified within the City's MSCP Subarea Plan as Significant Biological Linkages or other areas of local or regional wildlife movement importance.

As discussed in Section 5.9.4.1 above, project applicants of future PGDSP development proposals within those portions of the MU-2 and PRV sub-districts that are characterized by non-native grassland or disturbed wetland may be required to provide an updated, project-level biological resources survey and report to document the current conditions and biological resources impacts associated with each specific project. If deviations to the findings of the January 2012 general biological survey are not documented and addressed in subsequent project-level studies, future PGDSP development projects could result in potentially significant impacts to special-status plant and animal species.

As discussed in Section 5.9.4.2, future PGDSP development projects within portions of the MU-2 and PRV sub-districts could result in impacts to Non-native grassland and disturbed wetland habitat, which are designated under the City's MSCP Subarea Plan as sensitive Tier III and Wetland habitat types,

respectively. Failure of future PGDSP development projects to mitigate such impacts would conflict with the provisions City's MSCP Subarea Plan.

Furthermore, due to the fact that future development associated with PGDSP build-out would be located within Development Areas Outside of Covered Projects and could result in impacts to sensitive Tier III and Wetland habitat types, future PGDSP development projects within those portions of the MU-2 and PRV sub-districts that are characterized by non-native grassland or disturbed wetland would be subject to the HLIT Ordinance (CVMC Chapter 17.35) and Wetland Protection Program (Section 5.2.4 of the City's MSCP Subarea Plan) requirements. Failure of future PGDSP development projects to apply for and obtain a HLIT permit from the City, if required, would conflict with CVMC Chapter 17.35. Therefore, PGDSP implementation would result in potentially significant impacts related to local policies, ordinances, and adopted conservation plans.

5.9.5 Level of Significance Prior to Mitigation

5.9.5.1 Special-Status Species

Future PGDSP development projects would result in potentially significant impacts to special-status plant and animal species if project applicants of future PGDSP development proposals within those portions of the MU-2 and PRV sub-districts that are characterized by non-native grassland or disturbed wetland do not provide an updated, project-level biological resources survey and report to document the current conditions and biological resources impacts associated with each specific project. In addition, implementation of the proposed PGDSP would result in potentially significant impacts to nesting birds that are protected under the MBTA and CFG Code.

5.9.5.2 Sensitive Natural Communities

Future PGDSP development projects within portions of the MU-2 and PRV sub-districts that are characterized by non-native grassland or disturbed wetland would have the potential to result in the loss of these sensitive natural communities from development activities. Therefore, PGDSP implementation would result in potentially significant impacts to sensitive natural communities. Due to compliance with NPDES permits and the Chula Vista Development Storm Water Manual pursuant to the City's Storm Water Management and Discharge Control Ordinance (CVMC Chapter 14.20), potential water quality-related indirect impacts to sensitive natural communities would be less than significant.

5.9.5.3 Wetlands

Future PGDSP development projects within portions of the MU-2 and PRV sub-districts containing disturbed wetland would have the potential to result in the loss of these wetlands from development activities. Therefore, PGDSP implementation would result in potentially significant impacts to wetlands. Due to compliance with NPDES permits and the Chula Vista Development Storm Water Manual pursuant to the City's Storm Water Management and Discharge Control Ordinance (CVMC Chapter 14.20), potential water quality-related indirect impacts to wetlands would be less than significant.

5.9.5.4 Wildlife Movement and Nursery Sites

Future development associated with PGDSP build-out would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident

or migratory wildlife corridors, including linkages identified in the City's MSCP Subarea Plan, or impede the use of native wildlife nursery sites. Impacts to wildlife movement and nursery sites resulting from PGDSP implementation would be less than significant.

5.9.5.5 Local Policies, Ordinances, and Adopted Conservation Plans

Prior to mitigation, future PGDSP development projects within those portions of the MU-2 and PRV sub-districts that are characterized by non-native grassland or disturbed wetland would have the potential to conflict with the City's MSCP Subarea Plan and CVMC Chapter 17.35. Therefore, PGDSP implementation would result in potentially significant impacts related to conflicts with local policies, ordinances, and adopted conservation plans.

5.9.6 Mitigation Measures

5.9.6.1 Special-Status Species

Implementation of mitigation measures 5.9-1 and 5.9-2 would reduce potential impacts to special-status species to a less than significant level.

5.9-1 **Project-Level Biological Resources Surveys and Reporting.** During the design and environmental review phase, and prior to the construction of future PGDSP development projects that include those portions of the Palomar Mixed Use Corridor Sub-District (MU-2) and Palomar Residential Village Sub-District (PRV) characterized by non-native grassland or disturbed wetland, as depicted on Figure 5.9-1, project applicants shall retain a City-approved biologist to conduct an updated, project-level biological resources technical study of the proposed PGDSP project site, to include an updated biological survey and report prepared in accordance with the City's MSCP Subarea Plan and HLIT Ordinance. The updated biological survey shall include an inventory of the current existing condition at the proposed PGDSP project site and verify whether the project would occur on or in the immediate vicinity of sensitive natural habitat, including wetlands, in addition to habitat suitable for special-status species. The updated biological resources report shall provide documentation of the results of the updated biological survey, and shall also identify potential direct and indirect impacts to sensitive biological resources and project-level measures to mitigate the potential impacts. The updated biological resources report shall be submitted to the City in support of CEQA documentation and the issuance of any subsequent discretionary actions or permits identified for the future development proposal.

5.9-2 **Pre-Construction Nesting Bird Surveys.** To avoid any direct impacts to raptors and/or any migratory birds, removal of habitat that supports active nests on the proposed area of disturbance should occur outside of the breeding season for these species (January 15 to August 31). If removal of habitat on the proposed area of disturbance must occur during the breeding season, project applicants shall retain a City-approved biologist to conduct a pre-construction survey to determine the presence or absence of nesting birds on the proposed area of disturbance. The pre-construction survey must be conducted within 10 calendar days prior to the start of construction activities (including removal of vegetation). Project applicants shall submit the results of the pre-construction survey to the City for review and approval prior to initiating any construction activities. If nesting birds are detected, a letter report or mitigation plan as deemed appropriate by the City, shall be prepared and include

proposed measures to be implemented to ensure that disturbance of breeding activities is avoided. The report or mitigation plan shall be submitted to the City for review and approval and implemented to the satisfaction of the City. The City's Mitigation Monitor shall verify and approve that all measures identified in the report or mitigation plan are in place prior to and/or during construction.

5.9.6.2 Sensitive Natural Communities

Implementation of mitigation measure 5.9-1 (described above), in addition to mitigation measures 5.9-3 and 5.9-4 (described below), would reduce potential impacts to sensitive natural communities to a less than significant level.

5.9-3 **In-Kind Habitat-Based Compensatory Mitigation.** Permanent and temporary impacts to non-native grassland and disturbed wetland habitat associated with future PGDSP development projects in the MU-2 and PRV sub-districts shall be mitigated by the project applicant in-kind (i.e., the same type of habitat as that which is impacted), or an alternative type of habitat which provides equivalent or superior mitigation, through implementation of any one or combination of the following measures, as approved and/or amended by the USACE, RWQCB, and/or CDFW in federal and state permits or by the City during the HLIT permit and Wetlands Protection Program processes, as applicable:

i. On-site as creation of new habitat within avoided and preserved areas at the project site;

ii. On-site as restoration of existing habitat within temporary impact areas and/or avoided and preserved areas at the project site;

iii. On-site as enhancement of existing habitat within avoided and preserved areas at the project site;

iv. Off-site as purchase of habitat credits from a City-approved off-site mitigation bank in the region, as determined through agreements with the City. Unless otherwise required by the City, USACE, RWQCB, and/or CDFW, the mitigation shall include off-site areas located within the boundaries of the City's MSCP Subarea Plan;

v. Off-site as acquisition of land for the purposes of habitat preservation, creation, restoration, and/or enhancement within other properties or approved mitigation programs available at the time of grading. Unless otherwise required by the City, USACE, RWQCB, and/or CDFW, the mitigation shall include off-site areas located within the boundaries of the City's MSCP Subarea Plan; or

vi. A combination of the above.

In-kind habitat-based mitigation for impacts to non-native grassland shall be mitigated at a ratio of 0.5:1 (i.e., 0.5 acre of mitigation land for every 1.0 acre of habitat impacted) to 1:1. The required mitigation ratio for non-native grassland shall be 0.5:1 if the mitigation will occur within a designated Preserve area under the City's MSCP Subarea Plan, and 1:1 if the mitigation will occur outside of a designated Preserve area, such as on-site.

In-kind habitat-based mitigation for impacts to disturbed wetland shall be mitigated at a ratio of 1:1 to 2:1 to ensure there is no-net-loss, as determined through agreements with

the City, and if required, through the acquisition of federal and state permits from the USACE, RWQCB, and/or CDFW.

Prior to the issuance of any land development permits (including clearing and grubbing or grading permits) for projects requiring on- or off-site creation, restoration, and/or enhancement mitigation, project applicants shall prepare a restoration plan for impacts to sensitive biological resources. The restoration plan shall be prepared by a City-approved biologist and to the satisfaction of the City's Development Services Director (or his designee). The restoration plan shall include, at a minimum, an implementation strategy, appropriate seed mixtures and planting method; irrigation; quantitative and qualitative success criteria; maintenance, monitoring, and reporting program; estimated completion time; and contingency measures. Project applicants shall also be required to implement the restoration plan subject to the oversight and approval by the City's Development Services Director (or his designee). If required, restoration plans prepared for wetland habitat mitigation shall be approved by the USACE, RWQCB, and/or CFDG prior to vegetation clearing, grading, and/or construction activities.

Project applicants shall be required to record a biological open space easement or conservation easement over land that is to be used as mitigation, if such an easement does not already exist, designating it as a preserve for biological conservation purposes. Mitigation proposed within the City shall be accompanied with an conservation easement or other mechanism approved by the City, USFWS, USACE, RWQCB, and/or CDFW, as appropriate, as being sufficient to insure that lands are protected in perpetuity.

In the event that a project applicant is unable to secure mitigation through an established mitigation bank approved by the City and Wildlife Agencies, the project applicant shall secure the required mitigation through the conservation of an area containing in-kind habitat within the City's MSCP Subarea Plan or MSCP Planning Area in accordance with the mitigation ratios contained in Table 5-3 of the City's MSCP Subarea Plan and subject to Wildlife Agency concurrence.

5.9-4 **Construction Fencing.** Prior to issuance of any land development permit, and to the satisfaction and oversight of the City's Development Services Director (or his designee), the applicant shall secure the parcel(s) that will be permanently preserved for in-kind habitat impact mitigation, prepare a long-term Management and Monitoring Plan (MMP) for the mitigation area, secure an appropriate management entity to ensure that long-term biological resource management and monitoring of the mitigation area is implemented in perpetuity, and establish a long-term funding mechanism for the management and monitoring of the mitigation area in perpetuity.

The long-term MMP shall provide management measures to be implemented to sustain the viability of the preserved habitat and identify timing for implementing the measures prescribed in the MMP. The mitigation parcel shall be restricted from future development and permanently preserved through the recordation of a conservation easement or other mechanism approved by the Wildlife Agencies as being sufficient to insure that the lands are protected in perpetuity. The conservation easement or other mechanism approved by the Wildlife Agencies shall be recorded prior to issuance of any land development permits.

The project applicant shall be responsible for maintaining the biological integrity of the mitigation area and shall abide by all management and monitoring measures identified in the MMP until such time as the established long-term funding mechanism has generated sufficient revenues to enable a City-approved management entity to assume the long-term maintenance and management responsibilities.

5.9.6.3 Wetlands

Implementation of mitigation measures 5.9-1, 5.9-3 and 5.9-4 (described above), in addition to mitigation measures 5.9-5 and 5.9-6 (described below), would reduce potential impacts to wetlands to a less than significant level.

5.9-5 **Project-Level Wetland Delineation Studies.** Prior to construction of future PGDSP development projects within portions of the MU-2 and PRV sub-districts that could result in impacts to disturbed wetland habitat, project applicants shall retain a qualified biologist to perform a formal wetland delineation in order to qualify and quantify existing wetland resources potentially subject to the regulatory jurisdiction of the USACE, RWQCB, and/or CDFW. Wetland delineations shall be conducted according to the methodologies and current regulatory guidance recommended by these agencies. The results of the wetland delineation shall be documented in a report to determine project impacts and avoidance, and if required, facilitate the acquisition of federal and state permits.

5.9-6 **Wetland Permits.** Prior to construction of future PGDSP development projects within portions of the MU-2 and PRV sub-districts that have been confirmed to result in potential impacts to jurisdictional wetlands, as identified through implementation of mitigation measure 5.9-5 above, project applicants shall obtain the required federal and state permits from the USACE, RWQCB, and/or CDFW, as specified below:

i. An application for a Nationwide or Individual Permit, depending upon the extent of impacts, shall be submitted by the project applicant to the USACE pursuant to Section 404 of the CWA. If required, the project applicant shall obtain a Nationwide or Individual Permit from the USACE for all impacts, temporary and/or permanent, to any areas within the proposed project which are determined to qualify as waters of the United States subject to USACE jurisdiction.

ii. For any future PGDSP development projects requiring a federal license or permit to construct or operate, which may result in any discharge into waters of the United States, the project applicant shall submit to the RWQCB a request for Water Quality Standards Certification pursuant to Section 401 of the CWA to confirm that the discharge would comply with applicable water quality and discharge provisions.

iii. A Notification of Lake or Streambed Alteration shall be submitted by the project applicant to the CDFW pursuant to CFG Code Section 1602. If required, a Streambed Alteration Agreement shall be obtained from the CDFW for all impacts, temporary and/or permanent, to any areas within the project which are determined to qualify as streambed and/or riparian subject to CDFW jurisdiction.

In accordance with permit requirements, project applicants shall mitigate the loss of jurisdictional wetlands through the implementation of the in-kind habitat-based compensatory mitigation proposed within mitigation measure 5.9-3 above, unless otherwise

conditioned by the USACE, RWQCB, and CDFW in federal and state permits or by the City during the HLIT permit and Wetlands Protection Program processes.

5.9.6.4 Wildlife Movement and Nursery Sites

No mitigation measures are required.

5.9.6.5 Local Policies, Ordinances, and Adopted Conservation Plans

Implementation of mitigation measures 5.9-1, 5.9-3, 5.9-4, 5.9-5, and 5.9-6 (described above), in addition to mitigation measure 5.9-7 (described below), would reduce potential impacts related to local policies, ordinances, and adopted conservation plans to a less than significant level.

5.9-7 **Habitat Loss and Incidental Take Permit.** Prior to construction of future PGDSP development projects within portions of the MU-2 and PRV sub-districts that could result in impacts to non-native grassland (Tier III) and disturbed wetland (Wetland) habitat, project applicants shall submit for approval to the City of Chula Vista an application for a HLIT permit, to include all relevant submittal requirements and required findings in accordance with CVMC Chapter 17.35. Project applicants shall provide all necessary information to allow the City to take action on the HLIT permit application and meet the required findings for an HLIT permit to be issued.

In accordance with HLIT permit requirements, project applicants shall mitigate the loss of non-native grassland (Tier III) and disturbed wetland (Wetland) habitat through the implementation of the in-kind habitat-based compensatory mitigation proposed within mitigation measure 5.9-3, unless otherwise conditioned by the USACE, RWQCB, and CDFW in federal and state permits through the implementation of mitigation measure 5.9-6.

5.9.7 Level of Significance after Mitigation

With implementation of mitigation measures 5.9-1 through 5.9-7, impacts to biological resources resulting from implementation of the proposed PGDSP would be reduced to below a level of significance.

5.10 Hydrology and Drainage

The analysis in this section of the EIR addresses the potential impacts associated with water quality degradation, groundwater depletion, drainage alterations, and flood hazards that would result from implementation of PGDSP. The following discussion of hydrology and drainage is based on information provided in Section 5.9 of the Chula Vista General Plan Update EIR (available for review at the City of Chula Vista Development Services Department at 276 Fourth Avenue; at the Chula Vista Civic Center Library at 365 F Street; and on the City of Chula Vista website at www.chulavistaca.gov), which is incorporated by reference pursuant to CEQA Guidelines Section 15150.

5.10.1 Existing Conditions

5.10.1.1 Hydrologic Setting

The PGD is located in the San Diego Bay watershed, which encompasses a 415-square-mile area that extends more than 50 miles to the east to the Laguna Mountains. The watershed lies at sea level at San Diego Bay and reaches a maximum elevation of approximately 6,000 feet above MSL at the eastern boundary. The majority of the watershed land area generally lies north of the border with Mexico and south of I-8. The headwaters of the watershed begin in the unincorporated area of the County and then transect all or portions of seven cities, including Chula Vista.

The PGD is located within the Otay Hydrologic Unit of the San Diego Bay watershed (San Diego RWQCB 1994). The Otay Hydrologic Unit encompasses approximately 160 square miles in southwest San Diego County and is one of the three hydrologic units that discharge to San Diego Bay. The Otay Hydrologic Unit consists largely of unincorporated areas within the San Diego County, but also includes portions of the cities of Chula Vista, Imperial Beach, Coronado, National City, and San Diego. The predominant land uses in this hydrologic unit are open space (67 percent) and urban/residential (20 percent). Approximately 36 square miles of this hydrologic unit is part of the MSCP effort that provides habitat for a wide range of endangered plant and animal species. Other important conservation areas within this hydrologic unit include the San Diego National Wildlife Refuge, the Rancho Jamul Ecological Preserve, and the vernal pool lands in the region. The major inland hydrologic features of the Otay Hydrologic Unit are Upper and Lower Otay Lakes, two water supply reservoirs that also provide important habitat and recreation opportunities. The PGD is located downstream of the Otay Lakes. Otay River and San Diego Bay are the other major water bodies in this hydrologic unit. From west to east, the Otay Hydrologic Unit is made up of the Coronado, Otay Valley, and Dulzura hydrologic areas. The PGD lies within the Otay Valley Hydrologic Area (Basin 910.20).

5.10.1.2 Surface Water

There are no major surface water bodies within the PGD. The receiving waters for drainage from the PGD are Otay River and San Diego Bay. Otay River, which is located approximately 0.5 mile south of the PGD, flows west from the Otay Lakes into San Diego Bay. San Diego Bay is located approximately 0.5 mile west of the PGD. San Diego Bay has been extensively developed as a port, such that 90 percent of the original mudflats have been filled or dredged for development. Watercourses feeding San Diego Bay have historically included Sweetwater River, Otay River, Chollas Creek, Paleta Creek, Paradise Creek, and Switzer Creek; however, construction of dams and extensive use of groundwater has reduced input into San Diego Bay from these watercourses by 76 percent. The majority of freshwater input into San Diego Bay comes instead from surface runoff of developed areas and from intermittent flows of rivers

and creeks during rain events. The existing quality of surface runoff in the PGD is typical of urban areas. Typical pollutants found in urban runoff include metals, sediment, pesticides, hydrocarbons, nutrients (phosphates and nitrates), surfactants, bacteria, and pathogens. Urban runoff comprises the predominant source of water quality degradation in the watershed.

5.10.1.3 Groundwater

Nearly all of the local groundwater basins of the San Diego region have been intensely developed for municipal and agricultural supply purposes. In Chula Vista, groundwater has historically been used for drinking water and agriculture; however, due to depletion and decreased water quality, it is currently used in limited cases. According to the Otay River Watershed Management Plan (Aspen Environmental Group 2006), previous investigations of groundwater in the San Diego region have generally not considered the Otay River watershed as a major source of groundwater. Groundwater depths vary throughout the local groundwater basin depending upon topography and underlying geologic formations. The PGD is underlain by Quaternary-age marine terrace deposit sediments of the Bay Point Formation together with unnamed nearshore marine sandstone. Unconsolidated alluvium of the Bay Point Formation are found along the coastal plain, but as a rule these sediments are located above the water table and are non-water bearing (Aspen Environmental Group 2006). As such, groundwater in the PGD is expected to be moderately deep; however, perched water conditions due to irrigation and runoff may also be present. The direction of groundwater flow is generally toward the west, with significant local variations.

5.10.1.4 Drainage

Surface watercourses and surface runoff within the San Diego Bay watershed generally flow west, ultimately discharging into San Diego Bay. Storm water and urban runoff within the San Diego Bay watershed is conveyed to San Diego Bay via a network of over 200 storm drains. The City of Chula Vista operates and maintains its own drainage and flood control facilities. This system is made up of improved and unimproved flood control channels, storm drains, bridge crossings, detention basins, approximately 312 miles of existing storm drain pipelines of various sizes, and various other facilities. The condition of the overall drainage system is continually monitored for any major deficiencies or problems. Of primary concern in the existing system is the Montgomery Subarea of the Southwest Planning Area, which contains the PGD. Street and drainage improvements, such as curbs, gutters, and sidewalks, are lacking throughout the subarea, resulting in both drainage and pavement-related problems.

5.10.1.5 Flood Hazards

The Federal Emergency Management Agency (FEMA) has mapped zones of anticipated flooding based on base flood elevations for 100- and 500-year flood events, as presented on Flood Insurance Rate Maps (FIRM). According to FIRM Map Number 06073C2012F (FEMA 1997), the PGD is located within Zone X, which designates areas determined to be outside the 0.2 percent annual chance (500-year) floodplain, and thus outside the 100-year flood hazard area. The PGD is also located outside potential zones of inundation due to dam failure (City of Chula Vista 2005a).

5.10.2 Regulatory Framework

5.10.2.1 Federal

A. Clean Water Act

The CWA is the primary federal law that protects our nation's waters, including lakes, rivers, aquifers, and coastal areas. CWA Section 401 requires that any applicant for a federal permit to conduct any activity, including the construction or operation of a facility, which may result in the discharge of any pollutant, must obtain certification from the state. CWA Section 402 establishes the NPDES program to regulate both point source and nonpoint source discharges of pollutants to surface waters of the U.S. In California, the SWRCB and its RWQCBs administer the NPDES program and issue permits (described below). CWA Section 404 establishes a permit program to regulate the discharge of dredged material into waters of the U.S.

Section 303 of the CWA requires states to identify surface waters that have been impaired. Under Section 303(d), states, territories, and authorized tribes are required to develop a list of water quality segments that do not meet water quality standards, even after point sources of pollution have installed the minimum required levels of pollution control technology. The Section 303(d) List of Water Quality Limited Segments identifies the San Diego Bay Shoreline at Bayside Park as impaired due to indicator bacteria (enterococcus and total coliform) and the San Diego Bay Shoreline at Chula Vista Marina as impaired due to copper. In addition, San Diego Bay is generally listed as impaired due to polychlorinated biphenyls (PCBs). Otay River is not included on the Section 303(d) List.

5.10.2.2 State

A. Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (California Water Code, Division 7) provides for aesthetic values, fish and wildlife preservation, water reclamation, and comprehensive planning and regulation to attain the highest "reasonable" water quality in consideration of conflicting demands. The Porter-Cologne Water Quality Control Act established the responsibilities and authorities of the SWRCB and the nine RWQCBs, and directed each RWQCB to formulate and adopt a water quality control plan for all areas within their region. The San Diego RWQCB governs regional water quality issues for the San Diego region, including the City of Chula Vista.

B. NPDES Construction General Permit

Construction activities that result in a land disturbance of equal to or greater than one acre (and projects that meet other specific criteria) must comply with the NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit), which is governed by the SWRCB under Order No. 2010-0014-DWQ, NPDES No. CAS000002. Each RWQCB enforces the Construction General Permit for projects within its region. The Construction General Permit for future PGDSP development projects would be overseen by the San Diego RWQCB. It is the responsibility of the landowner to obtain coverage under the Construction General Permit prior to commencement of construction activities. To obtain coverage, the owner must file a Notice of Intent (NOI) with a vicinity map and the appropriate fee to the RWQCB.

The Construction General Permit outlines the requirements for preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP) for individual construction projects. The SWPPP has two major objectives: 1) to help identify the sources of sediment and other pollutants that affect the quality of storm water discharges; and 2) to describe and ensure the implementation of construction BMPs to reduce or eliminate sediment and other pollutants in storm water and non-storm water discharges. The Construction General Permit also outlines post-construction standards for runoff reduction requirements, which includes the use of non-structural and/or structural measures to preserve pre-construction runoff volumes and drainage densities from the project site, as well as permanent BMPs to reduce pollutants in storm water discharges that are reasonably foreseeable after all construction phases have been completed at the site.

C. NPDES Municipal Permit

Discharges of urban runoff from the municipal separate storm sewer systems (MS4s) draining the watersheds of the County of San Diego, the 18 incorporated cities of San Diego County, the San Diego Unified Port District, and the San Diego County Regional Airport Authority (the co-permittees) must comply the NPDES Municipal Storm Water Permit for San Diego County (Municipal Permit), which is governed by the San Diego RWQCB under Order No. R9-2007-0001, NPDES No. CAS0108758. The Municipal Permit specifies the requirements necessary to reduce the discharge of pollutants in urban runoff to the maximum extent practicable, and outlines the individual responsibilities of the co-permittees including (but not limited to) the implementation of 1) management programs, 2) BMPs, and 3) monitoring programs.

Each co-permittee is responsible for implementing the requirements of the Municipal Permit to prevent the water quality impacts of urbanization within their jurisdiction and their watershed(s). The Municipal Permit reflects these two broad levels of responsibility by requiring comprehensive urban runoff management programs at both jurisdictional and watershed levels. The City of Chula Vista has complied with this condition by submitting a Jurisdictional Urban Runoff Management Program (JURMP) to the San Diego RWQCB. The Chula Vista JURMP outlines the specific measures the City will take to meet permit requirements including construction, commercial, and industrial site inspections, public education and outreach efforts, dry weather field screening, and enforcement of local storm water ordinances. In addition, since 2002, the City of Chula Vista, along with the County of San Diego, six other incorporated cities of San Diego County, the San Diego Unified Port District, and the San Diego County Regional Airport Authority, have jointly implemented the San Diego Bay Watershed Urban Runoff Management Program (WURMP) in compliance with the Municipal Permit. The San Diego Bay WURMP provides guidance and coordination for water quality, education, land use planning activities, and program implementation to efficiently achieve the greatest protection of beneficial uses of receiving waters. These programs are designed to identify and prioritize local water quality problems that can be attributed to urban runoff and provide solutions to mitigate these problems.

5.10.2.3 Regional

A. San Diego Basin Plan

The Water Quality Control Plan for the San Diego Basin (San Diego RWQCB 1994), known as the San Diego Basin Plan, is designed to preserve and enhance water quality and protect the beneficial uses of all regional waters. Specifically, the San Diego Basin Plan: 1) designates beneficial uses for surface and ground waters, 2) sets narrative and numerical objectives that must be attained or maintained to protect the designated beneficial uses and conform to the state's anti-degradation policy, 3) describes

implementation programs to protect the beneficial uses of all waters in the region, and 4) describes surveillance and monitoring activities to evaluate the effectiveness of the San Diego Basin Plan.

The two closest surface water bodies to the PGD are Otay River and San Diego Bay. The designated existing beneficial uses for Otay River include agricultural water supply (AGR); non-contact recreation such as boating (REC2); warm freshwater habitat (WARM); wildlife habitat (WILD); and rare, threatened, or endangered species (RARE). The designated existing beneficial uses for San Diego Bay include industrial service water supply (IND); navigation (NAV); contact water recreation such as swimming (REC1); non-contact recreation such as boating (REC2); commercial and sport fishing (COMM); preservation of biological habitats of special significance (BIOL); estuarine habitat (EST); wildlife habitat (WILD); rare, threatened, or endangered species (RARE); marine habitat (MAR); migration of aquatic organisms (MIGR); spawning, reproduction, or early development (SPWN); and shellfish harvesting (SHELL).

The designated existing beneficial use for groundwater in the western portion of the Otay Valley Hydrologic Area (Basin 910.20), which underlies the PGD, is industrial services water supply (IND).

5.10.2.4 Local

A. City of Chula Vista Development Storm Water Manual

In addition to the JURMP and WURMP, the NPDES Municipal Permit (described above) also requires the implementation of a program addressing urban runoff pollution issues in development planning for public and private projects. The City of Chula Vista has complied with this condition by adopting a Development Storm Water Manual (City of Chula Vista 2011a). The Development Storm Water Manual is incorporated by reference in the City's Storm Water Management and Discharge Control Ordinance (described below), and new development and redevelopment projects in the City are required to comply with its requirements and standards. The Development Storm Water Manual includes the City's Standard Urban Storm Water Mitigation Plan (SUSMP) and other storm water regulations pertaining to development and redevelopment projects in the City. New development and redevelopment projects are required to minimize impacts to receiving water quality by incorporating construction and permanent BMPs in their project design. Construction BMPs typically include erosion control, sediment control, wind erosion control, tracking control, non-storm water management, waste management and materials pollution control, and general site management practices. Permanent BMPs include Low Impact Development (LID) site design, source control, treatment control, and hydromodification control practices. The Development Storm Water Manual provides guidance and establishes standards and criteria to meet those requirements.

B. City of Chula Vista Subdivision Manual

The purpose of the Subdivision Manual (City of Chula Vista 2012a) is to provide engineers and developers with a guide to land development processing in the City. All development projects are required to comply with the requirements of the Subdivision Manual and its controlling documents. Section 3-200, Hydrology/Drainage/Urban Runoff, of the Subdivision Manual addresses drainage requirements and storm drain design. This section establishes the procedures to be followed in the design of storm drain facilities, including general responsibilities of the developer; design flow criteria; hydrology and/or drainage reports; hydrology requirements for infill developments; drainage criteria for surface and sub-surface facilities of the storm drainage system, runoff detention basins, and sediment basins; and requirements for storm water quality and urban runoff.

C. City of Chula Vista General Plan

The Environmental Element of the General Plan includes the following citywide objective and policies for the protection of water quality:

Objective E 2
Protect and improve water quality within surface water bodies and groundwater resources within and downstream of Chula Vista.

Policy E 2.4: Ensure compliance with current federal and state water quality regulations, including the implementation of applicable NPDES requirements and the City's Pollution Prevention Policy.

Policy E 2.5: Encourage and facilitate construction and land development techniques that minimize water quality impacts from urban development.

D. City of Chula Vista Growth Management Ordinance

The Growth Management Ordinance (CVMC Chapter 19.09) provides policies and programs that tie the pace of development to the provision of public facilities and improvements. The Growth Management Ordinance establishes the following Quality of Life Threshold Standards for drainage (CVMC Section 19.09.040H): 1) storm water flows and volumes shall not exceed City engineering standards as set forth in the Subdivision Manual; and 2) the Growth Management Oversight Commission shall annually review the performance of the City's storm drain system to determine its ability to meet the goals and objectives of the Subdivision Manual.

E. City of Chula Vista Storm Water Management and Discharge Control Ordinance

The purpose of the Storm Water Management and Discharge Control Ordinance (CVMC Chapter 14.20) is to promote the health, safety, and general welfare of the citizens of Chula Vista by 1) prohibiting non-storm water discharges to the storm water conveyance system; 2) preventing discharges to the storm water conveyance system from spills, dumping, or disposal of materials other than storm water; 3) reducing pollutants in storm water discharges, including pollutants taken up by storm water as it flows over urban areas ("urban runoff"), to the maximum extent practicable; and 4) reducing pollutants in storm water discharges in order to achieve applicable water quality objectives for surface waters in San Diego County. Section 14.20.120 states that any person engaged in activities that may result in pollutants entering the storm water conveyance system shall, to the maximum extent practical, undertake all measures to reduce the risk of illegal discharges. The following requirements shall apply:

- Best Management Practices Implementation. It is unlawful for any person not to comply with BMPs and pollution control requirements established by the City or other responsible agency to eliminate or reduce pollutants entering the City storm water conveyance system. BMPs shall be complied with throughout the life of the activity.
- Storm Water Pollution Prevention Plan. When the enforcement official determines that a business or business-related activity causes or may cause an illegal discharge to the storm water conveyance system, then the enforcement official may require the business to develop and implement a SWPPP. Businesses which may be required to prepare and implement a SWPPP include, but are not limited to, those which perform maintenance, storage, manufacturing,

assembly, equipment operations, vehicle loading, and/or cleanup activities partially or wholly out of doors.

- Coordination with Hazardous Materials Response Plans and Inventory. Any activity subject to the hazardous materials inventory and response program, pursuant to Chapter 6.95 of the California Health and Safety Code, shall include provisions for compliance with this chapter in its hazardous materials response plan, including prohibitions of unlawful non-storm water discharges and illegal discharges, and provisions requiring the use of BMPs to reduce the discharge of pollutants in storm water.
- Impervious Surfaces. Persons owning or operating a parking lot or an impervious surface (including, but not limited to, service station pavements or paved private streets and roads) used for automobile-related or similar purposes shall clean those surfaces as frequently and as thoroughly as is necessary, in accordance with BMPs, to prevent the discharge of pollutants to the City storm water conveyance system. Sweepings or cleaning residue from parking lots or impervious surfaces shall not be swept or otherwise made or allowed to go into any storm water conveyance, gutter, or roadway, but must be disposed of in accordance with regional solid waste procedures and practices.
- Compliance with NPDES Permit for Storm Water Discharges. Each discharger subject to any NPDES permit for storm water discharges shall comply with all requirements of such permit.

Section 14.20.125 incorporates by reference the Chula Vista Development Storm Water Manual (described above) and states that no land owner or development project proponent shall receive a City permit or approval for land development activity or significant redevelopment activity unless the project meets or will meet the requirements of the Development Storm Water Manual.

5.10.3 Criteria for Determination of Significance

According to Appendix G of the CEQA Guidelines, a significant impact related to hydrology and drainage would occur if implementation of the proposed project would:

- Criterion 1: Violate any water quality standards or waste discharge requirements.
- Criterion 2: Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted).
- Criterion 3: Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site.
- Criterion 4: Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site.
- Criterion 5: Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff.

- Criterion 6: Otherwise substantially degrade water quality.
- Criterion 7: Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map.
- Criterion 8: Place structures within a 100-year flood hazard area which would impede or redirect flood flows.
- Criterion 9: Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam.

5.10.4 Impacts

5.10.4.1 Water Quality Degradation

Criterion 1: Would the project violate any water quality standards or waste discharge requirements?

Criterion 6: Would the project otherwise substantially degrade water quality?

A. Construction Impacts

Future development associated with PGDSP build-out would potentially create sources of polluted runoff during construction. Sediment associated with earth-moving activities and exposed soils is the most common pollutant associated with construction sites. Other pollutants associated with construction sites include hydrocarbons from spills or leaks of fuels, oils, and other fluids used for construction equipment; paints, concrete slurries, asphalt, and other hazardous materials; and debris, trash, and other solid waste materials generated during construction activities. Storm water and non-storm water runoff could potentially transport these pollutants from construction sites in the PGD into the City's storm water drainage system and ultimately to Otay River or San Diego Bay, which would degrade the water quality of these downstream receiving waters. However, future PGDSP development projects would be required to comply with the NPDES Construction General Permit and the Chula Vista Development Storm Water Manual pursuant to City's Storm Water Management and Discharge Control Ordinance (CVMC Chapter 14.20). As discussed in Sections 5.10.2.2 and 5.10.2.4 above, these regulations require preparation and implementation of a SWPPP identifying construction BMPs to reduce or eliminate sediment and other pollutants in storm water and non-storm water discharges. The following example construction BMPs, which are listed in the Chula Vista Development Storm Water Manual, would be implemented during construction as applicable:

1) **Erosion Control**

   a) Physical Stabilization. If physical stabilization is selected, materials must be appropriate to the circumstances in which they are deployed, and sufficient material must be deployed.

      i. Geotextiles
      ii. Mats
      iii. Fiber rolls
      iv. Sprayed on binders
      v. Mulch on flat areas
      vi. Other material approved by the City for use in specific circumstances

b) Vegetation Stabilization. If vegetation stabilization is selected, the stabilizing vegetation must be installed, irrigated, and established (uniform vegetative coverage with 70 percent coverage established) prior to October 1. In the event stabilizing vegetation has not been established by October 1, other forms of physical stabilization must be employed to prevent erosion until the stabilizing vegetation is established.

i. Preservation of existing vegetation
ii. Established interim vegetation (via hydroseed, seeded mats, etc.)
iii. Established permanent landscaping

2) **Sediment Control**

a) Perimeter Protection. Protect the perimeter of the site or exposed areas from sediment ingress/discharge in sheet flows using:

i. Silt fencing
ii. Gravel bag barriers
iii. Fiber rolls

b) Resource Protection. Protect environmentally sensitive areas and watercourses from sediment in sheet flows by using:

i. Silt fencing
ii. Gravel bag barriers
iii. Fiber rolls

c) Sediment Capture. Capture sediments in channeled storm water by using:

i. Storm drain inlet protection measures
ii. De-silting basins

d) Velocity Reduction. Reduce the velocity of storm water by using:

i. Outlet protection (energy dissipater)
ii. Equalization basins
iii. Check dams

e) Off-site Sediment Tracking. Prevent sediment from being tracked off-site by using:

i. Construction road stabilization
ii. Tracking control (i.e., corrugated steel panels, wheel washes)
iii. Dust control

3) **Materials Management**

a) Prevent Contamination by Waste. Prevent the contamination of storm water by wastes through proper management of the following types of wastes:

i.	Solid	iv.	Hazardous
ii.	Sanitary	v.	Equipment-related wastes
iii.	Concrete	vi.	Stock piles (protection from wind and rain)

b) Prevent Contamination by Construction Materials. Prevent the contamination of storm water by construction materials by:

i. Covering and/or providing secondary containment of storage areas
ii. Taking adequate precautions when handling materials

The specific type and extent of construction BMPs implemented would be tailored to individual PGDSP development projects based on site-specific conditions. Pursuant to CVMC Section 14.20.125, compliance with the applicable regulatory requirements must be demonstrated to the satisfaction of the City Engineer prior to project approval. Implementation of construction BMPs in compliance with the NPDES Construction General Permit and Chula Vista Development Storm Water Manual would maintain downstream water quality in accordance with RWQCB standards, such that construction of future PGDSP development projects would not violate any water quality standards or waste discharge requirements and would not otherwise substantially degrade water quality. Thus, construction impacts associated with water quality degradation would be less than significant.

B. Operational (Post-Construction) Impacts

Urban runoff discharged through MS4s is one of the principal causes of water quality problems in most urban areas. Specifically, impervious surfaces have been identified as a major contributor to water quality degradation of both surface water and groundwater resources. Land development activities can substantially alter drainage patterns and contribute pollutants to urban runoff primarily through erosion, the removal of existing natural vegetation, and the creation of new impervious surfaces. The replacement of permeable land surfaces (e.g., parks, agriculture, undeveloped land, and native habitat) with impervious surfaces typically results in reduced ground adsorption and increased surface runoff rates and/or volumes, which may lead to increased soil erosion and sedimentation of receiving waters. Furthermore, the pollutant concentrations of surface runoff also typically increase as land use is intensified and urbanized. Thus, land use is viewed as a significant component of watershed management. The typical pollutants of concern to urban runoff generated by various land use types are identified in Table 5.10-1.

Table 5.10-1 Typical Urban Runoff Pollutants Generated by Land Use Type

Priority Development Project Categories	General Pollutant Categories[1]								
	Sediments	Nutrients	Heavy Metals	Organic Compounds	Trash and Debris	Oxygen Demanding Substances	Oils and Grease	Bacteria and Viruses	Pesticides
Detached Residential	X	X			X	X	X	X	X
Attached Residential	X	X			X	P[2]	P[3]	P	X
Commercial (>1 acre)	P[2]	P[2]		P[3]	X	P[6]	X	P[4]	P[6]
Auto Repair Shops			X	X[5][6]	X		X		
Restaurants					X	X	X	X	
Hillside Development (>5,000 square feet)	X	X			X	X	X		X
Parking Lots	P[2]	P[2]	X		X	P[2]	X		P[2]
Retail Gasoline Outlets			X	X	X	X	X		
Streets	X	P[2]	X	X[5]	X	P[6]	X		

[1] X = Anticipated Pollutants; P = Potential Pollutants
[2] Potential pollutant if landscaping exists on-site
[3] Potential pollutant if the project includes uncovered parking areas
[4] Potential pollutant if land use involved food or animal waste products
[5] Including petroleum hydrocarbons
[6] Including solvents
Source: City of Chula Vista 2011a

The PGDSP proposes redevelopment of a highly urbanized built environment which already contributes pollutants of concern to urban runoff. With the exception of the vacant lot at the southwest corner of Palomar Street and Industrial Boulevard, limited undeveloped areas currently exist within the PGD, such that future PGDSP development projects would not result in a substantial net increase of impervious surfaces. However, the intensification of existing urban land uses in the PGD would potentially result in increased pollutant concentrations in urban runoff which could incrementally degrade water quality and potentially impair the beneficial uses of downstream receiving waters. However, future PGDSP development projects would be required to comply with the NPDES Municipal Permit and the Chula Vista Development Storm Water Manual pursuant to City's Storm Water Management and Discharge Control Ordinance (CVMC Chapter 14.20). As discussed in Sections 5.10.2.2 and 5.10.2.4 above, these regulations require new development and redevelopment projects in the City to minimize impacts on receiving water quality by incorporating permanent BMPs in their project design. The following standard permanent BMPs, which are listed in the Chula Vista Development Storm Water Manual, would be incorporated into project design as applicable:

1) **Minimize Impervious Footprint and Conserve Natural Areas**

   a) Construct walkways, trails, patios, overflow parking lots, alleys, and other low-traffic areas with permeable surfaces, such as pervious concrete, porous asphalt, unit pavers, and granular materials.

   b) Construct streets, sidewalks and parking lot aisles to the minimum acceptable widths, provided that public safety and a walkable environment for pedestrians are not compromised.

   c) Maximize canopy interception and water conservation by preserving existing native trees and shrubs, and planting additional native or drought tolerant trees and large shrubs.

   d) Minimize the use of impervious surfaces, such as decorative concrete, in the landscape design.

   e) Use natural drainage systems to the maximum extent practicable.

   f) Other site design options, which are comparable and equally effective, as approved by the City.

2) **Minimize Directly Connected Impervious Areas**

   a) Where landscaping is proposed, drain rooftops into adjacent landscaping prior to discharging to storm drainage systems.

   b) Where landscaping is proposed, drain impervious sidewalks, walkways, trails, and patios into adjacent landscaping.

   c) Other design characteristics, which are comparable and equally effective, as approved by the City.

3) **Protect Slopes and Channels**

   a) Convey runoff safely from the tops of slopes.

   b) Vegetate slopes with deep-rooted native or drought tolerant vegetation.

c) Control and treat flows in landscaping and/or other controls prior to reaching existing natural drainage systems.

d) Stabilize permanent channel crossings.

e) Install energy dissipaters, such as riprap, at the outlets of new storm drains, culverts, conduits, or channels that enter unlined channels in accordance with applicable specifications to minimize erosion. Energy dissipaters shall be installed in such a way as to minimize impacts to receiving waters.

f) Other design principles, which are comparable and equally effective, as approved by the City.

4) **Provide Storm Drain System Signage**

a) Provide stenciling, labeling, stamping in fresh concrete, or other appropriate forms of signage near all storm drain inlets and catch basins within the project area with prohibitive language (e.g., "NO DUMPING – I LIVE DOWNSTREAM") and graphical icons to discourage illegal dumping.

b) Post signs and prohibitive language and/or graphical icons, which prohibit illegal dumping at public access points along channels and creeks within the project area, according to City approved design.

c) Maintain legibility of stencils and signs.

d) Signage for storm drain inlets within the public right of way shall comply with the specifications included in Chula Vista Design Standard #CVCS-24.

5) **Design Outdoor Material Storage Areas to Reduce Pollution Introduction**

a) Hazardous materials with the potential to contaminate urban runoff shall either be placed in an enclosure such as, but not limited to, a cabinet, shed, or similar structure that prevents contact with runoff or spillage to storm drainage systems; or protected by cover and secondary containment structures such as berms, dikes, or curbs.

b) The storage area shall be paved and sufficiently impervious to contain leaks and spills, and graded to prevent run-on and run-off.

c) The storage area shall have a roof or awning to minimize direct precipitation within the secondary containment area.

d) Other methods, which are comparable and equally effective within the project, where determined applicable and feasible by the City.

6) **Design Trash Storage Areas to Reduce Pollution Introduction**

a) Paved with an impervious surface, designed not to allow run-on from adjoining areas and screened or walled to prevent off-site transport of trash.

b) Provide roof or awning to minimize direct precipitation and prevent run-off.

c) Other methods, which are comparable and equally effective within the project, where determined applicable and feasible by the City.

7) **Use Efficient Irrigation Systems and Landscape Design**

   a) Employing rain shutoff devices to prevent irrigation during or after precipitation.

   b) Designing irrigation systems to each landscape area's specific water requirements.

   c) Using flow reducers or shutoff valves triggered by a pressure drop to control water loss in the event of broken sprinkler heads or lines.

   d) Employing other comparable, equally effective, methods to reduce irrigation water runoff.

8) **Employ Integrated Pest Management Principles**

   a) Eliminate and/or reduce the need for pesticide use in the project design by:

      i. Planting pest-resistant or well-adapted plant varieties, such as native plants.

      ii. Discouraging pests by modifying the site and landscaping design. Pollution prevention is the primary "first line of defense" because pollutants that are never used do not have to be controlled or treated (methods which are inherently less efficient).

   b) Distribute Integrated Pest Management educational materials to future site residents/ tenants. At a minimum, educational materials must address the following topics:

      i. Keeping pests out of buildings and landscaping using barriers, screens, and caulking.

      ii. Physical pest elimination techniques, such as weeding, squashing, trapping, washing, or pruning out pests.

      iii. Relying on natural enemies to eat pests.

      iv. Proper use of pesticides as a last line of defense.

The Chula Vista Development Storm Water Manual also lists standard permanent BMPs for the design of private roads, residential driveways and guest parking, dock areas, maintenance bays, vehicle wash areas, outdoor processing areas, equipment wash areas, parking areas, fueling areas, hillside landscaping, drainage systems for industrial/commercial facilities, and pet waste stations. The specific type and extent of permanent BMPs incorporated into project design features would be tailored to individual PGDSP development projects based on site-specific conditions and the proposed land uses. Pursuant to CVMC Section 14.20.125, compliance with the applicable regulatory requirements must be demonstrated to the satisfaction of the City Engineer prior to project approval. Implementation of permanent BMPs in compliance with the NPDES Municipal Permit and Chula Vista Development Storm Water Manual would maintain downstream water quality in accordance with RWQCB standards, such that operation of future PGDSP development projects would not violate any water quality standards or waste discharge requirements and would not otherwise substantially degrade water quality. Thus, operational impacts associated with water quality degradation would be less than significant.

5.10.4.2 Groundwater Depletion

Criterion 2: Would the project substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?

Depletion of groundwater supplies can occur as a result of additional withdrawals of groundwater from a productive basin and/or reductions in groundwater recharge through a decrease in absorptive ground surfaces (i.e., increase in impervious surfaces) of recharge areas. The PGDSP does not propose any new uses of groundwater. Potable water supply to the PGD would continue to be provided by Sweetwater Authority from a combination of a local supply (obtained from two large storage reservoirs and groundwater wells located up-gradient from the PGD) augmented by imported water from the Colorado River and the State Water Project (purchased from Metropolitan Water District). As discussed in further detail in Section 5.12, Public Services and Utilities, Sweetwater Authority has verified the availability of future water supplies to serve the proposed PGDSP without depletion of groundwater resources. In addition, with the exception of the vacant lot at the southwest corner of Palomar Street and Industrial Boulevard, limited undeveloped areas currently exist within the PGD, such that PGDSP build-out would not result in a substantial net increase of impervious surfaces. Thus, PGDSP implementation would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge. Impacts associated with groundwater depletion would be less than significant.

5.10.4.3 Drainage Alterations

Criterion 3: Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?

Criterion 4: Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

Criterion 5: Would the project create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?

A. Construction Impacts

Construction of future PGDSP development projects would temporarily alter the localized drainage pattern at the construction site due to ground-disturbing activities such as grading and excavation. Such alterations in the drainage pattern may temporarily result in erosion or siltation and/or increase the rate or amount of surface runoff if a substantial drainage area is rerouted. However, as discussed in Section 5.10.4.1 above, implementation of construction BMPs in compliance with the NPDES Construction General Permit and the Chula Vista Development Storm Water Manual would minimize the potential for erosion and siltation and would control surface runoff such that flooding does not occur and off-site flow does not exceed the capacity of the City's storm water drainage system. In addition,

construction BMPs would minimize the discharge of polluted runoff from the construction site. Therefore, construction impacts associated with drainage alterations would be less than significant.

B. Operational (Post-Construction) Impacts

Future PGDSP development projects occurring on the limited remaining undeveloped areas of the PGD would permanently alter the localized drainage pattern at the project site, which could potentially result in erosion or siltation and/or increase the rate or amount of surface runoff. However, future PGDSP development projects would be required to comply with the Chula Vista Subdivision Manual, which addresses drainage requirements and storm drain design. Specifically, the Chula Vista Subdivision Manual requires the developer of a proposed subdivision to:

1) Accept any drainage entering a proposed subdivision and to provide adequate drainage facilities to convey all drainage on the property to discharge into, or connect to, the drainage facility into which the drainage would naturally flow;

2) Provide on-site storm detention facilities such that the post-development flow rate for a given design storm does not exceed the pre-development flow rate at the outlet of the subdivision;

3) Provide on-site erosion protection and desilting facilities;

4) Provide bonds for the cost of design and construction of any drainage facilities including, but not limited to, off-site easements or facilities necessary to accomplish these responsibilities;

5) Provide all graded pads with adequate drainage facilities as approved by the City Engineer; and

6) Submit plans for all private storm drain systems for review and approval by the City Engineer.

Thus, compliance with the Chula Vista Subdivision Manual would minimize the potential for erosion and siltation and would control surface runoff such that flooding does not occur and off-site flow does not exceed the capacity of the City's storm water drainage system. In addition, the Chula Vista Subdivision Manual requires that prior to approval of any and all grading, construction, and building permits for a project, the developer shall demonstrate to the satisfaction of the City Engineer compliance with all of the applicable provisions of the City's Storm Water Management and Discharge Control Ordinance, NPDES Municipal Permit, and NPDES Construction General Permit, including the incorporation of effective permanent BMPs into the project design, which would minimize the discharge of polluted runoff from the project site. Therefore, operational impacts associated with drainage alterations would be less than significant.

5.10.4.4 Flood Hazards

Criterion 7: Would the project place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

Criterion 8: Would the project place structures within a 100-year flood hazard area which would impede or redirect flood flows?

Criterion 9: Would the project expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?

As discussed in Section 5.10.1.5 above, the PGD is not located within a 100-year or 500-year flood hazard area or and dam inundation area. Thus, PGDSP implementation would not place housing or structures within a 100-year flood hazard area and would not expose people or structures to significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam. Impacts associated with flood hazards would be less than significant.

5.10.5 Level of Significance Prior to Mitigation

5.10.5.1 Water Quality Degradation

Future PGDSP development projects would potentially contribute pollutants to runoff during construction and operation; however, implementation of construction BMPs and permanent BMPs in compliance with NPDES permit requirements and the Chula Vista Development Storm Water Manual would maintain downstream water quality in accordance with RWQCB standards, such that construction of future PGDSP development projects would not violate any water quality standards or waste discharge requirements and would not otherwise substantially degrade water quality. Therefore, impacts associated with water quality degradation would be less than significant.

5.10.5.2 Groundwater Depletion

Implementation of the proposed PGDSP would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge. Therefore, impacts associated with groundwater depletion would be less than significant.

5.10.5.3 Drainage Alterations

Construction of future PGDSP development projects would temporarily alter the localized drainage pattern at the construction site; however, implementation of construction BMPs in compliance with the NPDES Construction General Permit and the Chula Vista Development Storm Water Manual would minimize the potential for erosion and siltation and would control surface runoff such that flooding does not occur and off-site flow does not exceed the capacity of the City's storm water drainage system during construction.

Future PGDSP development projects occurring on the limited remaining undeveloped areas of the PGD would permanently alter the localized drainage pattern at the project site; however, compliance with the Chula Vista Subdivision Manual would minimize the potential for erosion and siltation and would control surface runoff such that flooding does not occur and off-site flow does not exceed the capacity

of the City's storm water drainage system during operation. Therefore, impacts associated with drainage alterations would be less than significant.

5.10.5.4 Flood Hazards

Implementation of the proposed PGDSP would not place housing or structures within a 100-year flood hazard area and would not expose people or structures to significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam. Therefore, impacts associated with flood hazards would be less than significant.

5.10.6 Mitigation Measures

5.10.6.1 Water Quality Degradation

No mitigation measures are required.

5.10.6.2 Groundwater Depletion

No mitigation measures are required.

5.10.6.3 Drainage Alterations

No mitigation measures are required.

5.10.6.4 Flood Hazards

No mitigation measures are required.

5.10.7 Level of Significance after Mitigation

Implementation of the proposed PGDSP would not result in any significant impacts associated with water quality degradation, groundwater depletion, drainage alterations, or flood hazards. Therefore, impacts related to hydrology and drainage would be less than significant and no mitigation is required.

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5.11 Geology and Soils

The analysis in this section of the EIR addresses the potential impacts associated with seismic hazards, soil erosion, and soil hazards that would result from implementation of the PGDSP. The following discussion of geology and soils is based on information provided in the Geology and Natural Hazards Baseline Study (Recon 2003) prepared for the General Plan and Section 5.5 of the Chula Vista General Plan Update EIR (available for review at the City of Chula Vista Development Services Department at 276 Fourth Avenue; at the Chula Vista Civic Center Library at 365 F Street; and on the City of Chula Vista website at www.chulavistaca.gov), which is incorporated by reference pursuant to CEQA Guidelines Section 15150.

5.11.1 Existing Conditions

5.11.1.1 Geologic Setting

Chula Vista lies within the western portion of the Peninsular Ranges geomorphic province of southern California. This geomorphic province, which extends from the Transverse Ranges and the Los Angeles Basin to the tip of Baja California, is characterized as a series of northwest-trending mountain ranges separated by subparallel fault zones and a coastal plain of subdued landforms. In general, the Peninsular Ranges are underlain by Jurassic-age metavolcanic and metasedimentary rocks and by Cretaceous-age igneous rocks of the south California batholiths. The westernmost portion of the province in San Diego County, which includes Chula Vista, generally consists of coastal plain underlain by Tertiary- and Quaternary-age sedimentary rocks.

The PGD is located in the Coastal Terraces region of Chula Vista, which is underlain by a thick accumulation of Pleistocene to recent marine and non-marine sedimentary rocks deposited within a seismically active, fault-bounded, pull-apart basin formed by faults of the Rose Canyon fault zone (City of Chula Vista 2005b). These faults generally strike north-south and are responsible for the formation of modern San Diego Bay. The general flat topography of the Coastal Terraces region is largely a factor of deposition at or near sea level in a broad coastal floodplain. The topography of the PGD is relatively flat, with elevations that range from approximately 36 to 60 feet (11 to 18 meters) above MSL. The lower elevations generally occur along the western boundary of the PGD and gradate slightly higher toward the eastern boundary. There are no prominent land features that occur within the PGD.

5.11.1.2 Geologic Formations and Soils

The PGD is underlain by Quaternary-age marine terrace deposit sediments, mapped as Bay Point Formation together with unnamed nearshore marine sandstone (City of Chula Vista 2005b). In general, the marine terrace deposits are composed of yellowish to reddish and light brown, moist to saturated, medium dense to dense, fine to medium sand with varying amounts of silt and clay. The marine terrace deposits may also be present as weakly cemented sandstone with local fossiliferous or concretion-bearing sandstone beds. Terrace deposits are generally not susceptible to liquefaction or seismically induced settlement, commonly possess sufficient bearing capacity to support deep or conventional foundations, and are readily excavatable. In addition, terrace deposits in the Coastal Terraces region do not form steep instability-prone slopes.

The soils within the PGD are mapped as Huerhuero loam (2 to 9 percent slopes) and Huerhuero loam (5 to 9 percent slopes, eroded) (USDA 2012). Huerhuero loams consist of moderately well-drained soils

that have a clay subsoil component developed in sandy marine sediments at elevations ranging from 10 to 400 feet above MSL. The majority of the soils in the PGD are highly disturbed as a result of existing development. Compressible and/or expansive soils may occur in localized areas of the PGD.

5.11.1.3 Groundwater

Groundwater depths vary throughout the local groundwater basin depending upon topography and underlying geologic formations. The PGD is underlain by Quaternary-age marine terrace deposit sediments of the Bay Point Formation together with unnamed nearshore marine sandstone. Unconsolidated alluvium of the Bay Point Formation are found along the coastal plain, but as a rule these sediments are located above the water table and are non-water bearing (Aspen Environmental Group 2006). As such, groundwater in the PGD is expected to be moderately deep; however, perched water conditions due to irrigation and runoff may also be present. The direction of groundwater flow is generally toward the west, with significant local variations.

5.11.1.4 Faulting and Seismicity

Chula Vista is situated within a seismically active region, as is the case throughout southern California. The City is not underlain by known active faults (i.e., faults that exhibit evidence of ground displacement during the last 11,000 years), but is underlain by the La Nacion fault zone, which is classified as potentially active (i.e., faults that have not offset geologic formations younger than 11,000 years old). The greatest magnitude earthquake expected on the La Nacion fault is estimated at 6.0. The closest known active fault to the PGD is the Rose Canyon fault, which is located approximately 14 miles northwest of Chula Vista and lies within an earthquake fault zone. The Rose Canyon fault zone is considered the most likely to affect the City. The Rose Canyon fault has as assigned maximum earthquake magnitude of 6.9.

Based on a Probabilistic Seismic Hazard Assessment for the western United States issued by the U.S. Geological Survey (USGS), Chula Vista is located in a zone where the horizontal peak ground acceleration having a 10 percent probability of exceedance in 50 years ranges from 0.19 g (where g represents the acceleration of gravity) to 0.26 g. Distances from central Chula Vista to active fault ruptures within 100 kilometers are presented in Table 5.11-1.

Table 5.11-1 Regional Active Faults

Fault	Distance (kilometers)	Maximum Moment Magnitude
Rose Canyon	14	6.9
Coronado Bank	30	7.4
Elsinore-Julian	64	7.1
Newport-Inglewood (Offshore)	69	6.9
Elsinore-Coyote Mountain	70	6.8
Earthquake Valley	70	6.5
Elsinore-Temecula	81	6.8
San Miguel	87	6.0
San Jacinto-Coyote Creek	97	6.8
San Jacinto-Borrego	97	7.2

Source: Recon 2003

Historically, the Chula Vista area has generally been spared a major destructive earthquake. However, based on a search of earthquake databases of the USGS National Earthquake Information Center, several major earthquakes (magnitude 5.0 or more) have been recorded within approximately 100 kilometers of the City since 1800. Table 5.11-2 summarizes the approximate magnitude of and distance to these seismic events.

Table 5.11-2 Historical Earthquakes

Date	Magnitude	Epicentral Distance (kilometers)
11/22/1800	6.5	48
05/27/1862	5.9	19
02/24/1892	6.7	65
05/28/1892	6.3	96
10/23/1894	5.7	25
11/04/1949	5.7	65
12/22/1964	5.6	93
01/12/1975	5.1	92
07/13/1986	5.8	88

Source: Recon 2003

5.11.2 Regulatory Framework

5.11.2.1 State

A. California Building Code

The Uniform Building Code (UBC), published by the International Conference of Building Officials, forms the basis for about half the state building codes in the United States, including the California Building Code (CBC). The UBC has been adopted by the state legislature together with additions, amendments, and repeals to address the specific building conditions and structural requirements in California. The CBC (California Code of Regulations Title 24, Part 2) provides minimum standards for building design; local building codes are permitted to be more restrictive than the CBC standards, but are required to be no less restrictive. Chapter 16 of the CBC addresses structural design requirements, including (but not limited to) regulations governing seismically resistant construction and construction to protect people and property from hazards associated with excavation cave-ins and falling debris or construction materials. Chapter 18 of the CBC deals with site demolition, excavations, foundations, retaining walls, and grading, including (but not limited to) requirements for seismically resistant design, foundation investigations, stable cut and fill slopes, and drainage erosion control.

B. Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act of 1972 (formerly the Special Studies Zoning Act) regulates development and construction of buildings intended for human occupancy to mitigate the hazards of surface fault rupture. This Act groups faults into categories of active, potentially active, and inactive. Historic and Holocene age faults are considered active, Late Quaternary and Quaternary age faults are considered potentially active, and pre-Quaternary age faults are considered inactive. These

classifications are qualified by the conditions that a fault must be shown to be "sufficiently active" and "well defined" by detailed site-specific geologic explorations in order to determine whether building setbacks should be established. Alquist-Priolo zones define areas where ground rupture is likely to occur during future earthquakes. Where such zones are designated, a geologic study must be conducted to determine the locations of all active fault lines in the zone before any construction is allowed, and no building may be constructed on the fault lines.

C. Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act of 1990 addresses earthquake hazards other than surface fault rupture, which is covered by the Alquist-Priolo Earthquake Fault Zoning Act (described above). This Act is intended to protect the public from the effects of strong ground shaking, ground failure, liquefaction, landslides, and other hazards caused by earthquakes. Under this Act, seismic hazard zones are to be identified and mapped to assist local governments in land use planning. Special Publication 117A, Guidelines for Evaluation and Mitigating Seismic Hazards in California (California Geological Survey 2008), contains guidance for the evaluation and mitigation of earthquake hazards for projects within designated zones of required investigations.

5.11.2.2 Local

A. City of Chula Vista General Plan

The Environmental Element of the General Plan includes the following citywide objective and policies to limit geologic hazards:

Objective E 14
Minimize the risk of injury, loss of life, and property damage associated with geologic hazards.

Policy E 14.1: To the maximum extent practicable, protect against injury, loss of life, and major property damage through engineering analyses of potential seismic hazards, appropriate engineering design, and the stringent enforcement of all applicable regulations and standards.

Policy E 14.2: Prohibit the subdivision, grading, or development of lands subject to potential geologic hazards in the absence of adequate evidence demonstrating that such development would not be adversely affected by such hazards and would not adversely affect surrounding properties.

Policy E 14.3: Require site-specific geotechnical investigations for proposals within areas subject to potential geologic hazards and ensure that all measures deemed necessary by the City Engineer and/or Building official to avoid or adequately mitigate such hazards will be implemented.

Policy E 14.4: Promote programs to identify un-reinforced masonry buildings and other buildings and structures that would be at risk during seismic events; and promote strengthening of these buildings and structures, where appropriate.

Policy E 14.5: Wherever feasible, land uses, buildings, and other structures determined to be unsafe from geologic hazards shall be discontinued, removed, or relocated.

5.11.3 Criteria for Determination of Significance

According to Appendix G of the CEQA Guidelines, a significant impact associated with geology and soils would occur if implementation of the proposed project would:

- Criterion 1: Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
  - a) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault;
  - b) Strong seismic ground shaking;
  - c) Seismic-related ground failure, including liquefaction; or
  - d) Landslides.
- Criterion 2: Result in substantial soil erosion or the loss of topsoil.
- Criterion 3: Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, liquefaction, or collapse.
- Criterion 4: Be located on an expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.

5.11.4 Impacts

5.11.4.1 Seismic Hazards

Criterion 1: Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

a) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault;

b) Strong seismic ground shaking;

c) Seismic-related ground failure, including liquefaction; or

d) Landslides?

A. Ground Surface Rupture

Ground surface rupture results from movement on an active fault reaching the surface. Alquist-Priolo Earthquake Fault Zones serve as an official notification of the probability of ground surface rupture for future earthquakes. As discussed in Section 5.11.1.4 above, there are no known active faults underlying the PGD. Due to the distance from known active faults, no Alquist-Priolo Earthquake Fault Zones have been designated in the vicinity of the PGD. Thus, ground surface rupture due to active faulting and lurching or cracking of the ground surface due to nearby or distant seismic events are considered unlikely (Recon 2003). Therefore, PGDSP implementation would not expose people or structures to

potential substantial adverse effects associated with ground surface rupture. Impacts would be less than significant.

B. Strong Seismic Ground Shaking

As discussed in Section 5.11.1.4 above, the PGD is located in a seismically active region, as is the case throughout southern California. Thus, the PGD could potentially be subject to strong seismic ground shaking during earthquakes along regional active faults such as those identified in Table 5.11-1. Due to the potential for seismic hazards throughout the region, the CBC contains specific provisions for structures located in seismic zones. Design and construction of future PGDSP development projects would be in accordance with the seismic design specifications of the Structural Engineering Association of California and current CBC standards, which would minimize the risks to people and structures during strong seismic ground shaking. Therefore, PGDSP implementation would not expose people or structures to potential substantial adverse effects associated with strong seismic ground shaking. Impacts would be less than significant.

C. Liquefaction

Liquefaction of cohesionless soils can be caused by strong vibratory motion during earthquakes. Research and historical data indicate that loose granular soils and non-plastic silts that are saturated by a relatively shallow groundwater table are most susceptible to liquefaction. As discussed in Section 5.11.1.2 above, the PGD is underlain by Quaternary-age marine terrace deposit sediments that are generally not susceptible to liquefaction or seismically induced settlement. Furthermore, groundwater in the PGD is expected to be moderately deep. Accordingly, the Geology and Natural Hazards Baseline Study (Recon 2003) does not identify areas susceptible to liquefaction within the PGD. Therefore, PGDSP implementation would not expose people or structures to potential substantial adverse effects associated with seismically induced liquefaction. Impacts would be less than significant.

D. Landslides

Seismically induced landslides and other slope failures are common occurrences during or soon after earthquakes. As discussed in Section 5.11.1.2 above, the PGD is underlain by Quaternary-age marine terrace deposit sediments that do not form steep instability-prone slopes. Accordingly, the Geology and Natural Hazards Baseline Study (Recon 2003) does not identify areas of known landslides or susceptible to landslide within the PGD. Therefore, PGDSP implementation would not expose people or structures to potential substantial adverse effects associated with seismically induced landslides. Impacts would be less than significant.

5.11.4.2 Soil Erosion

Criterion 2: Would the project result in substantial soil erosion or the loss of topsoil?

Construction of future PGDSP development projects may result in or indirectly accelerate erosion on the project site. Ground-disturbing activities, such as grading and excavation, and stockpiling of excavated materials would expose bare soils that could be eroded by wind or water. Furthermore, vegetation removal in landscaped areas could reduce soil cohesion and temporarily diminish the buffer provided by vegetation from wind, water, and surface disturbance, rendering the exposed soils more susceptible to erosive forces. However, as discussed in further detail in Section 5.10, Hydrology and Drainage, implementation of construction BMPs in compliance with the NPDES Construction General Permit and

the Chula Vista Development Storm Water Manual would minimize the potential for soil erosion and topsoil loss during construction.

Following construction, post-construction standards require permanent stabilization of any remaining disturbed areas through finish grading and landscaping. Therefore, PGDSP implementation would not result in substantial soil erosion or the loss of topsoil. Impacts would be less than significant.

5.11.4.3 Soil Hazards

Criterion 3: Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, liquefaction, or collapse?

Criterion 4: Would the project be located on an expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

As discussed in Section 5.11.1.2 above, the PGD is underlain by Quaternary-age marine terrace deposit sediments that are generally not susceptible to liquefaction or seismically induced settlement, commonly possess sufficient bearing capacity to support deep or conventional foundations, and do not form steep instability-prone slopes. Accordingly, the Geology and Natural Hazards Baseline Study (Recon 2003) does not identify areas susceptible to liquefaction or landslide within the PGD.

With regard to expansive soils, the PGD may contain localized areas of compressible and/or expansive soils. Thus, future PGDSP development projects would potentially be located on compressible and/or expansive soils that could create substantial risks to life or property. This represents a potentially significant impact.

5.11.5 Level of Significance Prior to Mitigation

5.11.5.1 Seismic Hazards

Implementation of the proposed PGDSP would not expose people or structures to substantial adverse effects involving ground surface rupture, strong seismic ground shaking, liquefaction, or landslides. Therefore, impacts associated with seismic hazards would be less than significant.

5.11.5.2 Soil Erosion

Implementation of the proposed PGDSP would not result in substantial soil erosion or the loss of topsoil. Therefore, impacts associated with soil erosion would be less than significant.

5.11.5.3 Soil Hazards

Future PGDSP development projects would potentially be located on compressible and/or expansive soils, which could create substantial risks to life or property. Therefore, PGDSP implementation would result in potentially significant impacts associated with soil hazards.

5.11.6 Mitigation Measures

5.11.6.1 Seismic Hazards

No mitigation measures are required.

5.11.6.2 Soil Erosion

No mitigation measures are required.

5.11.6.3 Soil Hazards

Implementation of mitigation measure 5.11-1 would reduce potential impacts associated with soil hazards to a less than significant level.

5.11-1 **Site-Specific Geotechnical Investigation.** Prior to the construction of future PGDSP development projects, project applicants shall submit a site-specific geotechnical investigation to the City Engineer and/or Building Official for review and approval. The investigation shall be prepared by a licensed geotechnical engineer in order to evaluate the specific geologic conditions of the proposed PGDSP project site, determine whether potential geologic hazards exist, and provide recommendations for project design and construction to minimize such hazards. The investigation shall include (but not be limited to) a delineation of specific locations where compressible and expansive soils would affect structural stability. Compressible and expansive soils shall be removed from the site and replaced with compacted fill.

5.11.7 Level of Significance after Mitigation

With implementation of mitigation measures 5.11-1, impacts related to geology and soils resulting from implementation of the proposed PGDSP would be reduced to below a level of significance.

5.12 Public Services and Utilities

The analysis in this section of the EIR addresses the potential impacts to public services and utilities that would result from future development and growth consistent with the PGDSP. Public services consist of fire and emergency medical services; police services; schools; libraries; and parks and recreation. Public utilities include water; wastewater; solid waste; gas and electricity; and telephone and cable. Citywide public services and utilities impacts have been evaluated in Sections 5.13 and 5.14 of the General Plan Update EIR (available for review at the City of Chula Vista Development Services Department at 276 Fourth Avenue; at the Chula Vista Civic Center Library at 365 F Street; and on the City of Chula Vista website at www.chulavistaca.gov), which is incorporated by reference pursuant to CEQA Guidelines Section 15150. The following discussion is intended to focus on the public services and utilities impacts associated with future redevelopment and infill development within the PGD, which is identified in the General Plan as one of the designated areas in Chula Vista to accommodate some of the City's future planned growth.

PGDSP build-out would require improvements to the City's public services and utilities to accommodate future planned growth and development in the PGD, consistent with the General Plan. As part of its overall facilities planning and maintenance activities, the infrastructure and public facilities related to the PGD were studied during the City's General Plan effort. Since the PGDSP implements the General Plan, these studies and the resulting citywide implementation strategies provide the basis for public services and utilities needed to serve the PGD. Information from these studies and the corresponding citywide implementation strategies are relied upon and have been brought forward into the PGDSP for reference. The Public Facilities and Services Element of the General Plan establishes a comprehensive strategy to provide and maintain infrastructure and public facilities for future growth without diminishing service to existing development. The Growth Management Element of the General Plan considers the capacities and generation rates described in the Public Facilities and Services Element and supporting documents to establish threshold standards for new development, redevelopment, and revitalization, and provides the policy framework for City's Growth Management Program. The Growth Management Element includes the following citywide objectives:

Objective GM 1
Concurrent public facilities and services.

Objective GM 2
Provide adequate and sustainable fiscal base.

Objective GM 3
Create and preserve vital neighborhoods.

Objective GM 4
Provide support for regional and intergovernmental growth management efforts.

Objective GM 5
Maintain appropriate and applicable Threshold Standards that reflect changing development patterns, location of development, and methods of providing services.

Objective GM 6
Conduct annual reviews of the effectiveness of the Chula Vista Growth Management Program.

Objective GM 7
Foster coordination and cooperation between City departments, outside agencies, service providers and adjacent jurisdictions.

Chapter 5 of the PGDSP focuses on the General Plan proposals and criteria regarding public facilities and services that have particular relevance to the PGD and identifies commonly used mechanisms to fund public facilities, including Public Facilities Development Impact Fees, Community Development Block Grants, Business Improvement Districts or Property and Business Improvement Districts Fees, Transnet Program, Grant Funding (e.g., SANDAG Smart Growth Incentive Program), Chula Vista General Fund, and other funding sources. Monitoring the progress of the PGDSP in reaching its infrastructure and public facilities goals will include review under the Growth Management Ordinance, the bi-annual budgetary and CIP review cycle, and a five-year assessment of the progress of the PGDSP. To monitor the effectiveness of the PGDSP in responding to the changing landscape of the PGD, a Five-Year Progress Report will be prepared and may be included as part of the budget cycle or strategic plan updates.

The Growth Management Ordinance (CVMC Chapter 19.09) implements the City's Growth Management Program to ensure that development does not occur unless facilities and improvements are available to support the development. The Growth Management Program incorporates a defined public facilities development phasing policy to appropriately schedule the timing and location of various City improvements. Additionally, the Growth Management Program incorporates facility master plans for fire protection, schools, libraries, parks, water, sewer, drainage, traffic, and civic centers. The GMOC annually reviews the Growth Management Program and prepares an annual report to the Planning Commission and City Council. In order to ensure that public facilities and services, government and other utility services, and improvements are adequate to meet present and future needs of Chula Vista, the Growth Management Ordinance adopts Quality of Life Threshold Standards for facilities and improvements. Adherence to these citywide threshold standards is intended to preserve and enhance both the environment and quality of life of residents as growth occurs. Specific Quality of Life Threshold Standards and compliance for each public service and utility are discussed in the following sections.

Please note that this section of the EIR is organized differently than the other analysis sections in Chapter 5. In this section, each public service and utility is discussed individually in terms of existing conditions, regulatory framework, criteria for determination of significance, impacts, level of impact prior to mitigation, mitigation measures and level of significance after mitigation.

5.12.1 Fire Protection and Emergency Medical Services

5.12.1.1 Existing Conditions

Fire protection and emergency medical services for the City of Chula Vista are provided by the Chula Vista Fire Department (CVFD). As listed in Table 5.12-1, there are currently nine fire stations located throughout the City, serving an area of 52 square miles (City of Chula Vista 2012b). The CVFD is currently authorized for 134 employees, consisting of sworn professional firefighters and administrative staff (City of Chula Vista 2011d). During a typical 24-hour shift, there are 36 line firefighters and two Battalion Chiefs on constant duty spread among the City's nine fire stations. Each station has a Captain, Engineer, and one Firefighter; Fire Station 3 has one additional Firefighter to staff a heavy rescue truck; and Fire Stations 1 and 7 have one additional Captain, Engineer, and two Firefighters to staff a ladder truck. In addition, the CVFD participates in mutual aid agreements with the cities of Bonita-Sunnyside, Imperial Beach, National City, and San Diego, and the County of San Diego. The CVFD's medical transport is provided through a contract with American Medical Response (AMR). There are currently two full-time

AMR units stationed within the City limits that are dedicated to Chula Vista, while two other full-time AMR units are shared with other cities.

Table 5.12-1 City of Chula Vista Fire Station Facilities

Location	Service Area	Apparatus
Existing Facilities		
Fire Station 1 – 447 F Street, Chula Vista, CA 91910	Downtown, Bay Front, Northwest City, Interstates 5, 54 & 805/North	Truck 51, Engine 51, Battalion 51
Fire Station 2 – 80 East J Street, Chula Vista, CA 91910	Central City, Interstate 805/Central, Hilltop, Country Club	Engine 52, Brush 52
Fire Station 3 – 1410 Brandywine Avenue, Chula Vista, CA 91911	Sunbow, Interstate 805/South, Woodlawn Park, East/Main Street	USAR 53, USAR 53 Tender/Trailer
Fire Station 4 – 850 Paseo Ranchero, Chula Vista, CA 91910	Rancho Del Rey, Bonita Long Canyon, Southwestern College	Engine 54
Fire Station 5 – 391 Oxford Street, Chula Vista, CA 91911	Montgomery, Harborside, Otay, Interstate 5/ South, Southwest City, West/Main Street	Engine 55
Fire Station 6 – 605 Mt. Miguel Road, Chula Vista, CA 91914	East Lake, Rolling Hills Ranch, San Miguel Ranch	Engine 56
Fire Station 7 – 1640 Santa Venetia Road, Chula Vista, CA 91913	Otay Ranch, Village of Heritage, Heritage Hills, Village of Countryside	Engine 57, Truck 57, Battalion 52
Fire Station 8 – 1180 Woods Drive, Chula Vista, CA 91914	East Lake, Rolling Hills Ranch, San Miguel Ranch, Tour De Elegance, The Woods	Engine 58
Fire Station 9 – 291 East Oneida Street, Chula Vista, CA 91911	Sunbow, Interstate 805 South, Woodlawn Park, East/Main Street	Engine 59

Source: City of Chula Vista 2012b

The PGD lies within the service area of Fire Station 5, which is located at 391 Oxford Street, approximately 0.5 mile northeast of the PGD. The Fire Station 5 facility, which was built in 1954, is in a state of deterioration and in need of replacement (City of Chula Vista 2011d). This facility is far past its useful life, needing constant repair due to structural damage that has been brought on by age. The CVFD applied for ARRA funding to address the replacement of Fire Station 5, which met the eligibility criteria outlined in the ARRA guidelines; unfortunately, the City has received notice that Fire Station 5 will not receive funding at this time. It has been recommended that Fire Station 5 be relocated to a larger site adjacent to the South Chula Vista Branch Public Library, which is located at 389 Orange Avenue, to allow for the expansion of future service delivery to respond to growth needs.

5.12.1.2 Regulatory Framework

A. City of Chula Vista Fire Station Master Plan

The existing Fire Station Master Plan (City of Chula Vista 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 Fire Station Master Plan recommends 1.5-acre sites for all fire stations and calls for a network of nine fire stations at General Plan build-out to maintain compliance with the Quality of Life Threshold Standard. An updated Fire Station Master Plan has been prepared, but is pending review and approval by the City Council.

B. City of Chula Vista General Plan

The Public Facilities and Services Element of the Chula Vista General Plan includes the following citywide objectives and policies regarding the provision of fire protection and emergency medical services:

Objective PFS 5
Sufficient levels of fire protection, emergency medical service, and police services to protect public safety and property.

Policy PFS 5.1: Continue to adequately equip and staff the Fire Department to ensure that established service standards for emergency calls are met.

Policy 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.

Policy PFS 5.3: Support the provision of new fire stations, as deemed necessary through the existing or updated Fire Station Master Plan.

Policy 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.

Policy PFS 6.1: Continue to require new development and redevelopment projects to demonstrate adequate access for fire and police vehicles.

Policy PFS 6.2: Require new development and redevelopment projects to demonstrate adequate water pressure to new buildings.

C. City of Chula Vista Growth Management Ordinance

The Growth Management Ordinance establishes the following Quality of Life Threshold Standard for fire protection and emergency medical services (CVMC Section 19.09.040B): properly equipped and staffed fire and medical units shall respond to calls throughout the City within 7 minutes in 80 percent of the cases. The 2011 GMOC Annual Report for the FY 2010 reporting period indicates that the CVFD responded to 10,296 emergency calls and that 85 percent of these calls were responded to within 7 minutes (City of Chula Vista 2011c). Thus, the CVFD is currently in compliance with the City's Quality of Life Threshold Standard for fire and emergency response.

5.12.1.3 Criteria for Determination of Significance

According to the City of Chula Vista, a significant impact to fire protection and emergency medical services would occur if implementation of the proposed project would:

- Criterion 1: Result in the inability of the City to provide an adequate level of fire protection and emergency medical services in accordance with the adopted standards and threshold as follows: properly equipped and staffed fire and medical units shall respond to calls throughout the City within 7 minutes in 80 percent of the cases.

5.12.1.4 Impacts

As discussed in Section 5.12.1.2 above, the CVFD is currently in compliance with the City's Quality of Life Threshold Standard for emergency response. PGDSP build-out would allow for increased development densities and associated population growth in the PGD, thereby increasing the demand for fire protection and emergency medical services, which could hinder response times. Because of the need to maintain response times in accordance with the threshold standard, it is anticipated that additional fire fighters would be needed to ensure continuing compliance. The exact number of additional personnel needed is difficult to forecast and would be determined as growth occurs in the PGD over the next 20 years. Although the exact number of additional fire fighters required to serve the PGDSP is undetermined, adjustments to personnel would continue to be made as part of the City's budget cycle.

The PGDSP includes an assessment of enhancements to fire protection and emergency medical services in relation to projected build-out of the PGDSP over the 20-year planning horizon. Through the Growth Management Program and Fire Station Master Plan, the City would continue to monitor fire protection and emergency medical services needs. Public Facilities Development Impact Fee programs would provide capital funding for additional facilities. However, if the provision of additional personnel does not coincide with the PGDSP's projected population growth and associated demand for fire protection and emergency medical services, response times could be adversely affected such that they are no longer in compliance with the threshold standard. This represents a potentially significant impact associated with fire protection and emergency medical services.

5.12.1.5 Level of Significance Prior to Mitigation

PGDSP build-out would allow for increased development densities and associated population growth in the PGD, thereby increasing the demand for fire protection and emergency medical services, which could hinder response times. If the provision of additional personnel does not coincide with the PGDSP's projected population growth and associated demand for fire protection and emergency medical services, a potentially significant impact would occur.

5.12.1.6 Mitigation Measures

Implementation of mitigation measure 5.12-1 would reduce potential impacts to fire protection and emergency medical services to a less than significant level by ensuring emergency access and water supply, payment of fees to support fire protection services, and a commitment from the City to address potential fire personnel shortages.

5.12-1 **Adequate Level of Fire Protection and Emergency Medical Services.** The following measures shall be implemented to ensure that adequate fire protection and emergency medical services are maintained in accordance with the adopted standards and Quality of Life Threshold Standard:

i. Prior to approval, future PGDSP development projects shall demonstrate provision of adequate access for fire vehicles (pursuant to General Plan Policy PFS 6.1) and adequate water pressure to new buildings (pursuant to General Plan Policy PFS 6.2).

ii. As a condition of project approval, each individual developer shall pay the Public Facilities Development Impact Fees at the rate in effect at the time the building permit is issued.

iii. As part of the annual budgeting process, the City shall assess the need for additional fire personnel to provide fire protection and emergency medical services consistent with established City service levels and commensurate with the increase in population.

Pursuant to City of Chula Vista Growth Management Policy GM1.11, the City of Chula Vista establishes the authority to withhold discretionary approval and subsequent building permits from projects demonstrated to be out of compliance with applicable threshold standards.

5.12.1.7 Level of Significance After Mitigation

With implementation of mitigation measure 5.12-1, impacts related to fire protection and emergency medical services resulting from implementation of the proposed PGDSP would be reduced to below a level of significance.

5.12.2 Police Services

5.12.2.1 Existing Conditions

Police services for the City the City of Chula Vista are provided by the Chula Vista Police Department (CVPD). All operations are currently based out of one central police station, which is located at 315 Fourth Avenue, approximately 2.5 miles north of the PGD. The CVPD is currently authorized for 306.5 employees, a ratio of approximately one sworn personnel per 1,000 residents (City of Chula Vista 2011d). The PGD lies within the service area of Patrol Beat 21 (City of Chula Vista 2002a). Each beat is served by at least one patrol car 24 hours a day. In addition, the CVPD participates in regional mutual aid agreements.

The police units respond to both “Priority One” emergency and “Priority Two” urgent calls. Priority One calls include felony crimes in progress, life-threatening situations, and injury to property. Priority Two calls include misdemeanor crimes in progress, non-life-threatening situations, possible injury to property and emergency public services such as traffic signal failure.

5.12.2.2 Regulatory Framework

A. City of Chula Vista General Plan

The Public Facilities and Services Element of the Chula Vista General Plan includes the following citywide objectives and policies regarding the provision of police services:

Objective PFS 5
Sufficient levels of fire protection, emergency medical service, and police services to protect public safety and property.

Policy PFS 5.4: Provide adequate law enforcement staff and equipment pursuant to Police Department strategic plans to meet established service standards.

Policy PFS 5.5: Explore the need to establish local, community-based satellite or storefront police offices to enhance community well-being.

Policy PFS 5.7: Prior to approval of any discretionary projects, ensure that construction is phased with the 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.

Policy PFS 6.1: Continue to require new development and redevelopment projects to demonstrate adequate access for fire and police vehicles.

Policy PFS 6.3: Encourage Crime Prevention Through Environmental Design (CPTED) techniques in new development and redevelopment projects.

B. City of Chula Vista Growth Management Ordinance

The Growth Management Ordinance establishes the following Quality of Life Threshold Standards for police protection services (CVMC Section 19.09.040A): 1) properly equipped and staffed police units shall respond to 81 percent of Priority One emergency calls within 7 minutes and maintain an average response time to all Priority One emergency calls of 5.5 minutes or less; and 2) properly equipped and staffed police units shall respond to 57 percent of Priority Two urgent calls within 7 minutes and maintain an average response time to all Priority Two calls of 7.5 minutes or less.

The 2011 GMOC Annual Report indicates that the CVPD responded to 673 Priority One emergency calls in FY 2010 and that 85.1 percent of these calls were responded to within 7 minutes, with an average response time of 4.47 minutes (City of Chula Vista 2011c). Thus, the CVPD is currently in compliance with the City's Quality of Life Threshold Standard for Priority One emergency response. The 2011 GMOC Annual Report also indicates that the CVPD also responded to 22,240 Priority Two urgent calls in FY 2010 and that 49.8 percent were responded to within 7 minutes, with an average response time of 9.92 minutes (City of Chula Vista 2011c). Thus, the CVPD is currently in non-compliance with the City's Quality of Life Threshold Standard for Priority Two urgent response.

5.12.2.3 Criteria for Determination of Significance

According to the City of Chula Vista, a significant impact to police protection services would occur if implementation of the proposed project would:

- Criterion 1: Result in the inability of the City to provide an adequate level of police services in accordance with the adopted standards and thresholds as follows: 1) properly equipped and staffed police units shall respond to 81 percent of Priority One emergency calls within 7 minutes and maintain an average response time to all Priority One emergency calls of 5.5 minutes or less, and 2) properly equipped and staffed police units shall respond to 57 percent of Priority Two urgent calls within 7 minutes and maintain an average response time to all Priority Two calls of 7.5 minutes or less.

5.12.2.4 Impacts

As discussed in Section 5.12.2.2 above, the CVPD is currently in compliance with the City's Quality of Life Threshold Standard for Priority One emergency response, but does not meet the threshold standard for

Priority Two urgent calls. PGDSP build-out would allow for increased development densities and associated population growth in the PGD, thereby increasing the demand for police services, which could hinder response times. Because of the need to maintain response times in accordance with the threshold standards, it is anticipated that additional police officers would be needed to ensure continuing compliance. The exact number of additional personnel needed is difficult to forecast and would be determined as growth occurs in the PGD over the next 20 years. Although the exact number of additional police officers required to serve the PGDSP is undetermined, adjustments to personnel would continue to be made as part of the City's budget cycle. In addition, the CVPD is anticipating being able to meet the challenges of overall growth in the City with technological upgrades to equipment. These upgrades could include a computer-aided dispatch system integrated with in-car global positioning systems, mobile data computer mapping capabilities in every car, and the ongoing efforts to reduce false alarms. The CVPD is also seeking support for research into alternative call management options to correctly prioritize calls and improve deployment tactics, including revised beat configurations, bike patrol units, and a possible aerial component.

The PGDSP includes an assessment of enhancements to police services in relation to projected build-out of the PGDSP over the 20-year planning horizon. Through the Growth Management Program, the City would continue to monitor police services needs. Public Facilities Development Impact Fee programs would provide capital funding for additional facilities. However, if the provision of additional personnel does not coincide with the PGDSP's projected population growth and associated demand for police services, response times could be adversely affected such that they are not in compliance with the Quality of Life Threshold Standards. This represents a potentially significant impact associated with police services.

5.12.2.5 Level of Significance Prior to Mitigation

PGDSP build-out would allow for increased development densities and associated population growth in the PGD, thereby increasing the demand for police services, which could hinder response times. If the provision of additional personnel does not coincide with the PGDSP's projected population growth and associated demand for police services, a potentially significant impact would occur.

5.12.2.6 Mitigation Measures

Implementation of mitigation measure 5.12-2 would reduce potential impacts to police services to a less than significant level.

5.12-2 **Adequate Level of Police Services.** The following measures shall be implemented to ensure that adequate police services are maintained in accordance with the adopted Quality of Life Threshold Standards:

i. Prior to approval, future PGDSP development projects shall demonstrate provision of adequate access for police vehicles (pursuant to General Plan Policy PFS 6.1) and integration of CPTED techniques (pursuant to General Plan Policy PFS 6.3).

ii. As a condition of project approval, each individual developer shall pay the Public Facilities Development Impact Fees at the rate in effect at the time the building permit is issued.

iii. As part of the annual budgeting process, the City shall assess the need for additional police personnel to provide police services consistent with established City service levels and commensurate with the increase in population.

Pursuant to City of Chula Vista Growth Management Policy GM1.11, the City of Chula Vista establishes the authority to withhold discretionary approval and subsequent building permits from projects demonstrated to be out of compliance with applicable threshold standards.

5.12.2.7 Level of Significance after Mitigation

With implementation of mitigation measure 5.12-2, impacts related to police services resulting from implementation of the proposed PGDSP would be reduced to below a level of significance.

5.12.3 Schools

5.12.3.1 Existing Conditions

Two public school districts provide primary and secondary school facilities and services for the City of Chula Vista: Chula Vista Elementary School District (CVESD) for kindergarten through 6th grade (and charter middle schools) and Sweetwater Union High School District (SUHSD) for 7th through 12th grade (and adult schools). The CVESD currently provides 45 schools (including charter schools) serving approximately 28,000 students in Chula Vista, Bonita, Sunnyside, and South San Diego (CVESD 2012). The SUHSD currently provides 32 schools serving more than 42,000 students and more than 16,000 adult learners in the cities of Chula Vista, Imperial Beach, National City, and San Diego, including the communities of Bonita, Eastlake, Otay Mesa, San Ysidro, and South San Diego (SUHSD 2012). In addition to traditional instruction, the Chula Vista Community Collaborative operates five school-based Family Resource Centers located on the campus of four elementary schools and one high school. Family Resource Centers offer a full range of family and youth-centered services, including case management, counseling, emergency food, assistance with health insurance and other applications and forms, job search help, and employment internships. Harborside Elementary School, Castle Park Middle School, and Palomar High School serve the PGD's student population, but no schools are located within the PGD.

5.12.3.2 Regulatory Framework

A. California State Senate Bill 50

Senate Bill 50, enacted in 1998, allows school districts to levy a fee, charge, dedication, or other requirement against any development project within its boundaries for the purpose of funding the construction or reconstruction of school facilities. This legislation provides that statutory fees are the exclusive means of considering as well as mitigating school impacts, thereby limiting the scope of review, findings, and mitigation that may be required for school impacts. Pursuant to Government Code Section 65996, the payment of the statutory fees by a developer serves to fully mitigate all potential project impacts on school facilities to below a level of significance.

B. City of Chula Vista General Plan

The Public Facilities and Services Element of the Chula Vista General Plan includes the following citywide objective and policies regarding the provision of school facilities:

Objective PFS 9
Develop schools that cultivate and educate people of all ages, that meet the needs of the workforce, and that serve as community centers.

Policy PFS 9.1: Coordinate with local school districts during review of applicable discretionary approvals to provide adequate school facilities, meet needs generated by development, and avoid overcrowding, in accordance with the guidelines and limitations of Government Code Section 65996(b).

Policy PFS 9.2: Encourage the consideration of new approaches to accommodate student enrollments, including alternative campus locations and education programs.

Policy PFS 9.3: Assist school districts in identifying and acquiring school sites for new construction in needed timeframes.

Policy PFS 9.4: Assist school districts in identifying sources of funding for the expansion of facilities in western Chula Vista, as needed, based on growth.

Policy PFS 9.5: Work closely with the school districts to identify needs for public education facilities and programs, including developing and expanding extra-curricular recreation and educational programs for primary, secondary and adult education, and providing state-of-the-art information services.

C. City of Chula Vista Growth Management Ordinance

The Growth Management Ordinance establishes the following Quality of Life Threshold Standard for schools (CVMC Section 19.09.040C): the City shall annually provide the two local school districts with a 12- to 18-month development forecast and request an evaluation of their ability to accommodate the forecast and continuing growth. The school districts' replies should address the following:

1) Amount of current capacity now used or committed;
2) Ability to absorb forecast growth in affected facilities;
3) Evaluation of funding and site availability for projected new facilities; and
4) Other relevant information the district(s) desire(s) to communicate to the City and GMOC.

The 2011 GMOC Annual Report indicates that the CVESD and SUHSD are currently in compliance with the City's Quality of Life Threshold Standard for schools; however, there is a potential for the CVESD to be non-compliant in the short-term (12 to 18 months), as well as 5 years from now. According to the 2011 GMOC Annual Report, both CVESD and SUHSD indicate that additional facilities will be required to accommodate growth in the next 5 years, and that such facilities will be constructed when funding is available. It should be noted that the anticipated need for new school facilities applies to eastern Chula Vista, while schools west of I-805, including those in the vicinity of the PGD, are generally below capacity.

5.12.3.3 Criteria for Determination of Significance

According to the City of Chula Vista, a significant impact to schools would occur if implementation of the proposed project would:

- Criterion 1: Result in the inability of the public school system to provide adequate school facilities in accordance with student/teacher and facilities ratios established for the CVESD and SUHSD.

5.12.3.4 Impacts

PGDSP build-out would allow for increased development densities and associated population growth in the PGD, thereby increasing the demand for schools. As discussed in Section 5.12.3.2, the CVESD and SUHSD are currently in compliance with the City's Quality of Life Threshold Standard for schools; however, both the CVESD and SUHSD indicate that additional facilities will be required to accommodate growth in the next 5 years. As shown in Table 5.12-2, applying the student generation rates for multi-family dwelling units to the PGDSP's projected additional development of 1,300 units (based on the 2011 Market Study prepared by Gafcon), PGDSP build-out would generate a net increase of approximately 529 students.

The Public Services and Facilities Element of the General Plan addresses issues related to school facilities (Policy PFS 9.1 through PFS 9.5), including coordination with local school districts to identify needs, school sites, sources of funding for school expansion, new approaches to accommodate enrollment, and review of land use issues requiring discretionary approval to provide adequate school facilities. In conformance with the objectives and policies of the General Plan, the PGDSP addresses improvements to school facilities in relation to projected build-out of the PGDSP over the 20-year planning horizon. Through the Growth Management Program and CIP process, the City would schedule and monitor public educational services improvements in coordination with local school districts. School mitigation fees would provide capital funding for needed facilities. However, if the construction or expansion of school facilities does not coincide with the PGDSP's student generation and associated demand for schools, the capacities of the CVESD and SUHSD could be exceeded. This represents a potentially significant impact associated with schools.

Table 5.12-2 PGDSP Student Generation

	Projected Additional Residential Development	Generation Rate[1]	Students
Elementary School[2]	1,300 units	0.2091	272
Middle School[3]		0.0810	105
High School[3]		0.1171	152
		Total	**529**

[1] Student generation rates for multi-family dwelling units.
[2] Elementary school student generation rate negotiated with CVESD.
[3] Middle and high school student generation rates negotiated with SUHSD.

5.12.3.5 Level of Significance Prior to Mitigation

PGDSP build-out would allow for increased development densities and associated population growth in the PGD, thereby increasing the demand for schools. As discussed in Section 5.12.3.2, it should be noted that schools west of I-805, including those in the vicinity of the PGD, are generally below capacity according to the 2011 GMOC Annual Report. However, if the construction or expansion of school facilities does not coincide with the PGDSP's student generation and associated demand for schools, a potentially significant impact would occur.

5.12.3.6 Mitigation Measures

Provision of school facilities is the responsibility of the school district when additional demand warrants. As described in Section 5.12.3.2 above, Senate Bill 50 provides that the statutory fees are the exclusive means of considering as well as mitigating school impacts, thereby limiting the scope of review, findings, and mitigation that may be required for school impacts. Pursuant to Government Code Section 65996, the payment of the statutory fees by a developer serves to fully mitigate all potential project impacts on school facilities to below a level of significance. As such, implementation of mitigation measure 5.12-3 would reduce potential impacts to schools to a less than significant level.

5.12-3 **Adequate Level of School Facilities.** Prior to approval of future PGDSP development projects, each individual developer shall pay the statutory school impact fees at the rate in effect at the time the building permit is issued.

5.12.3.7 Level of Significance after Mitigation

With implementation of mitigation measure 5.12-3, impacts related to schools resulting from implementation of the proposed PGDSP would be reduced to below a level of significance.

5.12.4 Libraries

5.12.4.1 Existing Conditions

The Chula Vista Public Library System currently operates three library facilities: Civic Center Branch, South Chula Vista Branch, and Otay Ranch Branch (City of Chula Vista 2012c). The Civic Center Branch Library is located at 365 F Street and is the largest library facility within the City, consisting of a two-story, 55,000-square-foot building. This branch has a 152-seat auditorium, a 26-seat conference room, and serves as a multi-use facility including storage for the Heritage Museum and limited exhibition space. The South Chula Vista Branch Library is located at 389 Orange Avenue and consists of approximately 38,000 square feet with two conference rooms seating approximately 25 and 50 each, three small study rooms for groups of two or more that may be reserved on site, and the Rosemary Lane Galleria which acts as an exhibition space for local artists. The Otay Ranch Branch Library is located at 2015 Birch Road in the Otay Ranch Town Center and consists of approximately 3,400 square feet with one small study room.

5.12.4.2 Regulatory Framework

A. City of Chula Vista Public Library Strategic Facilities Plan

The purpose of the Chula Vista Public Library Strategic Facilities Plan (City of Chula Vista 2011e) is to identify ways to improve the library service delivery to the community, particularly to residents of eastern Chula Vista. The plan determined that the additional needed library square footage can be developed as multiple smaller branches, or as one large library. Because the Chula Vista Public Library's operating budget has been significantly reduced and capital funding is not currently available, the facilities plan does not indicate which option would be implemented. The options will be evaluated when capital and operating funds become available. Additional measures such as mall outlets, book vending machines, a bookmobile, and service partnerships are identified as possible interim measures. An additional interim measure is the mall branch at Otay Ranch Town Center, which opened in April 2012.

B. City of Chula Vista General Plan

The Public Facilities and Services Element of the General Plan includes the following citywide objective and policies regarding the provision of library facilities:

Objective PFS 11
Provide a library system of facilities and programs that meets the needs of Chula Vista residents of all ages.

Policy 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.

Policy PFS 11.2: Within five to eight years, encourage an update to the Chula Vista Public Library Facilities Master Plan.

Policy PFS 11.3: In needed timeframes, assist the Chula Vista Public Library in identifying and acquiring library sites for new construction.

Policy PFS 11.4: Assist the Chula Vista Public Library in identifying sources of funding for the expansion of facilities in western Chula Vista as needed, based on growth.

Policy PFS 11.5: Work closely with the Chula Vista Public Library to identify needs for public outreach programs, including developing and expanding extra-curricular recreation and educational programs, and providing state-of-the-art information services.

C. City of Chula Vista Growth Management Ordinance

The Growth Management Ordinance establishes the following Quality of Life Threshold Standard for libraries (CVMC Section 19.09.040D): population ratio of 500 square feet (gross) of adequately equipped and staffed library facilities per 1,000 population. The 2011 GMOC Annual Report indicates that the Chula Vista Public Library System provided 102,000 total gross square footage of library facilities for a population of 233,692, which corresponds to a population ratio of 436 square feet of library facilities per 1,000 population. Thus, the Chula Vista Public Library System is currently in non-compliance with the City's Quality of Life Threshold Standard for libraries. In order to address the ongoing shortage of library space in the City per the threshold standard, the Chula Vista Public Library Strategic Facilities Plan (City of Chula Vista 2011e) includes plans for the construction of the Rancho del Rey Library at the intersection of East H Street and Paseo Ranchero, which would be approximately 31,000 square feet in size; however, construction of the Rancho del Rey Library has been delayed indefinitely due to budget constraints.

5.12.4.3 Criteria for Determination of Significance

According to the City of Chula Vista, a significant impact to libraries would occur if implementation of the proposed project would:

- Criterion 1: Result in the inability of the City to provide an adequate level of library facilities in accordance with the adopted standards and threshold as follows: population ratio of 500 square feet of adequately equipped and staffed library facilities per 1,000 population.

5.12.4.4 Impacts

As discussed in Section 5.12.4.2 above, the Chula Vista Public Library System is currently in non-compliance with the City's Quality of Life Threshold Standard for libraries. In order to address the ongoing shortage of library space in the City per the threshold standard, the Chula Vista Public Library Strategic Facilities Plan (City of Chula Vista 2011e) includes plans for the construction of the Rancho del Rey Library at the intersection of East H Street and Paseo Ranchero, which would be approximately 31,000 square feet in size; however, construction of the Rancho del Rey Library has been delayed indefinitely due to budget constraints. PGDSP build-out would allow for increased development densities and associated population growth in the PGD, thereby increasing the demand for libraries, which could contribute to the existing shortage of library space if the City's plans for additional library development continue to be unrealized. Applying the threshold standard for libraries (500 square feet per 1,000 population) to the PGDSP's projected increase in population of 3,354 residents (based on the 2011 Market Study prepared by Gafcon), PGDSP build-out would result in demand for an additional 1,677 square feet of library facilities.

The PGDSP addresses improvements to library facilities in relation to projected build-out of the PGDSP over the 20-year planning horizon. Through the Growth Management Program, CIP process, and Public Library Strategic Facilities Plan, the City would schedule, evaluate, and monitor public library services improvements to coordinate timing of new facilities with new development. Public Facilities Development Impact Fee programs would provide capital funding for needed facilities. However, if the construction or expansion of library facilities does not coincide with the PGDSP's projected population growth and associated demand for libraries, the Chula Vista Public Library System would continue to be in non-compliance with the Quality of Life Threshold Standard. This represents a potentially significant impact associated with libraries.

5.12.4.5 Level of Significance Prior to Mitigation

PGDSP build-out would allow for increased development densities and associated population growth in the PGD, thereby increasing the demand for libraries, which could contribute to the existing shortage of library space if the City's plans for additional library development continue to be unrealized. If the construction or expansion of library facilities does not coincide with the PGDSP's projected population growth and associated demand for libraries, a potentially significant impact would occur.

5.12.4.6 Mitigation Measures

Implementation of mitigation measure 5.12-4 would reduce potential impacts to libraries to a less than significant level.

5.12-4 **Adequate Level of Library Facilities.** Prior to approval, future PGDSP development projects shall demonstrate that significant impacts to libraries resulting from the individual project have been addressed. As a condition of project approval, each individual developer shall pay the Public Facilities Development Impact Fees at the rate in effect at the time the building permit is issued.

5.12.4.7 Level of Significance after Mitigation

With implementation of mitigation measure 5.12-4, impacts related to libraries resulting from implementation of the proposed PGDSP would be reduced to below a level of significance.

5.12.5 Parks and Recreation

5.12.5.1 Existing Conditions

The citywide park system currently contains nearly 529 acres of parkland consisting of nine community parks, thirty-four neighborhood parks, ten mini parks, one urban park, and one special purpose park, as well as twelve community centers (City of Chula Vista 2010a). As of January 1, 2010, with a population of 237,595, the City maintained an overall ratio of 2.23 acres of parkland per 1,000 residents. Table 5.12-3 summarizes the number and size of the existing public parks and major recreation facilities.

Table 5.12-3 Summary of Citywide Public Parks and Major Recreation Facilities

Park Type	Parks		Major Recreation Facilities		
	Quantity	Acres	Community Center Only	Recreation Complex	Square Feet
Community	9	226.12	1	2	45,972
Neighborhood	34	284.74	2	3	55,670
Mini and Urban	10	9.06	--	--	--
Other Parks	6	9.28	2	2	32,178
Subtotal	59	528.20	5	7	133,820
Regional	2	9,433.71	--	--	--

Source: City of Chula Vista 2010a

In the Southwest Planning Area, which includes the PGD, there are currently seven neighborhood parks and five mini parks totaling 63.02 acres of parkland, as well as two community centers in two parks and one recreation complex (City of Chula Vista 2010a); however, none are located within the PGD. Table 5.12-4 lists the public parks and associated recreation facilities located in the Southwest Planning Area.

Table 5.12-4 Public Parks in the Southwest Planning

Park Name	Park Type	Acreage	Recreation Facilities
Connoley	Mini Park	0.65	Basketball, Play Area, Open Green Space
Harborside	Neighborhood Park	5.10	Soccer, Basketball, Play Area, Open Green Space, Picnicking, Restrooms, Parking
Holiday Estates I	Mini Park	0.24	Open Green Space
Holiday Estates II	Mini Park	0.17	Open Green Space
Lauderbach	Neighborhood Park	3.90	Soccer, Basketball, Play Area, Open Green Space, Picnicking, Recreation/Community Center, Restrooms, Parking
Loma Verde Park and Orange Avenue Fields	Neighborhood Park	12.00	Softball, Play Area, Open Green Space, Picnicking, Swimming Pool, Gymnasium, Other Building, Restrooms, Parking
Los Ninos	Neighborhood Park	5.07	Basketball, Play Area, Open Green Space, Picnicking, Restrooms
Otay Park	Neighborhood Park	4.18	Soccer, Play Area, Open Green Space, Picnicking, Restrooms
Otay Recreation Center	Recreation Complex	1.46	Recreation/Community Center, Concessions, Restrooms, Parking
Palomar	Mini Park	2.71	Play Area, Open Green Space, Picnicking, Parking
Reinstra Ball Fields	Neighborhood Park	7.12	Softball, Open Green Space, Concessions, Restrooms, Parking
SDG&E	Neighborhood Park	20.14	Basketball, Play Area, Open Green Space, Picnicking, Parking
Sherwood	Mini Park	0.28	Open Green Space

Source: City of Chula Vista 2010a

5.12.5.2 Regulatory Framework

A. City of Chula Vista Parks and Recreation Master Plan

The Chula Vista Parks and Recreation Master Plan serves as the blueprint for the City's park system. The Parks and Recreation Master Plan establishes goals for the creation of a comprehensive parks and recreation system that meets the needs of the public by effectively distributing park types and associated recreational facilities and programs throughout Chula Vista. The City is currently in the process of updating the 2002 Parks and Recreation Master Plan (City of Chula Vista 2002b) in response to the expanded 2030 development forecast identified in the 2005 General Plan Update, and has released a draft of the 2010 Parks and Recreation Master Plan Update (City of Chula Vista 2010a) for review by the public. The draft 2010 Parks and Recreation Master Plan Update identifies a future five-acre neighborhood park to be developed in the PGD in the 2015 to 2025 timeframe.

B. City of Chula Vista General Plan

The Public Facilities and Services Element of the General Plan includes the following citywide objective and policies regarding the provision of parks and recreation 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, health, and fitness, in addition to recreation.

Policy PFS 14.1: Maximize the use of existing parks and recreation facilities through upgrades and additions/changes to programs to meet the needs of the community.

Policy PFS 14.2: Construct new parks and recreation facilities that reflect the interests and needs of the community.

Policy 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.

Policy PFS 14.4: Use park dedication; location; site design; and acceptance standards, as provided in the Chula Vista Parks and Recreation Master Plan; the Park Dedication Ordinance; and the recreation component of the Public Facilities Development Impact Fee, as may be amended from time to time.

Policy 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 the residents they will serve.

Objective PFS 15
Provide new park and recreation facilities for residents of new development, citywide.

Policy 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 1,000 new residents.

Policy PFS 15.2: Consider a combination of land dedication, improvements, and/or in-lieu fees for park development improvements in the Northwest and Southwest Planning Areas to better serve the public park and recreation needs of future residents.

Policy PFS 15.3: Consider a broad mix of park types and facilities toward meeting park requirements in the Northwest and Southwest planning areas, in response to existing development conditions and lack of land availability. Such facilities could include urban parks; plazas; neighborhood parks; and community parks to meet the parkland dedication requirements of new development in the west.

Policy 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.

Policy PFS 15.5: Use park dedication, location, site design, and acceptance of dedication standards, as provided in the Chula Vista Parks and Recreation Master Plan, the Park Dedication Ordinance, and the recreation component of the Public Facilities Development Impact Fee program, as may be amended from time to time.

Policy PFS 15.6: Evaluate financing options, including the possibility of a general obligation bond, for acquiring and developing additional park space and recreation facilities, and for upgrading existing facilities.

Policy 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.

C. City of Chula Vista Parkland Dedication Ordinance

CVMC Chapter 17.10, Parkland and Public Facilities, establishes regulations for the dedication of land and development of improvements for park and recreational purposes; determination of park and recreational requirements; areas to be dedicated; specifications for park development improvements; criteria for area to be dedicated; procedures for in lieu fees for land dedication and/or park development improvements; and other requirements regarding park development and collection and distribution of fees. The Parkland Dedication Ordinance requires that “every subdivider, or developer of new residential developments, shall, for the purpose of providing neighborhood and community park and recreational facilities directly benefiting and serving the residents of the regulated subdivision, or in the case of a development not requiring a subdivision of land, benefiting and serving the residents of those new developments, dedicate a portion of the land and develop improvements thereon or in lieu thereof pay fees for each dwelling unit in the subdivision or residential development, or do a combination thereof, as required by the City in accordance with this chapter” (CVMC Section 17.10.010). Table 5.12-5 shows the amount of parkland dedication required for the various development types, which is based on a standard of 3 acres per 1,000 persons. In addition to the dedication of land, the subdivider or building permit applicant is responsible for developing all or a portion of such land for neighborhood or community park purposes, including grading, improvements, and utilities.

D. City of Chula Vista Growth Management Ordinance

The Growth Management Ordinance establishes the following Quality of Life Threshold Standard for parks and recreation areas (CVMC Section 19.09.040E): population ratio of 3 acres of neighborhood and community parkland with appropriate facilities per 1,000 residents east of I-805 (note: the PGD is west of I-805). The 2011 GMOC Annual Report indicates that the City is currently in compliance with the Quality of Life Threshold for parks.

Table 5.12-5 Parkland Dedication Requirements for Residential Developments

Residential Development Type	Persons per Unit	Standard Dedication Requirement	Area to be Dedicated
Single-Family Dwelling Units	3.52	3 acres per 1,000 persons	460 SF per unit = 1 acre per 95 units
Multiple-Family Dwelling Units	2.61		341 SF per unit = 1 acre per 128 units
Mobilehomes	1.64		214 SF per unit = 1 acre per 203 units
Residential and Transient Motels/Hotels	1.50		196 SF per unit = 1 acre per 222 units

Source: CVMC Section 17.10.040

5.12.5.3 Criteria for Determination of Significance

According to the City of Chula Vista, a significant impact to parks and recreation would occur if implementation of the proposed project would:

- Criterion 1: Result in the inability of the City to provide an adequate level of parks and recreation areas in accordance with the adopted standards and threshold as follows: dedication of 3 acres of parkland with appropriate facilities per 1,000 residents.

5.12.5.4 Impacts

PGDSP build-out would allow for increased development densities and associated population growth in the PGD, thereby increasing the demand for parks and recreation facilities. As discussed in Section 5.12.5.2 above, the City's Parkland Dedication Ordinance (CVMC Chapter 17.10) establishes a standard parkland dedication requirement of 3 acres per 1,000 persons or the payment of in lieu fees. Applying the standard parkland dedication requirement to the PGDSP's projected increase in population of 3,354 residents (based on the 2011 Market Study prepared by Gafcon), PGDSP build-out would require approximately 10.06 acres of new parkland, which would need to be dedicated incrementally and commensurate with new residential development. As shown on Figure 5.12-1, the PGDSP identifies the following potential locations within or adjacent to the PGD that may be improved with parks, plazas, or open spaces to meet the parkland requirement:

- The 4.5-acre site located within the SDG&E right-of-way south of the Palomar Transit Station provides an opportunity for a neighborhood park and would serve to fulfill the General Plan vision for a park in the vicinity of the PGD.
- The 1.3-acre MTS site located between Palomar Street and Oxford Street just east of the railroad tracks would be suitable for an urban park.
- The PGD provides opportunities to provide plazas within private properties. Some of the sites that offer opportunities for plazas are the Palomar Transit Station and the former "Pumpkin Patch" site along Palomar Street west of Industrial Boulevard, as well as the large private parcels located between Palomar Street and Oxford Street east of Industrial Boulevard.
- The existing drainage that runs east-west from Industrial Boulevard to Frontage Road along the rear of private properties located south of Ada Street and north of Dorothy Street represents an opportunity for a private greenway that could be preserved and enhanced for the enjoyment of the contiguous property owners.

Source: SanGIS, 2011; CASIL, 2011

0 200 400 Feet

N

POTENTIAL PARK SITES
FIGURE 5.12-1

Scarce land tends to make parkland acquisition costs (in terms of cost of land and displacement) in western Chula Vista significantly higher compared to eastern Chula Vista. While future growth would result in the need and requirement for additional parklands and recreational facilities, there would be increased difficulty in securing appropriate park and recreation sites in western Chula Vista where land is largely built-out. Lack of vacant and underutilized land and/or competing demands for land provide challenges to increasing the parks and recreation facilities inventory in western Chula Vista. Maximizing the utility of existing parks and recreation facilities through renovation and expansion and the consideration of non-active recreational uses within existing recreation areas is important in western Chula Vista; while this strategy would not provide additional park acreage, it would partially meet the recreational needs of future residents. Implementation of future park sites along with integration of urban parks in infill areas in western Chula Vista would satisfy some future park and recreation demands resulting from new residential development. However, if the dedication of parkland and construction of recreation facilities does not coincide with the PGDSP's projected population growth and associated demand for parks and recreation facilities, the recreational needs of residents would not be met. This represents a potentially significant impact associated with parks and recreation.

5.12.5.5 Level of Significance Prior to Mitigation

PGDSP build-out would allow for increased development densities and associated population growth in the PGD, thereby increasing the demand for parks and recreation facilities. If the dedication of parkland and construction of recreation facilities does not coincide with the PGDSP's projected population growth and associated demand for parks and recreation facilities, a potentially significant impact would occur.

5.12.5.6 Mitigation Measures

Implementation of mitigation measure 5.12-5 would reduce potential impacts to parks and recreation to a less than significant level.

5.12-5 **Adequate Level of Parks and Recreation Facilities.** Prior to approval, future PGDSP development projects shall establish to the satisfaction of the Development Services Director that the project meets the City's parkland dedication requirement. As a condition of project approval, each individual developer shall provide required parkland and recreational facilities consistent with potential site locations identified in the PGDSP and the Parks and Recreation Master Plan; or shall pay the applicable parkland acquisition and parkland development fees and recreation facility development impact fees at the rate in effect at the time building permits are issued.

5.12.5.7 Level of Significance after Mitigation

With implementation of mitigation measure 5.12-5, impacts related to parks and recreation resulting from implementation of the proposed PGDSP would be reduced to below a level of significance.

5.12.6 Water

The following discussion of water supply is based on the Water Supply Assessment prepared by the Sweetwater Authority (2012). The Water Supply Assessment is provided as Appendix G of this EIR.

5.12.6.1 Existing Conditions

Potable water supply to the PGD is provided by Sweetwater Authority. The Sweetwater Authority's water system provides water service to approximately 177,288 consumers within the City of Chula Vista, a portion of the City of San Diego, and the South Bay Irrigation District, which consists of a portion of the City of Chula Vista and the unincorporated community of Bonita. The Sweetwater Authority's service area covers 32 square miles and contains approximately 32,567 service connections. In addition, the system has emergency interconnections to three water agencies: Otay Water District, City of San Diego, and California American Water Company. At the present time, there are no plans for expansion of the Sweetwater Authority's service area.

Water used in the Sweetwater Authority's service area comes from various sources, including local groundwater, a brackish groundwater desalination facility, surface water, and imported water from the Colorado River and the State Water Project. The imported water is delivered by the San Diego County Water Authority (SDCWA), either purchased from or wheeled by the Metropolitan Water District of Southern California (MWD), and is then purchased by the Sweetwater Authority. Since 1955, local sources have met 45 percent of the water needs within the Sweetwater Authority's service area, while the 55 percent balance has been met with imported water. The percentage of local water to imported water varies greatly with time due to local rainfall amounts.

A. Local Water

The Sweetwater Authority's historical and projected local water supplies are shown in Table 5.12-6 and described below.

Table 5.12-6 Historical and Projected[(1)] Local Water Supplies

Fiscal Year Ending	Total Local Supplies (acre-feet)	Source (acre-feet)		
		Reservoirs	National City Wells	Reynolds Desalination Facility
1980	18,700	17,392	1,308	--
1985	21,271	20,052	1,219	--
1990	1,853	--	1,853	--
1995	17,247	15,855	1,392	--
2000	20,319	16,302	1,899	2,118
2005	12,228	8,449	1,793	1,986
2010	6,251	901	2,174	3,176
2015	13,200	7,400	2,200	3,600
2020	18,400	7,400	2,200	8,800
2025	18,400	7,400	2,200	8,800
2030	18,400	7,400	2,200	8,800
2035	18,400	7,400	2,200	8,800

[(1)] Projected water supply under normal water year conditions.
Source: Sweetwater Authority 2012

1. Surface Water Sources

The Sweetwater Authority owns and operates two storage reservoirs, known as Sweetwater Reservoir and Loveland Reservoir, which were constructed in 1888 and 1945, respectively. Sweetwater Reservoir has an approximate capacity of 28,079 acre-feet and Loveland Reservoir has an approximate capacity of 25,387 acre-feet, for a combined capacity of 53,466 acre-feet. The watershed for the Sweetwater River

is approximately 230 square miles. Sweetwater Reservoir is downstream of Loveland Reservoir and has a treatment plant capable of producing 30 million gallons of water per day (mgd). Local supply from Sweetwater Reservoir varies from zero to 100 percent depending on the local runoff conditions. During wet years when the Sweetwater and Loveland Reservoirs are at or near full capacity, they are capable of providing up to a two-year supply to the Sweetwater Authority's customers.

2. Groundwater Sources

The Sweetwater Authority produces groundwater from the Sweetwater Valley Groundwater Basin identified in the California Department of Water Resources (DWR) Bulletin 118 as Basin Number 9-17. The Sweetwater Valley Groundwater Basin underlies an alluvial valley that empties into the San Diego Bay and is bounded on the east by the impermeable Santiago Peak volcanic rocks. The north and south areas consist of Pliocene and Pleistocene semi-permeable terrestrial deposits, which constitute valley walls. The western boundary is San Diego Bay. Basin recharge is derived from seasonal runoff from precipitation, discharge from the Sweetwater and Loveland Reservoirs, and underflow from the reservoirs. The two water-bearing formations in the Sweetwater Valley Groundwater Basin are the Quaternary Alluvium and the San Diego Formation. In 1997, the SDCWA estimated a groundwater storage capacity of about 13,000 acre-feet in the Quaternary Alluvium and about 960,000 acre-feet in the San Diego Formation. The Sweetwater Valley Groundwater Basin is not an adjudicated basin, meaning there has never been any restriction on the rate of extraction of groundwater. However, the City of San Diego has filed a lawsuit challenging the EIR for the expansion project that the Sweetwater Authority has proposed at the Reynolds Groundwater Desalination Facility. As a point of reference, the Sweetwater Valley Groundwater Basin has not been identified in DWR Bulletin 118 (California's Groundwater) as being in an overdraft condition.

The Sweetwater Authority operates the National City Wells, which produce potable groundwater (total dissolved solids [TDS] approximately 600 milligrams per liter [mg/l]), and the Reynolds Desalination Facility, which produces drinking water from brackish groundwater (TDS between 2,000 and 2,500 mg/l). Both well fields pump from the San Diego Formation. The National City Wells consist of three wells: Well No. 2, Well No. 3, and Well No. 4. Well No. 3 and Well No. 4 operate daily, while Well No. 2, the oldest well, serves as a backup. From 1954 to 2010, the Sweetwater Authority has produced an average of 1,790 acre-feet per year from the National City Wells.

The Reynolds Desalination Facility, which commenced operation in 1999, was designed to take groundwater from four alluvial wells and five deep San Diego Formation wells located on the north side of the Sweetwater River. In addition, a sixth San Diego Formation well has been constructed. The facility removes the TDS from the brackish groundwater using reverse osmosis technology. Currently, the alluvial wells are not in operation for the following reasons: 1) summertime vegetative distress in the Sweetwater River; 2) surface water influence on the relatively shallow alluvial formation; and 3) the California Department of Public Health has not approved the reverse osmosis membranes for surface water treatment.

Phase 1 of the Reynolds Desalination Facility was designed to produce 4 mgd of drinking water. The facility was constructed with space to accommodate a Phase 2 expansion to produce up to 8 mgd. Currently, the Sweetwater Authority is in the design phase to expand the facility to a maximum 10 mgd capacity with an average production of 8 mgd. Construction of this expansion is anticipated to be completed by 2017. Additionally, the Sweetwater Authority is currently participating in studies with the U.S. Geological Survey to evaluate the San Diego Formation aquifer in an effort to make safe use of the available yield from the aquifer.

3. Water Recycling

The Sweetwater Authority does not produce or distribute recycled water. However, the following potential developments in the Sweetwater Authority's service area could have significant impacts on future potable water demand:

- The previously planned construction of a new LSP South Bay, LLC, Energy Power Plant with up to 5 mgd of recycled water demand. However, at this time it does not appear that this project will move forward.
- The planned development of the Chula Vista Bayfront, which will cover approximately 550 acres along San Diego Bay. The land uses being considered include parks and open space. This development will increase the demand for potable water.

Due to these developments, the Sweetwater Authority completed a master plan for the distribution of recycled water within its service area. Additionally, the Sweetwater Authority has participated in studies with the SDCWA, Otay Water District, and the City of Chula Vista to analyze potential water recycling plant locations within its service area. Due to the uncertainty or long term nature of these developments, the implementation of recycled water service within the Sweetwater Authority's service area is unknown; therefore, the use of recycled water has not been considered in this analysis.

B. Imported Water

The Sweetwater Authority represents two (City of Chula Vista and South Bay Irrigation District) of the 24 member agencies of the SDCWA. Member agency status entitles the Sweetwater Authority to directly purchase water from the SDCWA on a wholesale basis. One hundred percent of the Sweetwater Authority's imported water is purchased from the SDCWA, which is a member agency of the MWD. The statutory relationships between the SDCWA and its member agencies, and the MWD and its member agencies, respectively, establish the scope of the Sweetwater Authority's entitlements to water from these two agencies. The historical quantities of water purchased from the SDCWA by the Sweetwater Authority are shown on Table 5.12-7.

C. Demand Management Measures (Water Conservation)

The Sweetwater Authority recognizes water conservation and demand management as a priority in its water use planning. The long-term goal of the Sweetwater Authority's water conservation program is to achieve and maintain water use efficiency goals for various use categories that are reasonable for that category. Specific objectives of the Sweetwater Authority's conservation program are to:

- Eliminate wasteful practices in water use;
- Continue to develop information on both current and potential water conservation practices;
- Ongoing, timely implementation of conservation practices; and
- Public information and education activities to spread knowledge of efficient water use techniques and devices.

The Sweetwater Authority started a water conservation program in 1990. Initial efforts included a long-term public information program and cooperation with the conservation efforts of the SDCWA. The water conservation program expanded significantly during the 1987–1992 drought, and the backbone of a long-term conservation program was formed. Since that time, the Sweetwater Authority has

continued to revamp the conservation program by developing a variety of innovative and effective approaches to demand management.

Table 5.12-7 Sweetwater Authority Historical Imported Water Supplies

Fiscal Year Ending	Total Imported Water (acre-feet)	Source (acre-feet)	
		Untreated	Treated
1985	4,634	--	4,634
1986	20,842	--	20,842
1987	16,384	--	16,384
1988	20,514	--	20,514
1989	19,519	--	19,519
1990	24,019	--	24,019
1991	20,508	--	20,508
1992	14,722	--	14,722
1993	6,188	--	6,188
1994	1,387	--	1,387
1995	5,045	--	5,045
1996	1,589	--	1,589
1997	14,230	--	14,230
1998	8,452	--	8,452
1999	10	--	10
2000	5,520	5,429	91
2001	14,841	14,381	47
2002	19,551	19,408	143
2003	20,271	20,226	45
2004	20,526	19,456	1,070
2005	11,342	11,234	108
2006	7,723	7,723	--
2007	12,102	11,987	115
2008	16,658	16,650	8
2009	12,864	11,312	1,552
2010	14,548	11,375	3,173
2011	7,029	6,377	652

Source: Sweetwater Authority 2012

Water conservation programs are developed and implemented on the premise that water conservation increases water supply by reducing the demand on available supply, which is vital to the optimal use of the region's supply resources. The Sweetwater Authority actively participates in countywide and regional conservation programs through the SDCWA and MWD. As a member of the SDCWA, the Sweetwater Authority benefits from regional programs performed on behalf of its member agencies. The Sweetwater Authority also participates in water conservation programs operated on a shared-cost basis among the SDCWA, MWD, and their member agencies.

The vast majority of water savings result from the installation of residential and commercial Ultra Low Flow Toilets, High Efficiency Toilets, and High Efficiency Washers. In 2008, the Sweetwater Authority shifted emphasis towards more water efficient landscaping and commercial appliances. These programs continue to evolve. The resulting savings in supply from these programs directly relates to additional

available water in the San Diego region for beneficial use within the SDCWA's service area, including the Sweetwater Authority. In partnership with the SDCWA and San Diego County, the Sweetwater Authority's water conservation efforts are expected to grow and expand.

The Sweetwater Authority's FY 2010/11 budget included $119,700 for conservation programs that are anticipated to save approximately 2,400 acre-feet of water for the year. This fiscal year financial commitment represents an average cost of approximately $50 per acre-foot of projected water sales. Conservation programs also reduce imported water demand.

Demonstrating its commitment to conservation, Sweetwater Authority officials became an original signatory to the Memorandum of Understanding Regarding Urban Water Conservation in California, which created the California Urban Water Conservation Council in 1991 in an effort to reduce California's long-term water demands. As defined in the Memorandum of Understanding, a water conservation BMP is:

> "A policy, program, practice, rule, regulation or ordinance or the use of devices, equipment or facilities which meets either of the following criteria: a) an established and generally accepted practice among water suppliers that results in more efficient use or conservation of water; or b) a practice for which sufficient data are available from existing water conservation projects to indicate that significant conservation or conservation-related benefits can be achieved; that the practice is technically and economically reasonable and not environmentally or socially unacceptable; and that the practice is not otherwise unreasonable for most water suppliers to carry out."

Since becoming a signatory to the Memorandum of Understanding in 1991, the Sweetwater Authority has made implementation of BMPs a foundational element of its conservation programs, and a key component in its water resource management strategy. The Sweetwater Authority is in full compliance with the Memorandum of Understanding. Since 2008, BMPs have been updated to include current technology and credit agencies for their innovative water conservation programs. These revisions have been incorporated into the Sweetwater Authority's conservation program and resulting demand management measures. For a detailed description of the current demand management measures implemented by the Sweetwater Authority, refer to Section 5.1.4 of the Water Supply Assessment (Sweetwater Authority 2012), which is provided as Appendix G of this EIR.

5.12.6.2 Regulatory Framework

A. Sweetwater Authority Urban Water Management Plan

The Sweetwater Authority prepares an Urban Water Management Plan (UWMP) every 5 years, in accordance with California Water Code Sections 10610–10656 of the Urban Water Management Planning Act. The Act, which was Assembly Bill 797, requires that every urban water supplier providing water for municipal purposes to more than 3,000 customers, or supplying more than 3,000 acre-feet of water annually, shall prepare and adopt an UWMP in accordance with the prescribed requirements. The Act requires urban water suppliers to file plans with the DWR describing and evaluating reasonable and practical efficient water uses, reclamation, and conservation activities. As required by law, the Sweetwater Authority's UWMP includes projected water supplies required to meet future demands. The most recently adopted 2010 UWMP did not account for the water demands associated with the PGDSP, but did account for planned future development and redevelopment within the Sweetwater Authority's

service area, including the Chula Vista Urban Core Specific Plan and other projects identified in the Chula Vista General Plan.

B. City of Chula Vista General Plan

The Public Facilities and Services Element of the General Plan includes the following citywide objective and policies regarding water supply:

Objective PFS 3
Ensure a long-term water supply to meet the needs of existing and future uses in Chula Vista.

Policy PFS 3.1: Assist Chula Vista's water agencies in preparing and maintaining UWMPs that identify water demand anticipated by existing and new development.

Policy PFS 3.2: Coordinate with water providers on long-range planning programs.

Policy PFS 3.3: Participate in existing and future regional planning programs for water treatment, reclamation, and distribution.

Policy 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.

C. City of Chula Vista Growth Management Ordinance

The Growth Management Ordinance establishes the following Quality of Life Threshold Standards for water supply (CVMC Section 19.09.040F): 1) developer will request and deliver to the City a service availability letter for the water district for each project; and 2) the City shall annually provide the SDCWA, Sweetwater Authority, and Otay Municipal Water District with a 12- to 18-month development forecast and request an evaluation of their ability to accommodate the forecast and continuing growth. The water 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 forecasted growth;

d) Evaluation of funding and site availability for projected new facilities;

e) Other relevant information the district(s) desire(s) to communicate to the City and GMOC.

The 2011 GMOC Annual Report indicates that the City is currently in compliance with the Quality of Life Threshold Standard for water supply. The Sweetwater Authority and Otay Municipal Water District both reported that they will be able to meet the water demands of anticipated growth over the next 5 years.

5.12.6.3 Criteria for Determination of Significance

According to Appendix G of the CEQA Guidelines, a significant impact related to water supply would occur if implementation of the proposed project would:

- Criterion 1: Result in a determination by the potable water provider which serves or may serve the project that it does not have adequate water supplies to serve the project's projected demand in addition to the provider's existing and planned commitments.

5.12.6.4 Impacts

As discussed in Section 5.12.6.2 above, the adopted 2010 UWMP did not account for the water demand associated with the PGDSP. Therefore, in accordance with California Water Code Section 10910(c)(3) and California Government Code Section 66473.7(a)(2), the Water Supply Assessment (Sweetwater Authority 2012) includes a discussion regarding whether the Sweetwater Authority's total projected water supplies, available during normal, single-dry, and multiple-dry water years during a 20-year projection, would meet the projected water demand associated with the proposed PGDSP, in addition to the Sweetwater Authority's existing and planned future uses. The results of the Water Supply Assessment are summarized below.

A. Water Supply

Local water supply was calculated using available hydrologic data between 1926 and 2010 within the Sweetwater River Watershed, excluding runoff spilled from the Sweetwater Dam to San Diego Bay. Based on this data the historical amount of useable runoff for normal, single-dry, and multiple-dry years were determined. The normal water year for local production from Sweetwater Reservoir is based on the average since 1960, the single-dry year is the year with the lowest run-off (1961), and the multiple-dry year period is the lowest average runoff for a consecutive three-year period (1959 through 1961). The National City Wells and the Reynolds Desalination Facility are relatively fixed supplies that are not weather dependent; therefore, the production from these sources has not been reduced during a drought event. Table 5.12-8 shows the project water supply from local sources during normal, single-dry, and multiple-dry years.

Table 5.12-8 Projected Local Water Supply during Normal, Single Dry, and Multiple Dry Years

Supply Source	Normal Water Year (acre-feet per year)	Single Dry Year (acre-feet per year)	Multiple Dry Year Period (acre-feet per year)		
			Year 1	Year 2	Year 3
Sweetwater Reservoir	7,400	350	830	830	830
National City Wells	2,200	2,200	2,200	2,200	2,200
Reynolds Desalination Facility	8,800	8,800	8,800	8,800	8,800
Total Local Supplies	**18,400**	**11,350**	**11,830**	**11,830**	**11,830**

Source: Sweetwater Authority 2012

B. Water Demand

Projected water demand was calculated using the SANDAG 2050 Regional Growth Forecast for population and multiplying the population by 105 gallons per day per capita (gpdc). The gpdc rate was based on the average of FY 2008/09 and FY 2009/10. Table 5.12-9 shows the historical and projected water demand in the Sweetwater Authority's service area by use sector with the existing land uses (i.e., without implementation of the proposed PGDSP).

The additional water demand that would be generated by the proposed PGDSP was developed based on the PGDSP land uses and development densities combined with actual water use data for each type of

land use within the Sweetwater Authority's service area. The projected water demand generated by PGDSP build-out is shown in Table 5.12-10. As shown in Table 5.12-10, PGDSP implementation would generate an additional 0.29 mgd or 319 acre-feet per year in water demand above existing land uses.

Table 5.12-9 Historical and Projected Water Demand without PGDSP (acre-feet per year)

Water Use Sector	Fiscal Year Ending						
	2005	2010	2015	2020	2025	2030	2035
Residential[1]	16,094	14,151	14,905	15,643	16,509	17,375	18,318
Commercial[2]	4,407	3,721	3,919	4,113	4,341	4,569	4,817
Industrial	405	291	308	323	341	359	378
Public	1,897	1,781	1,876	1,969	2,078	2,187	2,305
Irrigation/Agricultural	31	21	22	23	24	26	27
Other[3]	42	16	17	18	19	20	21
Unaccounted for Water	694	814	842	884	948	998	1,052
Total	**23,570**	**20,795**	**21,890**	**22,972**	**24,261**	**25,532**	**26,918**

[1] Residential includes domestic and irrigation for single-family, multi-family, and mobile homes.
[2] Commercial includes domestic and irrigation for businesses and golf courses.
[3] "Other" included construction meters and golf courses through FY 1989/90. Subsequent to FY 1989-90, "Other" only includes construction meters.
Source: Sweetwater Authority 2012

Table 5.12-10 PGDSP Water Demand Generation

Land Use	Population[1]	Acres[1]	Water Duty[2]	Average Water Demand	
				mgd	Acre-feet Per Year
Residential[3]	3,354	--	83 gpdc	0.28	312
Commercial	--	3.44	1,861 gallons/acre/day	0.01	7
Total[4]				**0.29**	**319**

[1] Based on increased residential land use data in the City's letter to the Sweetwater Authority, dated November 2, 2011.
[2] Based on actual 2005 consumption within the Sweetwater Authority's service area for each land use type.
[3] Includes mixed-use commercial/residential. Because the residential component of the land use has limited landscape water use, a water duty of 83 gpdc was used instead of the Sweetwater Authority's average of 105 gpdc.
[4] Total water demand in year 2035 from PGDSP build-out.
Source: Sweetwater Authority 2012

Table 5.12-11 shows the historical and projected water demand by water use sector taking into account the PGDSP water demand generation over the course of build-out. It is intended that the additional water demand associated with the PGDSP be met through purchase of imported water from the MWD.

The dry year demand assessment is shown in Table 5.12-12 and includes single- and multiple-dry water years. The projected water demand for the normal water year and single-dry year scenarios is reflective of year 2025, and the projected water demand for the multiple-dry year scenario is reflective of years 2026, 2027, and 2028. No extraordinary conservation measures beyond BMP implementation are reflected in the demand projections.

Table 5.12-11 Historical and Projected Water Demand with PGDSP (acre-feet per year)

Water Use Sector	Fiscal Year Ending						
	2005	2010	2015	2020	2025	2030	2035
Residential[1]	16,094	14,151	14,951	15,731	16,652	17,561	18,548
Commercial[2]	4,407	3,721	3,930	4,135	4,377	4,616	4,875
Industrial	405	291	307	323	342	361	381
Public	1,897	1,781	1,888	1,987	2,103	2,218	2,342
Irrigation/Agricultural	31	21	27	28	29	33	34
Other[3]	42	16	17	18	19	20	20
Unaccounted for Water	694	814	834	878	929	980	1,035
Total Demand	**23,570**	**20,795**	**21,954**	**23,100**	**24,452**	**25,787**	**27,237**

(1) Residential includes domestic and irrigation for single-family, multi-family, and mobile homes.
(2) Commercial includes domestic and irrigation for businesses and golf courses.
(3) "Other" included construction meters and golf courses through FY 1989/90. Subsequent to FY 1989-90, "Other" only includes construction meters.
Source: Sweetwater Authority 2012

Table 5.12-12 Projected Water Demand during Normal, Single-Dry, and Multiple-Dry Years (acre-feet per year)

	Normal Water Year (2025)	Single-Dry Year (2025)	Multiple-Dry Year Period		
			Year 1 (2026)	Year 2 (2027)	Year 3 (2028)
Total Demand	24,452	24,452	24,719	24,986	25,253

Source: Sweetwater Authority 2012

C. Availability of Sufficient Supplies

The Sweetwater Authority, as with other agencies in the San Diego region, continues to rely on imported water from the SDCWA and the MWD to bridge the gap between its available local supply and current and future demands within its service area. The MWD's 2010 Regional UWMP utilized SANDAG's most recent 2050 Regional Growth Forecast in calculating regional water demands for the SDCWA's service area. The MWD's 2010 Regional UWMP also identifies implementation plans to develop a reliable resource mix that enables the region to meet its water supply needs. The SDCWA's 2010 UWMP also utilized SANDAG's most recent 2050 Regional Growth Forecast in calculating water demands for its service area and identifies projects and programs to help ensure that the existing and planned water users within the Sweetwater Authority's service area have an adequate supply. The SDCWA's 2010 UWMP also includes scenario planning to manage uncertainties associated with providing supply reliability. Implementation of these strategies by the MWD, SDCWA, and local water agencies will assure adequate supply to support growth and redevelopment within the region.

If the SDCWA and member agency supplies are developed as planned, along with implementation of MWD's 2010 Regional UWMP, shortages are not anticipated within the SDCWA's service area through year 2035. It should be noted that programs in the updated MWD and SDCWA planning documents require future discretionary decisions by their respective board of directors. Until these programs are fully implemented to manage current changed conditions and other uncertainties, the San Diego region will remain susceptible to potential shortages. The MWD, SDCWA, and Sweetwater Authority do have

shortage response plans in place to manage any potential shortages. These plans include shortage response actions, such as dry-year storage withdrawals, voluntary and mandatory water use restrictions, and outreach. The Sweetwater Authority is currently in Level 1 Drought Watch, the lowest level of its Drought Response Plan.

Table 5.12-13 shows the projected water demand compared with the projected water supply within the Sweetwater Authority's service area for normal water year conditions through year 2035. As shown in Table 5.12-13, with implementation of the projects and strategies discussed in the MWD and SDCWA planning documents and implementation of new strategies being developed, there would be adequate water supply to serve the proposed PGDSP along with existing and future uses under normal water year conditions.

Table 5.12-13 Projected Water Supply and Demand for Normal Water Years (acre-feet per year)

Supply Source	2005	2010	2015	2020	2025	2030	2035
Imported Water	11,342	14,543	8,754	4,700	6,052	7,387	8,837
Sweetwater Reservoir	8,449	901	7,400	7,400	7,400	7,400	7,400
National City Wells	1,793	2,175	2,200	2,200	2,200	2,200	2,200
Reynolds Desalination Facility	1,986	3,176	3,600	8,800	8,800	8,800	8,800
Total Available Supply	**23,570**	**20,795**	**21,954**	**23,100**	**24,452**	**25,787**	**27,237**
Total Projected Demand	**23,570**	**20,795**	**21,954**	**23,100**	**24,452**	**25,787**	**27,237**

Source: Sweetwater Authority 2012

Table 5.12-14 shows the projected water demand compared with the projected water supply within the Sweetwater Authority's service area for the normal, single-dry, and multiple-dry year scenarios. As shown in Table 5.12-14, with implementation of the projects and strategies discussed in the MWD and SDCWA planning documents and implementation of new strategies being developed, there would be adequate water supply to serve the proposed PGDSP along with existing and future uses in both single- and multiple-dry year scenarios.

Table 5.12-14 Projected Water Supply and Demand during Normal, Single-Dry, and Multiple-Dry Years (acre-feet per year)

Supply Source	Normal Water Year (2025)	Single-Dry Year (2025)	Multiple-Dry Year Period		
			Year 1 (2026)	Year 2 (2027)	Year 3 (2028)
Imported Water	6,052	13,102	12,889	13,156	13,423
Sweetwater Reservoir	7,400	350	830	830	830
National City Wells	2,200	2,200	2,200	2,200	2,200
Reynolds Desalination Facility	8,800	8,800	8,800	8,800	8,800
Total Available Supply	**24,452**	**24,452**	**24,719**	**24,986**	**25,253**
Total Projected Demand	**24,452**	**24,452**	**24,719**	**24,986**	**25,253**

Source: Sweetwater Authority 2012

Therefore, the Sweetwater Authority has determined that with PGDSP implementation adequate water supplies would be available to serve the project's projected demand in addition to the provider's existing and planned commitments. Impacts would be less than significant.

5.12.6.5 Level of Significance Prior to Mitigation

Based on the findings of the Water Supply Assessment (Sweetwater Authority 2012), the Sweetwater Authority has verified that with development of the resources identified, there would be sufficient water supply over the 20-year planning horizon to meet the projected demands of the proposed PGDSP, along with the other existing and planned development projects within the Sweetwater Authority's service area, under normal year, single-dry, and multiple-dry year conditions. Therefore, impacts associated with water supply would be less than significant.

5.12.6.6 Mitigation Measures

No mitigation measures are required.

5.12.6.7 Level of Significance after Mitigation

No significant impacts related to water supply were identified.

5.12.7 Wastewater

The following discussion of wastewater capacity is based on the Sewer Study prepared by Atkins (2012c). The Sewer Study is provided as Appendix H of this EIR.

5.12.7.1 Existing Conditions

Sanitary sewer service to the PGD is provided by the City of Chula Vista. The City owns, operates, and maintains approximately 430 miles of sewer main lines and twelve sewer pump stations serving all areas within the City limits (PBS&J 2005). City collection facilities convey wastewater generated within eight drainage basins to connections to regional sewage facilities located along San Diego Bay to the west and the Sweetwater River to the north. Flows are ultimately conveyed to transmission and treatment facilities operated by the City of San Diego's Metropolitan Wastewater Branch (METRO), which provides wastewater conveyance, treatment, and disposal services for the City of Chula Vista and fourteen other participating agencies in accordance with the terms of a multi-agency agreement (METRO Agreement). With the exception of the Sweetwater Basin, all of the sewer basins drain westerly to connections to the METRO's South Metro Interceptor. Flows generated in the Sweetwater Basin drain northerly to connections to the County-owned Spring Valley Interceptor that discharges to the METRO's South Metro Interceptor. The South Metro Interceptor conveys flows northward through two pump stations to the Point Loma Wastewater Treatment Plant. The City owns capacity rights of 19.843 mgd within the METRO system (PBS&J 2005).

5.12.7.2 Regulatory Framework

A. City of Chula Vista Wastewater Master Plan

The Chula Vista Wastewater Master Plan (PBS&J 2005) provides a comprehensive review and evaluation of the City's wastewater collection, conveyance, and treatment capacity requirements under existing and ultimate City build-out conditions. Based on findings of the evaluation, the Wastewater Master Plan recommends facility improvements and financing alternatives to ensure that aging infrastructure remains serviceable and to allow for the continued build-out of the Chula Vista General Plan. The purpose of the Wastewater Master Plan is to evaluate system capacity, assess the condition of existing pump station facilities, develop a CIP for rehabilitation and expansion of the collection system, and

recommend a revised capacity charge. Specific recommendations are made for the repair, upgrading, and build-out of wastewater collection and pumping facilities. The 20-year CIP includes the recommended system improvements to address existing and projected capacity constraints as well as the acquisition of additional regional treatment capacity.

B. City of Chula Vista General Plan

The Public Facilities and Services Element of the General Plan includes the following citywide objective and policies regarding sewer capacity:

Objective PFS 4
Provide long-term wastewater treatment capacity to meet the needs of existing and new development in Chula Vista.

Policy PFS 4.1: Continually monitor wastewater flows and anticipate future wastewater increases that may result from changes in adopted land use patterns.

Policy PFS 4.2: Participate in regional decision-making to expand regional sewage systems and control growth in wastewater treatment demand.

Policy PFS 4.3: Actively participate in the METRO wastewater expansion planning process, and, where appropriate, evaluate reasonable alternatives in order to reduce Chula Vista's dependence on METRO.

C. City of Chula Vista Growth Management Ordinance

The Growth Management Ordinance establishes the following Quality of Life Threshold Standards for sewer (CVMC Section 19.09.040G): 1) sewage flows and volumes shall not exceed the City Engineering Department's standards as set forth in the Chula Vista Subdivision Manual; and 2) the City shall annually provide the San Diego Metropolitan Sewer Authority with a 12- to 18-month development forecast and request confirmation that the projection is within the City's purchased capacity rights and evaluation of their ability to accommodate the forecast and continuing growth, or the City Engineering Department's 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.

The 2011 GMOC Annual Report indicates that the City is currently in compliance with the Quality of Life Threshold Standard for sewer. The five-year forecast for Chula Vista's average daily wastewater flow does not exceed the City's treatment capacity allotted through contracts with METRO.

5.12.7.3 Criteria for Determination of Significance

According to Appendix G of the CEQA Guidelines, a significant impact related to wastewater treatment capacity would occur if implementation of the proposed project would:

- Criterion 1: Result in a determination by the wastewater treatment provider which serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

5.12.7.4 Impacts

The Sewer Study prepared for the PGDSP (Atkins 2012c) documents the existing capacity constraints of the Industrial Boulevard Trunk Sewer and analyzes the capacity impacts to the City's wastewater collection system resulting from the PGDSP's wastewater generation and assumed discharge locations. It also addresses the improvements required to convey existing and future sewer flows. The results of the Sewer Study are summarized below.

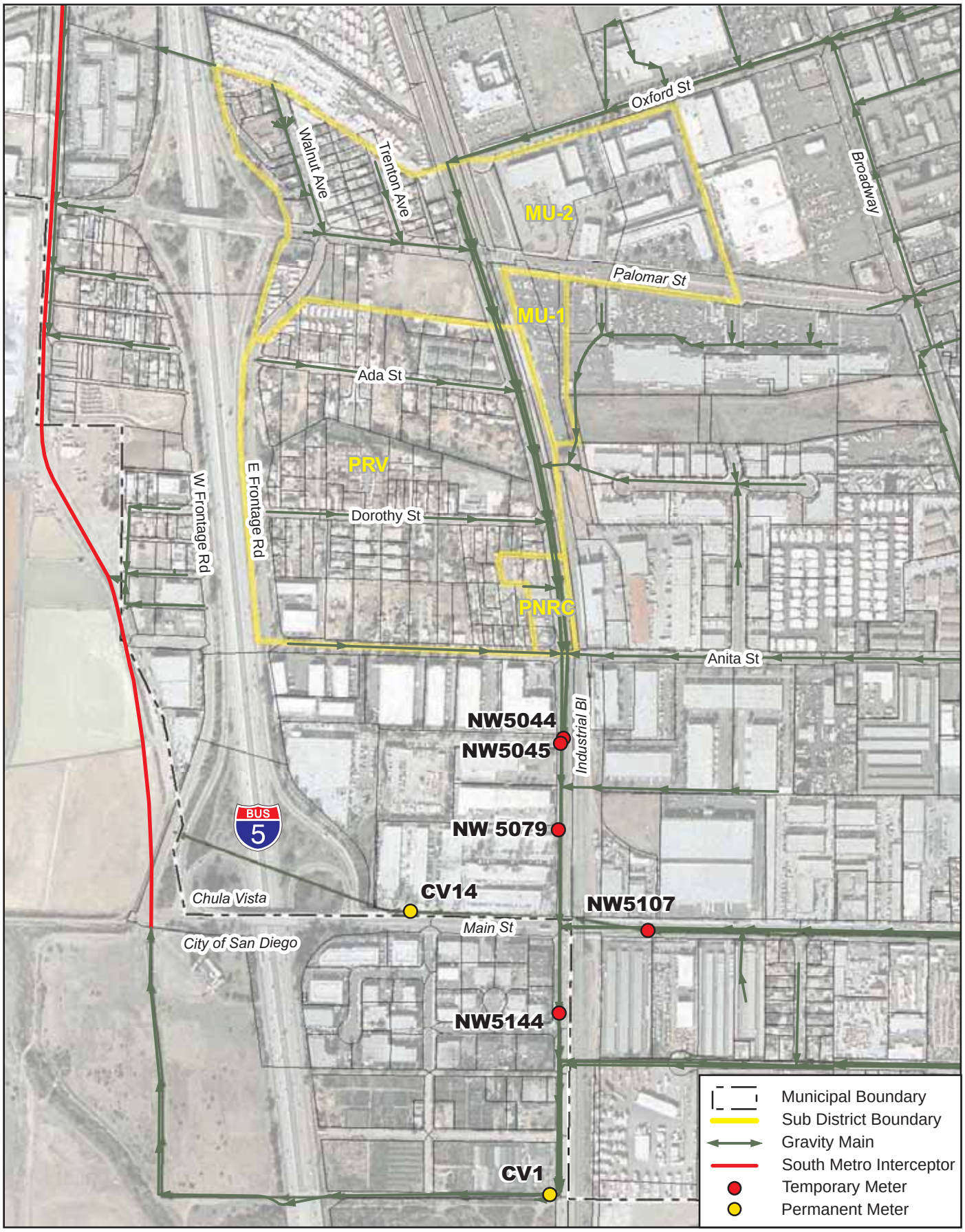
A. Wastewater Generation

This section summarizes existing wastewater flows generated within the Industrial Boulevard Trunk Sewer Basin and the adjacent tributary basins draining to the southwestern portion of the City, and establishes population-based unit generation rates. Future flow projections within the Industrial Boulevard Trunk Sewer Basin and citywide are estimated based on the unit generation rates. The Chula Vista Wastewater Master Plan (PBS&J 2005) established unit generation rates by land use classifications and used unit generation rates based on SANDAG residential and employment populations to determine phased flow projections. With recent trends in water conservation and SANDAG growth projection planning, however, it is important to confirm the unit generation rates established in the 2005 Wastewater Master Plan and update forecasted wastewater flows in the Industrial Boulevard Trunk Sewer Basin and citywide.

Wastewater flows in the southwestern portion of the City, including the PGD, are metered at two locations (CV-1 and CV-14) prior to entering into the METRO system. Meter CV-1, located west of Hollister Street in the walking path south of Louret Avenue, measures flows from the Industrial Boulevard, Main Street, and Date Faivre sewer basins. Meter CV-14, located on Main Street east of the I-5 freeway on ramp, measures flows from the Poggi Canyon and Salt Creek sewer basins. For the purposes of this study, meter data from Meters CV-1 and CV-14 has been used for unit generation rate calibration and future flow forecasts. Figure 5.12-2 shows the location of these two permanent meters as well as five temporary meters that were installed during the months of August and September 2011. Meter hydrographs and data correlation graphs are included in Appendix A of the Sewer Study (Atkins 2012c), which is provided as Appendix H of this EIR.

Unit generation rate calibration was performed by comparison of residential and employment population data within the Industrial Boulevard, Main Street, Date Faivre, Poggi Canyon, and Salt Creek sewer basins (provided by SANDAG) to the metered flows at Meters CV-1 and CV-14. The residential and employment per capita unit rates of 70 and 20 gpdc utilized in the 2005 Wastewater Master Plan were applied and compared against the permanent meter data. Table 5.12-15 summarizes the unit generation rates analyzed. The analysis indicates that the CV-1 basins calibrated well with the unit generation rates utilized in the 2005 Wastewater Master Plan, while the newer developed CV-14 basins have lower than average wastewater generation rates. Thus, for the purposes of this study, the 2005 Wastewater Master Plan unit generation rates were used as a conservative estimate.

Wastewater flows were estimated for year 2050 without implementation of the PGDSP by applying the 2005 Wastewater Master Plan unit generation rates to SANDAG's Series 12 residential and employment population projections, provided along with the existing estimates per sub-catchment. Table 5.12-16 summarizes the citywide flow forecast with the existing land uses (i.e., without implementation of the proposed PGDSP).



Source: Atkins 2012

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FLOW METER LOCATIONS
FIGURE 5.12-2

Table 5.12-15 Unit Generation Rate Calibration

Basin	Unit Generation Rate		Population		Flow (mgd)
	Residential	Employment	Residential	Employment	
CV-1					**2.600**
Industrial Blvd	70	20	14,205	5,985	1.114
Main Street	70	20	15,698	2,691	1.153
Date Faivre	70	20	5,132	1,390	0.387
Total			**35,035**	**10,066**	**2.654**
CV-14					**3.524**
Salt Creek	70	20	29,851	7,167	2.233
Poggi Canyon	70	20	29,436	6,113	2.183
Total			**59,287**	**13,280**	**4.416**

Source: Atkins 2012c

Table 5.12-16 Forecasted Citywide Wastewater Flow without PGDSP

Year	Unit Generation Rate		Population		Flow (mgd)	Notes
	Residential	Employment	Residential	Employment		
2010	N/A	N/A	N/A	N/A	16.225	FY 2010 METRO
2010	70 gdpc	20 gdpc	225,426	67,809	17.136	
2050	70 gdpc	20 gdpc	318,491	112,440	24.543	

Source: Atkins 2012c

The PGDSP proposes to develop 1,300 additional residential dwelling units and 150,000 square feet of additional commercial uses (100,000 square feet retail and 50,000 square feet office), and replace 30,000 square feet of existing industrial uses. Wastewater generated by the proposed PGDSP land uses was estimated using the City's Subdivision Manual criteria and compared with the SANDAG growth estimate to determine the increase in future flow expected from PGDSP build-out. Table 5.12-17 summarizes the projected increase in wastewater flow associated with the PGDSP and the adjusted citywide flow forecast including the PGDSP. As shown in this table, build-out of the PGDSP land uses would increase the Year 2050 flow forecast by 0.234 mgd.

Table 5.12-17 Projected Increase in Flow and Forecasted Citywide Wastewater Flow with PGDSP

Land Use	Projected Additional Development	Unit Generation Rate	Estimated Increase in Flow (mgd)
Proposed PGDSP			
Residential (units)	1,300	199 gpd/unit	0.259
Non Residential (square feet)[1]	120,000	0.057 gpd/square foot	0.007
Total		**0.266**	
SANDAG Projection			
Residential Population	458	70 gpdc	0.03206
Employment Population	17	20 gpdc	0.00034
Total		**0.032**	
Total Change in Forecasted Year 2050 Flow		0.234	
Year 2050 Flow Forecast without PGDSP		24.543	
Revised Year 2050 Flow Forecast with PGDSP		**24.777**	

[1] Non Residential unit generation rate based on 2,500 gpd/acre divided by 43,560 sq. ft. /acre
Source: Atkins 2012c

B. Hydraulic Capacity

This section summarizes the hydraulic capacity analysis for the southwestern portion of the City, specifically the Industrial Boulevard Trunk Sewer for existing and forecasted 2050 flow conditions taking into account the proposed PGDSP land uses. In accordance with the Chula Vista Subdivision Manual, hydraulic capacity thresholds for existing sewer pipelines are defined as a depth to diameter (d/D) ratio of 0.75 for pipelines 12 inches in diameter and larger and 0.50 for pipelines less than 12 inches in diameter. This analysis assumes an "n" value of 0.012 and a maximum velocity of 12 feet per second, pursuant to the Chula Vista Subdivision Manual.

The sewer capacity analysis used the model input data from the 2010 Salt Creek Interceptor Technical Sewer Study for the South Otay Ranch (Village 8 West and Village 9), which was updated in InfoWorks CS from the 2005 Master Plan. The model was updated to include the recently completed sewer system diversions along Main Street and the populations and unit generation rates described above. The model was additionally updated to include City staff inspections that identified flows entering temporary meter MH 4832, located along Industrial Boulevard between Palomar Street and Oxford Street, were nearly all being diverted to the western parallel 15-inch diameter trunk sewer. Hydraulic model results are included in Appendix C of the Sewer Study (Atkins 2012c), which is provided as Appendix H of this EIR.

Since the meter data provided for the permanent meters and temporary meters (see Figure 5.12-2, Flow Meter Locations) were from the summer months, an existing dry weather model simulation was performed to validate that the model was reasonably representing the flow conditions from the permanent meters and to compare the depth readings from the temporary meters. The model simulation compared very well to the observed metering records from Meter CV-1, suggesting that the model is reasonably calibrated. In addition, the existing dry weather model simulated maximum depths looked fairly consistent compared to the observed depth readings from the temporary meters. The model predicted slightly higher depths at temporary meters MH 5107, MH 5079, and MH 5144, which is conservative, but predicted lower depths at temporary meters MH 5044 and MH 5045. While the model is not predicting elevated depths at MH 5044 and MH 5045, the meter correlation graphs suggest that these two manholes are highly turbulent and often surcharge, and City staff have identified this reach of pipeline for improvement. The City has developed the following three improvement alternatives to abandon the use of parallel lines in this area:

- Proposal 1: Upsize west line from Anita Street to Hollister Street and connect to Date Faivre Trunk Sewer
- Proposal 2: Upsize east line from Anita Street to Main Street and connect to Salt Creek Interceptor
- Proposal 3: Upsize west line from Anita Street to Main Street and connect to Salt Creek Interceptor

For the purposes of this study, the Proposal 1 and Proposal 3 improvement alternatives were evaluated under existing flows and Year 2050 wet weather flows to address the capacity of both the Date Faivre Trunk Sewer and the Salt Creek Interceptor. For wet weather flows, an allowance of 10 percent was applied to the model to account for potential inflow and infiltration based on the 2005 Wastewater Master Plan wet weather assumptions. The hydraulic modeling performed identified that there were no existing dry or wet weather deficiencies downstream of the PGD under both proposals. The Year 2050 wet weather model forecasts that approximately 2,385 feet of existing 12- and 15-inch diameter pipelines in Industrial Boulevard would need to be upgraded to 18- and 24-inch diameter, respectively,

to accommodate increased flows from PGDSP built-out under Proposal 1. Under Proposal 3, the Year 2050 wet weather model forecasts that approximately 1,720 feet of 15-inch diameter pipeline would need to be upgraded to 18-inch diameter.

The City is currently in the process of upgrading approximately 1,350 linear feet of main in Industrial Boulevard between Main Street and Anita Street. Proposal 2, which consists of installing a new 15-inch sewer main parallel to the existing 12-inch line between Main Street and Anita Street, is the preferred improvement alternative. Proposal 2 would also divert Industrial Boulevard flows into the Salt Creek Interceptor and abandon portions of the existing sewer within Industrial Boulevard. This diversion would relieve existing capacity constraints in the 18-inch sewer in Hollister Street south of Main Street. If the construction or expansion of sewer facilities does not coincide with the PGDSP's projected population growth and associated demand for sewer service, non-compliance with the City's Quality of Life Threshold Standard for sewer service may result. This represents a potentially significant impact associated with wastewater.

5.12.7.5 Level of Significance Prior to Mitigation

PGDSP build-out would allow for increased development densities and associated population growth in the PGD, thereby increasing the demand for sewer service. If the construction or expansion of sewer facilities does not coincide with the PGDSP's projected population growth and associated demand for sewer service, non-compliance with the City's Quality of Life Threshold Standard for sewer service may result such that a potentially significant impact would occur.

5.12.7.6 Mitigation Measures

Implementation of mitigation measures 5.12-6 and 5.12-7 would reduce potential impacts to sewer capacity to a less than significant level.

5.12-6 **Sewer System Upgrades.** Commensurate with population growth in the PGDSP, the City shall implement the preferred improvement alternative, Proposal 2, as identified in the PGDSP Sewer Study (Atkins 2012c). Proposal 2 consists of installing a new 15-inch sewer main parallel to the existing 12-inch line between Main Street and Anita Street, and would also divert Industrial Boulevard flows into the Salt Creek Interceptor and abandon portions of the existing sewer within Industrial Boulevard.

5.12-7 **Sewer Development Impact Fee.** The City shall establish a sewer development impact fee or other similar fee structure to charge future PGDSP development projects for their portion of sewer upgrades. Prior to issuance of building permits, future PGDSP development projects shall pay the applicable sewer development impact fee at the rate in effect at the time building permits are issued.

5.12.7.7 Level of Significance after Mitigation

With implementation of mitigation measures 5.12-6 and 5.12-7, impacts related to wastewater resulting from implementation of the proposed PGDSP would be reduced to below a level of significance.

5.12.8 Solid Waste

5.12.8.1 Existing Conditions

The City of Chula Vista has established an exclusive franchise collection agreement with Allied Waste Services for the removal, conveyance, and disposal of any non-recyclable waste. The franchise collection agreement, which is in effect through June 2028, includes a number of programs and incentives for the franchise and the public to maximize recycling and other forms of landfill diversion. Per the franchise collection agreement, both the Otay Landfill and the Sycamore Canyon Landfill are City-authorized landfills, in accordance with all applicable laws. The Otay Landfill, which is located in eastern Chula Vista, is a private landfill operated by Allied Waste that receives the majority of solid waste from the City. The Otay Landfill has a maximum permitted throughput of 5,830 tons per day, a maximum permitted capacity of 61,154,000 cubic yards, and a remaining capacity of 24,514,904 cubic yards as of March 2012 (California Department of Resources Recycling and Recovery 2012). The Otay Landfill is projected to reach capacity in February 2028. Once the Otay Landfill is closed, it is anticipated that a portion of the site could be used for a trash transfer facility and/or a materials recovery facility where recyclables are prepared for secondary markets. The City has also acquired rights to approximately 30 acres of space at the Otay Landfill for a composting facility when the landfill closes. Continued efforts to expand recycling and to accommodate compostable materials will reduce future waste transfer costs. When the Otay Landfill closes, it is expected that Allied Waste will build a transfer station at the Otay Landfill site to enable trash hauling to the Sycamore Canyon Landfill or a more distant landfill.

While control and siting of solid waste disposal sites does not fall under the jurisdiction of the City of Chula Vista, the City does have the ability to control waste production within its jurisdictional areas. The City of Chula Vista Public Works Department, Environmental Services Division provides guidance on the disposal of solid waste for residences and businesses, recycling, and household hazardous materials disposal. The Environmental Services Division also provides a Household Hazardous Waste program at the Public Works Center in which household hazardous materials can be dropped off or picked up for a nominal donation. Household waste collected at the City facility is sent to various locations throughout the United States for treatment and/or recycling. The City's Recycling Ordinance (CVMC Chapter 8.25) makes it mandatory for all generators of residential, commercial, and industrial recyclables in the City to separate from refuse all designated recyclables, and establishes mandatory construction and demolition debris diversion requirements. Allied Waste provides a construction and demolition debris processing facility to ensure that these materials are separated from trash and recycled material. Several processing facilities are currently available in Chula Vista: untreated wood and mixed load recycling at Otay Landfill; dirt and rocks, concrete, and asphalt recycling at the Reclaimed Aggregates facility at 855 Energy Way; and concrete and asphalt recycling at the Rimrock CA, LLC facility at 2041 Heritage Road (City of San Diego 2012).

5.12.8.2 Regulatory Framework

A. Assembly Bill 939, California Integrated Waste Management Act

Assembly Bill 939, the California Integrated Waste Management Act of 1989, 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. In 2008, California diverted 60 percent of its solid waste stream in accordance with the Integrated Waste Management Act (California Integrated Waste Management Board 2009). The term "integrated waste management" refers to the use of a variety of waste management practices to

safely and effectively handle the municipal solid waste stream with a minimum impact on human health and the environment. The Integrated Waste Management Act establishes the following waste management priorities: source reduction, recycling, composting, energy recovery, deposits in landfills, and household hazardous waste management.

B. City of Chula Vista General Plan

The Public Facilities and Services Element of the General Plan includes the following citywide objective and policies regarding solid waste:

Objective PFS 25
Efficiently handle solid waste disposal throughout the City.

Policy PFS 25.1: Plan for adequate systems and facilities to manage the City's solid waste generation, treatment, and disposal.

Policy PFS 25.2: Permit transfer stations to be sited in areas designated for general industrial uses, provided circulation, visual, and noise impacts do not adversely affect adjacent uses.

Policy PFS 25.3: Participate in interjurisdictional efforts to maintain available landfill capacity in San Diego County.

Policy PFS 25.4: Attract manufacturers that use recycled materials, thus providing jobs and increasing the value of these materials.

C. City of Chula Vista Recycling Ordinance

The purpose of the Recycling Ordinance (CVMC Chapter 8.25) is to provide standards for integrated solid waste management, to include source reduction, recycling, and composting of solid wastes, in order to provide for the long-term health, safety, and welfare of Chula Vista residents through extending current landfill capacity, preserving resources, and providing for the general protection of the environment. This ordinance provides for regulation of the storage, collection, transportation, and recovery of marketable and recyclable materials. Section 8.25.050 states that it shall be mandatory for all generators of residential, commercial, and industrial recyclables in the City to separate from refuse, for recycling purposes, all designated recyclables and otherwise participate in recycling as described by this ordinance. Section 8.25.095 establishes construction and demolition debris diversion requirements of 90 percent for inert waste and not less than 50 percent for the remaining waste generated via reuse or recycling. Applicants for any covered projects are required to complete and submit a construction and demolition waste management report to the City to demonstrate compliance with the diversion requirements.

5.12.8.3 Criteria for Determination of Significance

According to Appendix G of the CEQA Guidelines, a significant impact related to landfill capacity would occur if implementation of the proposed project would:

- Criterion 1: Be served by landfills with insufficient permitted capacity to accommodate the project's solid waste disposal needs.

5.12.8.4 Impacts

PGDSP build-out would allow for increased development densities and associated population growth in the PGD, thereby increasing the amount of solid waste generation in the City. According to the General Plan Update EIR (City of Chula Vista 2005a), using the average rate of daily solid waste disposal per person into the Otay Landfill and assuming the additional development at build-out of the General Plan (which includes the PGDSP), the Otay Landfill would have sufficient capacity to accommodate the anticipated increase in solid waste disposal needs. As discussed in Section 5.12.8.1 above, the Otay Landfill has a remaining capacity of 24,514,904 cubic yards and is projected to reach capacity in February 2028. Upon the closure of the Otay Landfill, an existing agreement would permit waste from the City to be transferred to the Sycamore Canyon Landfill and there would be no interruption of service. In addition, pursuant to the City's Recycling Ordinance (CVMC Chapter 8.25), the City implemented a curbside recycling program that reduces the amount of waste reaching the landfill. Participation in the curbside recycling program is mandatory and has helped the City reach the 50 percent solid waste reduction goal established by Assembly Bill 939. Therefore, impacts associated with landfill capacity would be less than significant.

5.12.8.5 Level of Significance Prior to Mitigation

The Otay Landfill has sufficient capacity to accommodate the PGDSP's solid waste disposal needs. Therefore, impacts associated with landfill capacity would be less than significant.

5.12.8.6 Mitigation Measures

No mitigation measures are required.

5.12.8.7 Level of Significance after Mitigation

No significant impacts related to solid waste were identified.

5.12.9 Energy

5.12.9.1 Existing Conditions

A. Fixed Uses

1. Electricity

Electricity is provided by SDG&E, who is the owner and operator of electricity transmission, distribution, and natural gas distribution infrastructure in the County of San Diego. 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.

Electricity consumption in the San Diego region varies greatly by type of use. In 2010, the City of Chula Vista consumed approximately 872 million kWh (City of Chula Vista 2012e). As mirrored in the County, the largest electricity consumption was from commercial uses, followed by residential, industrial, and agriculture. Average energy consumption rates are based on the CalEEMod model obtained from the California Energy Commission end-use surveys for residential and non-residential uses. Table 5.12-18 shows the average existing annual consumption rates for electricity.

Table 5.12-18 Average Existing Annual Electricity Consumption Rates

Land Use Type	Electricity
Residential	7,090.56.0 kWh/single-family unit 4,324.68 kWh/multi-family unit
Schools	6.35 kWh/square foot
Commercial	14.10 kWh/square foot
Industrial (Regional Technology Park)	17.6 kWh/square foot
Community Purpose Facility	9.38 kWh/square foot
Parks	9.38 kWh/square foot

Source: Recon 2012

2. Natural Gas

Natural gas imported into Southern California originates from 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 pipelines, the final delivery into the SDG&E system is dependent on only one Southern California Gas Company pipeline. Several liquefied natural gas plants are proposed in Mexico, which would provide an additional source of natural gas to Southern California.

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. In 2010, the City of Chula Vista consumed approximately 48 million therms of natural gas (City of Chula Vista 2012e). Natural gas consumption for this analysis is likewise calculated using rates obtained from the CalEEMod model. Table 5.12-19 shows average existing annual consumption rates for natural gas.

Table 5.12-19 Average Existing Annual Natural Gas Consumption Rates

Land Use Type	Natural Gas
Residential	62,384.40 cubic feet/single-family unit 37,547.64 cubic feet/multi-family unit
Schools	15.50 cubic feet/square foot
Commercial	34.8 cubic feet/square foot
Industrial (Regional Technology Park)	2,899,332 cubic feet/consumer
Community Purpose Facility	33.20 cubic feet/square foot
Parks	3.0 cubic feet/square foot

Source: Recon 2012

B. 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 GHG emissions (California Energy Commission 2012).

5.12.9.2 Regulatory Framework

A. 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. The LEED program provides building owners and operators with the tools they need for an immediate and measurable impact on their building's performance, and 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.

B. California Renewables Portfolio Standard

Senate Bill 1078, which was enacted on September 12, 2002, established the Renewables Portfolio Standard program that requires retail sellers of electricity, including electrical corporations, community choice aggregators, and electric service providers, to purchase a specified minimum percentage of electricity generated by eligible renewable energy resources such as wind, solar, geothermal, small hydroelectric, biomass, anaerobic digestion, and landfill gas. Senate Bill 107, which was enacted on September 26, 2006, accelerated the Renewables Portfolio Standard to require that at least 20 percent of electricity retail sales be served by renewable energy resources by year 2010. In response to Executive Order S-21-09, the Renewables Portfolio Standard was expanded in 2011 to require investor-owned utilities, electric service providers, and community choice aggregators to increase procurement from eligible renewable energy resources to 33 percent of total procurement by year 2020.

C. California Energy Code

The California Energy Code (California Code of Regulations Title 24, Part 6), which is incorporated into the Building Energy Efficiency Standards, was first established in 1978 in response to a legislative mandate to reduce California's energy consumption. Although these standards were not originally intended to reduce GHG emissions, increased energy efficiency results in decreased GHG emissions because energy efficient buildings require less electricity and thus less consumption of fossil fuels which emits GHGs. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. The current 2008 Building Energy Efficiency Standards, commonly referred to as the "Title 24" standards, include changes from the previous standards that were adopted to:

- Provide California with an adequate, reasonably priced, and environmentally sound supply of energy.
- Respond to Assembly Bill 32, the Global Warming Solutions Act of 2006, which mandates that California must reduce its greenhouse gas emissions to 1990 levels by 2020.
- Pursue California energy policy that energy efficiency is the resource of first choice for meeting California's energy needs.
- Act on the California Energy Commission's Integrated Energy Policy Report which finds 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 Building Energy Efficiency Standards in reducing energy related to meeting California's water needs and in reducing GHG emissions.

- Meet the West Coast Governors' Global Warming Initiative commitment to include aggressive energy efficiency measures into updates of state building codes.
- Meet Executive Order S-20-04, the Green Building Initiative, to improve the energy efficiency of non-residential buildings through aggressive standards.

The 2008 Title 24 standards, which became effective on January 1, 2010, require energy savings of 15 to 35 percent above the 2005 Title 24 standards. At a minimum, residential buildings must achieve a 15 percent reduction in their combined space heating, space cooling, and water heating energy compared to the 2005 Title 24 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.

D. California Flex Your Power Campaign

California'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.

E. SANDAG Regional Energy Strategy

The Regional Energy Strategy (SANDAG 2009) establishes goals for the San Diego region to be more energy efficient, increase use of renewable energy sources, and enhance the region's energy infrastructure so that we are able to meet growing energy demand. The Regional Energy Strategy serves as an energy policy guide to support decision-making by SANDAG and its member agencies as the region strives to meet the energy needs of a growing population, housing stock, and number of workers while maintaining and enhancing regional quality of life and economic stability.

F. SDG&E 20-Year Resource Plan

In April 2003, SDG&E filed its 20-year Resource Plan with the California Public Utilities Commission to outline its resource portfolio to meet future demand. The Resource Plan describes SDG&E's recommended resource portfolio and includes a number of policy recommendations that SDG&E believes should be adopted by the California Public Utilities Commission as guidance for future resource planning and procurement. The Resource Plan included four different portfolio proposals:

1) emphasized on-system fossil generation; 2) emphasized resources delivered over added transmission; 3) emphasized resources delivered over added transmission, but builds in additional fuel diversity by including an off-system coal based resource in the mix; and 4) SDG&E's recommended balanced portfolio, which included the best elements of each of the prior three portfolios. Resource gaps that would not be filled by energy conservation and demand response alternatives were planned to be filled by additional transmissions lines from generating systems outside of SDG&E territory, including renewable energy facilities. Using the Balanced Portfolio, SDG&E's 2012 energy mix is comprised of roughly 14 percent renewable, 53 percent natural gas, 14 percent nuclear, and 19 percent off-system resources.

G. City of Chula Vista Energy Strategy and Action Plan

The City adopted the Chula Vista Energy Strategy and Action Plan (City of Chula Vista 2001a) to address long-term energy issues and to protect its residents from unreliable energy supply and volatile prices. The 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.

H. City of Chula Vista Carbon Dioxide Reduction Plan

On November 14, 2000, the City adopted its Carbon Dioxide Reduction Plan which aims to lower the community's major GHG emissions while strengthening the local economy and improving environmental conditions. The Reduction Plan inventoried baseline 1990 carbon dioxide emissions, forecasted 2010 carbon dioxide emissions, and evaluated a range of carbon dioxide emissions reduction measures. The Reduction Plan is focused on reducing fossil fuel consumption and decreasing reliance on power generated by fossil fuel. The Reduction Plan states that Chula Vista can lower its carbon dioxide emissions by diversifying its transportation system and using energy more efficiently in all sectors, which would not only save energy and reduce carbon dioxide emissions, but also increase personal and business savings and create jobs. To focus efforts in this direction, Chula Vista adopted the international carbon dioxide reduction goal of returning to pre-1990 levels by year 2010 and developed a reduction strategy to achieve this goal. Specifically, twenty action measures were recommended for initial implementation of the City's reduction strategy, which were intended to promote clean fuel vehicles; alternatives to driving; transportation-efficient land use planning; and energy-efficient building construction.

I. City of Chula Vista Climate Action Plan

Since 2000, Chula Vista has been implementing a Climate Action Plan to address the threat of climate change to the local community. Over the past three years, the original Carbon Dioxide Reduction Plan (described above) has been revised to incorporate new climate mitigation and adaptation measures to strengthen the City's climate action efforts and to facilitate numerous community co-benefits such as utility savings, better air quality, reduced traffic congestion, local economic development, and improved quality of life. The Climate Change Working Group, which is comprised of residents, businesses, and community organization representatives, helps the City in developing climate-related programs and policies.

In 2008, the Climate Change Working Group reviewed over 90 carbon reduction measures and ultimately recommended seven measures designed to reduce or mitigate climate change impacts by reducing GHG emissions within Chula Vista to 20 percent below 1990 levels. On July 1, 2008, the City

Council adopted the Climate Change Working Group's implementation plans for the seven recommended measures, which outline the strategy to implement the measures and includes an analysis of each measure's funding needs, financing options, timeline, and performance criteria. The Climate Change Working Group measures are as follows:

1) **100 percent Clean Vehicle Replacement Policy for City Fleet.** Replace vehicles through the purchase or lease of alternative fuel and hybrid vehicles.

2) **100 percent Clean Vehicle Replacement Policy for City-Contracted Fleet Services.** Work with current and future vendors to include a "Clean Vehicle" replacement policy into the bid and contracting process.

3) **Business Energy Assessments.** Through an ordinance addition, encourage businesses to participate in a no cost assessment as part of the business licensing process.

4) **Green Building Standard.** Through a building code revision, require new and renovated buildings to increase their energy efficiency and meet statewide green building standards.

5) **Solar and Energy Efficiency Conversion.** Provide a cost-effective, streamlined mechanism for property owners to implement solar and energy efficiency upgrades and create a municipal code requiring pre-wiring for solar electric systems.

6) **Smart Growth around Trolley Stations.** Implement the "smart growth" design principles outlined in municipal planning documents.

7) **Outdoor Water Conservation.** Provide a cost-effective, streamlined mechanism for installing water-saving plants at private/public sites and create new municipal landscape regulations.

In 2010, the Climate Change Working Group evaluated the potential impacts from climate change on municipal infrastructure and services and recommended 11 strategies to adapt the community to these impacts within energy and water supply, public health, wildfires, ecosystem management, coastal infrastructure, and the local economy sectors. On May 3, 2011, the City Council adopted the Climate Adaptation Strategies Implementation Plans, which outline specific implementation components, critical steps, costs, and timelines for each strategy. The Climate Adaptation Strategies are as follows: 1) Cool Paving; 2) Shade Trees; 3) Cool Roofs; 4) Local Water Supply and Reuse; 5) Storm Water Pollution Prevention and Reuse; 6) Education and Wildfires; 7) Extreme Heat Plans; 8) Open Space Management; 9) Wetlands Preservation; 10) Sea Level Rise and Land Development Codes; and 11) Green Economy.

J. City of Chula Vista Design Manual

The City of Chula Vista Design Manual establishes the principles and guidelines for Design Review of proposed projects. The Design Manual includes measures for sustainable development, including energy conservation, which are applicable to all types of new developments including residential, commercial, industrial, and mixed use. Well-planned sites can take advantage of potential energy conservation opportunities by providing landscaping on the site; orienting buildings to take advantage of the region's climate and environmental influences such as wind and sun; and incorporating energy-generating technologies such as solar panels and turbines that capture sea breezes and the seasonal Santa Ana winds. The Design Manual contains the following guidelines for energy conservation:

- Orient buildings to the sun to provide natural heating and daylighting and maximize energy efficiency.

- Take advantage of natural winds to help ventilate and reduce air conditioning demand by placing buildings so that door and window openings are oriented to the prevailing wind direction. Use operable windows to take advantage of breezes and reduce energy costs.
- Incorporate renewable energy systems such as solar photovoltaic systems, solar hot water, and/or wind turbines into sites and buildings where practical.
- Solar panels should be integrated into the roof design. Solar panels placed on sloped roofs should be parallel to and resting on the roof slope. Frames should coordinate with roof colors.
- A parking lot can not only provide shading with solar panels but also provide energy for the buildings on the site. Where possible, incorporate photovoltaic panels into parking design (e.g., carport roof).
- Maximize the number and size of north-facing and south-facing windows. Use smaller and fewer windows on the east and west sides of the building. Minimize direct sunlight by incorporating strategically placed overhangs, louvers, or similar shade-producing features.
- Building heights should enhance public views and provide adjacent sites with maximum and ventilation and protection from prevailing winds.

K. City of Chula Vista General Plan

The Public Facilities and Services Element of the General Plan includes the following citywide objective and policies regarding energy:

Objective PFS 22
Ensure adequate energy supplies throughout Chula Vista.

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

Policy PFS 22.2: Coordinate with regional energy planning programs and efforts.

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

Policy 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; co-locating new facilities with existing utility infrastructure; locating facilities in non-residential areas; and implementing architectural details and landscaping that help facilities 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.

Policy PFS 22.5: Maximize future sustainable energy options by pursuing distributed generation and planning energy transmission and transportation options that complement the development of local renewable energy options.

L. City of Chula Vista Energy Code

CVMC Chapter 15.26, Energy Code, adopts by reference the California Energy Code (California Code of Regulations Title 24, Part 6), with the following increased energy efficiency standards for Climate Zone 7, which contains the western portion of Chula Vista, including the PGD (CVMC Section 15.26.030):

a. All new low-rise residential buildings 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 conditioned floor area shall use at least 15 percent less time dependent valuation energy than the 2008 Building Energy Efficiency Standards allow.

b. 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 time dependent valuation energy than the 2008 Building Energy Efficiency Standards allow.

M. City of Chula Vista Solar Ready Ordinances

CVMC Section 15.24.065, Photovoltaic Pre-Wiring Requirements, and CVMC Section 15.28.015, Solar Water Heater Pre-Plumbing, are referred to as the Solar Ready ordinances. Section 15.24.065 requires all new residential units to include electrical conduit specifically designed to allow the later installation of a photovoltaic system which utilizes solar energy as a means to provide electricity. Section 15.28.015 requires all new residential units to include plumbing specifically designed to allow the later installation of a system which utilizes solar energy as the primary means of heating domestic potable water.

5.12.9.3 Criteria for Determination of Significance

According to the City of Chula Vista, a significant impact related to energy supply would occur if implementation of the proposed project would:

- Criterion 1: Result in the available supply of energy to fall below a level considered sufficient to meet the City's needs or cause a need for new and expanded facilities.

5.12.9.4 Impacts

Implementation of the proposed land uses identified in the PGDSP has the potential to result in impacts to energy supply as a result of anticipated growth. Direct impacts could occur if, as a result of plan implementation, a substantial energy resource is reduced or eliminated, or if future demand outstrips available supply. It is the intent of the PGDSP to create a pedestrian-friendly, mixed-use area around the Palomar Transit Station with a compact pattern of development conducive to walking and bicycling and with a decreased focus on automobile travel. The availability of mass transit and encouragement of other non-motorized modes of transport proposed by the PGDSP may serve to reduce consumption of gasoline associated with vehicle trips. Furthermore, the City of Chula Vista participates in the LEED Rating System. The PGDSP identifies opportunities for the PGD which include promoting clean "Green" industry, utilizing "Green" technology, and LEED concepts whenever possible.

Because the proposed action is the adoption of a specific plan and does not specifically address any particular development project, impacts to energy resources can only be addressed generally, based on planned growth. The PGDSP proposes to develop 1,300 additional residential dwelling units, 100,000

square feet of additional retail uses, and 50,000 square feet of additional office uses in the PGD. According to the Air Quality Technical Report (SRA 2013), which accounts for compliance with the Chula Vista Energy Code (CVMC Section 15.26.030) energy efficiency standards for Climate Zone 7 (i.e., 15 percent less energy use than the 2008 Title 24 standards), the proposed additional PGDSP development is projected to result in an increase of approximately 8.68 million kWh per year in electricity usage and approximately 349,963 therms per year of natural gas usage. Tables 5.12-20 and 5.12-21 show the projected increases in electricity and natural gas consumption, respectively, by proposed PGDSP land use type.

Table 5.12-20 Projected Increase in Annual Electricity Usage with PGDSP

Land Use Type	Proposed Additional Development	Annual Electricity Usage Rate	Annual Electricity Usage
Residential	1,300 dwelling units	3,575.20 kWh/unit	6,928,738 kWh
Retail	100,000 square feet	11.95 kWh/square foot	1,195,100 kWh
Office	50,000 square feet	11.14 kWh/square foot	556,750 kWh
		Total Projected Increase	**8,680,588 kWh**

Source: SRA 2013

Table 5.12-21 Projected Increase in Annual Natural Gas Usage with PGDSP

Land Use Type	Proposed Additional Development	Annual Natural Gas Usage Rate	Annual Natural Gas Usage
Residential	1,300 dwelling units	260.8 therms/unit	339,040 therms
Retail	100,000 square feet	0.0896 therms/square foot	8,959 therms
Office	50,000 square feet	0.0393 therms/square foot	1,964 therms
		Total Projected Increase	**349,963 therms**

Source: SRA 2013

Depending on the types of future uses, impacts may need to be addressed in greater detail at the time specific projects are proposed. Implementation of the energy policies contained in the Chula Vista General Plan that seek to reduce energy consumption by optimizing traffic flow, directing higher density housing within walking distance of transit facilities, promoting use of non-polluting and renewable alternatives to vehicular travel, and generally reducing vehicle trip length through improved community design will reduce effects based on demand, and are consistent with the City's Energy Strategy and Action Plan. There are also a number of other plans, policies, and regulations that have been developed by the City to help reduce energy use and costs, including the Carbon Dioxide Reduction Plan, Climate Action Plan, and Design Manual energy conservation measures, Energy Code energy efficiency standards, and solar ready ordinances, as described in Section 5.12.9.2 above. Although these plans, policies, and regulations would decrease the overall per capita energy use in the City, they do not ensure that energy supplies would be available when needed. Because there is no assurance of a long-term supply of energy in the future, the increased projected energy demand associated with the PGDSP could potentially result in the available supply of energy to fall below a level considered sufficient to meet the City's needs or cause a need for new and expanded facilities. This represents a significant impact associated with energy supply.

5.12.9.5 Level of Significance Prior to Mitigation

Because there is no assurance of a long-term supply of energy in the future, the increase projected energy demand associated with the PGDSP could potentially result in the available supply of energy to

fall below a level considered sufficient to meet the City's needs or cause a need for new and expanded facilities. Therefore, a potentially significant impact associated with energy supply would occur.

5.12.9.6 Mitigation Measures

Implementation of mitigation measure 5.12-8 would reduce energy use; however, even with implementation of this mitigation measure, impacts associated with energy supply would not be reduced to below a level of significance. Therefore, significant and unavoidable impacts would occur as discussed in Section 5.12.9.7 below.

5.12-8 **Energy Strategy and Action Plan.** The City shall implement 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, as well as the Carbon Dioxide Reduction Plan, in order to lessen the extent of impacts associated with energy supply.

5.12.9.7 Level of Significance after Mitigation

Implementation of mitigation measure 5.12-8 would reduce energy use, but not to a less than significant level. Because conventional energy resources are slowly renewable or non-renewable, there is no long-term assurance that a sufficient supply of energy would be available through build-out of the PGDSP, regardless of land use designation, population size, or incorporation of energy reduction measures. Thus, impacts related to energy would remain significant and unavoidable.

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5.13 Hazards and Hazardous Materials

The analysis in this section of the EIR addresses the potential impacts associated with hazards and hazardous materials that would result from implementation of the PGDSP. The following discussion is based on the San Diego County Multi-Jurisdictional Hazard Mitigation Plan (County of San Diego 2010), which has been adopted by the City of Chula Vista and the Hazardous Materials Technical Report prepared by Ninyo & Moore (2012). The Hazardous Materials Technical Report is provided as Appendix I of this EIR.

5.13.1 Existing Conditions

5.13.1.1 Potential Hazardous Materials Sites

As documented in the Hazardous Materials Technical Report (Ninyo & Moore 2012), an environmental database search was performed by Environmental Data Resources Inc. (EDR) on August 16, 2011, to evaluate whether sites within the PGD or surrounding areas have been identified as having experienced unauthorized releases of hazardous substances or other events with potentially adverse environmental effects. The databases searched and their respective search distances were generally consistent with those described in the ASTM International Standard for Phase I Environmental Site Assessments and the USEPA All Appropriate Inquiry regulations. In addition, online regulatory databases were reviewed to supplement the database search conducted by EDR.

The database search identified several sites of potential environmental concern on various databases. In addition, unmapped sites were identified in the vicinity of the PGD. Based on the address information provided and/or the types of databases on which these sites were listed, there is a low likelihood that the environmental integrity of the PGD has been adversely affected by these off-site sources. The individual databases that identified sites of potential environmental concern and the regulatory status of the facilities and potential environmental impact to the PGD are described below. Figure 5.13-1 shows the locations of these potential hazardous materials sites.

A. CERCLIS NFRAP List

The federal Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) No Further Remedial Action Planned (NFRAP) database identifies sites that have been removed and archived from the inventory of CERCLIS sites. The archived status indicates that, to the best of the USEPA's knowledge, assessment at the site has been completed and that the USEPA has determined no further steps will be taken to list this site on the National Priorities List (NPL). One CERCLIS-NFRAP facility was identified within 0.5 mile of the PGD:

- Western Magnesium Corp at 1150 Bay Boulevard. Based on the results of a Preliminary Assessment performed in 1990, this site did not qualify for the NPL and was archived. Additional information on this facility is provided in the EnviroStor Database section below.

Source: Ninyo & Moore 2012

0 400 800 Feet

N

POTENTIAL HAZARDOUS MATERIALS SITES
FIGURE 5.13-1

B. RCRA Generator List

This database identifies USEPA-listed facilities that report generation of reportable quantities of hazardous waste under the Resource Conservation and Recovery Act (RCRA) program for the identification and tracking of hazardous waste. The list consists of facilities that generate hazardous waste, and is not necessarily indicative of sites where a release of hazardous substances has occurred. Four small quantity generator (SQG) facilities (i.e., facilities that generate between 100 and 1,000 kilograms of hazardous waste per month) were identified in the PGD:

- Shell Oil at 801 Palomar Street. This address corresponds to the present-day Palomar Inn location. No RCRA violations were reported at this facility.
- Palomar Transmissions at 780 Palomar Street, Suite G. No RCRA violations were reported at this facility.
- FTC at 1165 Walnut Avenue. An internet search for "FTC" at this address brings up a Material Safety Data Sheet (MSDS) link for ARMA-SOL Concentrates P/N 6600-9, which is a water rust inhibitor. No RCRA violations were reported at this facility.
- Arco at 800 Palomar Street. No RCRA violations were reported at this facility. Additional information on this facility is provided in the Releases Databases, Storage Tank Registration List, and Geotracker Database sections below.

Although listing on the RCRA generator list is not indicative of a release, it does indicate that hazardous materials are or have been handled at these facilities.

C. EnviroStor Database

The California Department of Toxic Substances Control (DTSC) Site Mitigation and Brownfields Reuse Program's EnviroStor database identifies sites with known or potential contamination, and sites where DTSC's environmental oversight or review has been requested or required. Facilities in the PGD were not identified on this database. Seven facilities within a 1-mile radius of the PGD were identified:

- Western Magnesium Corp at 1135 Bay Boulevard. This facility was listed as a Voluntary Cleanup Program site. The site is located northwest and down gradient of the PGD. According to the EnviroStor site history, the site is a 4.6 acres parcel historically occupied by Western Magnesium Corporation between the 1930s and 1988. There was no documented use of hazardous materials on the site. Soil and groundwater were tested for VOCs, semi-VOCs, metals, and cyanides; however, a significant impact was not reported. A Preliminary Endangerment Assessment Report was completed in August 1995 and reviewed by the DTSC. Based on the review, the site did not appear to pose a threat to human health or the environment under any type of land use. No further action was assigned to the case by the DTSC in November 1995. As there was no indication of a significant release, former Western Magnesium Corporation operations on this site are not considered an environmental concern to the PGD.
- West Auto Wreckers at 2365 Main Street. This facility was listed as an evaluation site and the case was referred by the DTSC to the local agency (County of San Diego). This site also has a documented release (see Table 5.13-1 in Releases Databases section below).
- Bay View RV & Boat Storage at 995 Bay Boulevard. This facility was listed as an evaluation site and the case was referred by the DTSC to the local agency (County of San Diego). This site is located greater than 0.25 mile from the PGD.

- Commercial Property at 642 Arizona Street. This facility was listed as an evaluation site and the case was referred by the DTSC to the local agency (County of San Diego). This site is located greater than 0.25 mile from the PGD.
- Residential Project at 345 Moss Street. This facility was listed as an evaluation site and the case was referred by the DTSC to the local agency (County of San Diego). This site is located greater than 0.25 mile from the PGD.
- Naples Plaza at 1082 Third Avenue. This facility was listed as an evaluation site and the case was referred by the DTSC to the local agency (County of San Diego). This site is located greater than 0.25 mile from the PGD.
- SDG&E South Bay Power Plant at 990 Bay Boulevard. This facility was listed as a closed, tiered permit site. No releases were identified at this site.

Based on the distances to the PGD and types of listing, these sites are not anticipated to have had an adverse impact on the PGD.

D. Releases Databases

The Leaking Underground Storage Tank (LUST) Information System is maintained by the SWRCB, pursuant to California Health and Safety Code Section 25295. The SWRCB also maintains the Spills, Leaks, Investigations and Cleanup (SLIC) database, which contains similar LUST information as well as information regarding other spills or releases, which may not involve USTs. Also listed are facilities that fall under the jurisdiction of the Local Oversight Program for unauthorized releases by the County of San Diego Department of Environmental Health (DEH) Site Assessment and Mitigation (SAM) Program. Three facilities with documented releases were identified in the PGD:

- Ada Street Project at 778 Ada Street. This site was listed in the SLIC and SAM databases. Additional information regarding the documented release at this facility is provided in the Geotracker Database section below.
- Cima Property at 765 Palomar Street. This site was listed in the SLIC and SAM databases. Additional information regarding the documented release at this facility is provided in the Geotracker Database section below.
- Arco at 800 Palomar Street. This site was listed in the LUST and SAM databases. Additional information regarding the two documented releases at this facility is provided in the Geotracker Database section below.

Facilities within a 0.25-mile radius of the PGD with documented releases are summarized in Table 5.13-1. Due to the reported case statuses (i.e., closed or soil impact only) and/or distances and direction from the PGD, the identified releases outside of the PGD do not appear to have the potential to impact the PGD.

Table 5.13-1 Documented Release within 0.25-Mile Radius

Facility	Description of Release	Potential to Impact the PGD?
Cal Mex 869 Dorothy Street (west of the PGD)	Listed on LUST, SLIC, and SAM databases. Two release cases were reported at this facility. Case No. H29858-001 appears to be related to a notice of violation issued in March 1992 and had a case status of open—inactive as of May 2011. Case No. H29858-002 was listed as a diesel release to soil and had a case status of completed—case closed as of December 1996. Additional information was requested from the DEH regarding the notice of violation and is included in Appendix C of the Hazardous Materials Technical Report (Ninyo & Moore 2012), which is provided as Appendix I of this EIR. In a 2009 record of meeting, the DEH reported that Case No. H29858-001 should have been closed with Case No. H29858-002 on December 5, 1996.	No
La Salle Trucking Company 684 Anita Street (southeast of the PGD)	Listed on LUST and SAM databases. Case No. H20121-001 was listed as a diesel release to groundwater and was closed in 1996. Case No. H20121-002 was listed as a waste oil release to groundwater and was closed in 2000. No additional information was reported on GeoTracker.	No
Brake Depot/Former Buy Rite Gasoline 1240 Broadway (east of the PGD)	Listed on LUST and SAM databases. Case No. H04934-001 was listed as a gasoline release to groundwater and was closed in 2000. Case No. H04934-002 was listed as a release to soil and was closed in 2008. No additional information was reported on GeoTracker.	No
MIMS Plating 2244 Main Street (south of the PGD)	Listed on SLIC and SAM databases. Case No. H10847-001 was opened in 1987 after a complaint was filed. No additional information was reported on GeoTracker.	No
Public Storage Facility 2317 Main Street (south of the PGD)	Listed on SLIC and SAM databases. A case was opened in 2007 after a complaint was filed. GeoTracker identifies this location as a former methamphetamine lab. Impacted surfaces were cleaned and the case was closed in 2011.	No
West Auto Wreckers LTD 2365 Main Street (southeast of the PGD)	Listed on SLIC and SAM databases. Case No. H10780-001 was listed as a waste oil release to soil and was closed in 2001. No additional information was reported on GeoTracker.	No
7-Eleven Food Store 1097 Broadway (north of the PGD)	Listed on SLIC and SAM databases. Case No. H20126-001 was listed as a gasoline release and was closed in 1989. No additional information was reported on GeoTracker.	No

Source: Ninyo & Moore 2012

E. Storage Tank Registration List

Information regarding underground storage tanks (USTs) and aboveground storage tanks (ASTs) registered with the SWRCB is provided on the agency's UST and AST lists. Also listed are facilities within a 0.25-mile radius of the PGD that fall under the jurisdiction of the DEH's UST program. The UST and AST lists consist of sites that have registered tanks, and are not necessarily indicative of sites where a release of hazardous substances has occurred. One active UST listing was identified in the PGD:

- Arco at 800 Palomar Street. This facility was listed as a registered UST. Additionally, this address was listed as a historical UST site under the past facility name of Prestige Stations. Additional

information on this facility is provided in the RCRA Generator List and Releases Databases sections above, and Geotracker Database section below.

F. Historical Automotive Stations Database

The Historical Automotive Stations database was compiled by EDR during searches of national collections of business directories. Two historical automotive stations were identified in the PGD:

- Palomar Mobil Service at 796 Palomar Street. No releases were documented at this facility.
- American Oil Company at 801 Palomar Street. No releases were documented at this facility.

These two former automotive station sites were redeveloped by 1989 with the present-day industrial business complex and motel, respectively. It should be noted that properties currently and/or historically developed with automotive fueling or repair facilities should be considered to have the potential to be associated with impacted soil and/or groundwater. The absence of an unauthorized release case for automotive fueling or repair facilities does not necessarily mean that a release has not occurred. Sites historically developed with automotive fueling or repair facilities, which are now used for other purposes, may have undocumented impacts to soil and/or groundwater from petroleum hydrocarbons.

G. Geotracker Database

The SWRCB Geotracker database contains information on sites that impact or have the potential to impact groundwater, including those that require groundwater cleanup as well as permitted facilities such as operating USTs and land disposal sites. The Geotracker database was used to provide additional information on the three facilities with documented releases that were identified in the PGD (see Releases Databases section above). The following provides a brief summary of the available information on the GeoTracker website regarding the release cases reported at these three facilities:

- Arco at 800 Palomar Street. Two release cases were reported at the Arco facility (Case No. H20112-001 and H20112-002). The first case was listed as a gasoline release to soil and had a case status of closed as of August 1994. No additional information was available on the GeoTracker website. The second case was listed as a gasoline release to groundwater and had a case status of open—remediation as of July 2004. The latest available groundwater monitoring report (Stantec Consulting 2011) was reviewed. In March 2011, depth to groundwater at the Arco facility ranged from 37.6 to 46.0 feet below grade and flowed towards the northwest on the western portion and to the northeast on the eastern portion of the site. Liquid phase product (LPH) was detected in one well, located west of the dispenser area. Groundwater samples were collected from seven wells and analyzed for total petroleum hydrocarbons in the gasoline range (TPHg); benzene, toluene, ethylbenzene, and xylenes (BTEX); and fuel oxygenates including methyl tertiary butyl ether (MTBE). Only MTBE was detected in groundwater samples. The extent of MTBE impact to groundwater is generally defined to the north, south, and west, but not to the east, under Walnut Avenue.
- Cima Property at 765 Palomar Street. One release case was reported at the Cima Property (Case No. H39689-001). The case status is listed as open—site assessment as of April 2006. The site is in the Voluntary Assistance Program. No other information was provided on the GeoTracker website. However, additional information was requested from the DEH and is included in Appendix C of the Hazardous Materials Technical Report (Ninyo & Moore 2012), which is

provided as Appendix I of this EIR. In a letter dated August 14, 2007, the DEH approved a work plan to excavate impacted soils from the site with no additional risk assessment required.

- Ada Street Project at 778 Ada Street. One release case was reported at the Ada Street Project site (Case No. H39691-001). The case status is listed as open—site assessment as of June 2006. No other information was provided on the GeoTracker website. However, additional information was requested from the DEH and is included in Appendix C of the Hazardous Materials Technical Report (Ninyo & Moore 2012), which is provided as Appendix I of this EIR. In a letter dated December 13, 2006, the DEH concurred with the soil management plan prepared for the site and a Notice of Mitigated Negative Declaration was subsequently recorded for the site.

H. Solid Waste Information System Database

The California Department of Resources Recycling and Recovery (CalRecycle) Solid Waste Information System database contains information on solid waste, operations, and disposal facilities throughout the State of California. The types of facilities found in this database include landfills, transfer stations, material recovery facilities, composting sites, transformation facilities, waste tire sites, and closed disposal sites. No disposal facilities were mapped within or in the vicinity of the PGD.

5.13.1.2 Site Reconnaissance

As documented in the Hazardous Materials Technical Report (Ninyo & Moore 2012), a site reconnaissance of the PGD and adjacent properties was performed on August 19, 2011, to document areas of readily apparent, possibly contaminated surficial soils or surface water, improperly stored hazardous materials and waste, possible sources of polychlorinated biphenyls (PCBs), and possible other sources of contamination for activities in the PGD and adjacent properties. The potential environmental concerns generally noted during the site reconnaissance are described below.

A. PCB-Containing Transformers

Numerous pad-mounted transformers, which are owned and operated by SDG&E, were observed throughout the PGD. SDG&E is responsible for ensuring that its transformers comply with USEPA regulations. According to SDG&E, it has not specified PCB transformers for its electrical distribution system; however, some older (pre-1980) mineral transformers could have been inadvertently contaminated with PCBs by the manufacturer. Based on SDG&E's statistical sampling and testing program, it is unlikely that its transformers are PCB-contaminated. The only way to know with certainty is by actually obtaining and testing a sample of the fluid from the specific transformer, which may result in a fee from SDG&E.

B. Treated Wood

Wooden infrastructure (e.g., older residential dwellings and other structures) may be treated with chemical preservatives to prevent rotting due to mold, mildew, and insects. Chromated copper arsenate contains arsenic, chromium, and copper and has been widely used in outdoor settings since the 1930s. Chromated copper arsenate may leach from the wood into surrounding soil. Alternatives to chromated copper arsenate such as Alkaline Copper Quaternary or copper azole, and other wood preservatives such as bis-(N-cyclohexyldiazeniumdioxy)-copper (copper HDO), also contain copper and other chemical compounds. Acid copper chromate contains hexavalent chromium, which is a skin irritant and sensitizer

and a known human carcinogen when inhaled. Chlorinated phenols, such as pentachlorophenol, tetrachlorophenol, and trichlorophenol, are wood preservatives that have been in use since the 1930s. Chlorinated phenols have potentially toxic effects resulting from exposure due to inhalation and skin absorption. Creosote is a wood preservative containing polycyclic aromatic hydrocarbons (PAHs). Sampling and analysis of wood would be needed to confirm whether it has been treated. Several older residences and commercial buildings were observed throughout the PGD. These properties have the potential for low levels of pesticides to be present in shallow soils surrounding and/or underlying these structures. Termiticides are also likely present in railroad ties.

C. Asbestos-Containing Materials

Given the age of many of the structures within the PGD (pre-dating the early 1980s), asbestos-containing materials are likely present. Additionally, commonly encountered asbestos-containing materials in street rights-of-way include pipe insulation on subsurface natural gas lines and cementitious water lines (e.g., transite).

D. Lead-Based Paint

Given the age of many of the structures within the PGD (pre-dating the early 1980s), lead-based paint is likely present. Elevated lead concentrations may also be present in shallow soils surrounding older buildings from peeling paint. Additionally, painted curbs, poles, and roadway striping were noted in the street rights-of-way and may also contain lead-based paint.

E. Agricultural Use

Prior to development with the present-day structures, portions of the PGD were historically used for agricultural purposes. Current agricultural use was not observed during the site reconnaissance.

F. Miscellaneous Hazardous Materials

Materials falling under the Universal Waste Rule requirements may be present within the PGD, including (but not limited to) potentially mercury-containing switches and fluorescent light tubes, potentially PCB-containing light ballasts, and hi-intensity vapor lights and associated ballasts.

5.13.2 Regulatory Framework

5.13.2.1 Federal

A. Resources Conservation and Recovery Act

The federal RCRA of 1976, as amended by the Hazardous and Solid Waste Amendments of 1984, provides for the management of hazardous wastes for its entire existence (generation to disposal) to ensure that it is handled in a manner that protects human health and the environment. Under RCRA, the USEPA has established regulations and procedures for the generation, transportation, storage, and disposal activities of hazardous waste handlers, as well as technical standards for the design and safe operation of treatment, storage, and disposal facilities to minimize the release of hazardous waste into the environment. RCRA's corrective action program is designed to investigate and guide the cleanup of any contaminated air, groundwater, surface water, or soil from hazardous waste management of spills

or releases into the environment as a result of the past and present activities at RCRA-regulated facilities.

B. Comprehensive Environmental Response, Compensation, and Liability Act

Congress enacted the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as Superfund, on December 11, 1980. CERCLA established prohibitions and requirements concerning closed and abandoned hazardous waste sites; provided for liability of persons responsible for releases of hazardous waste at these sites; and established a trust fund to provide for cleanup when no responsible party could be identified. The Superfund Amendments and Reauthorization Act (SARA) amended the CERCLA on October 17, 1986. SARA stressed the importance of permanent remedies and innovative treatment technologies in cleaning up hazardous waste sites; required Superfund actions to consider the standards and requirements found in other state and federal environmental laws and regulations; provided new enforcement authorities and settlement tools; increased state involvement in every phase of the Superfund program; increased the focus on human health problems posed by hazardous waste sites; encouraged greater citizen participation in making decisions on how sites should be cleaned up; and increased the size of the trust fund to $8.5 billion.

C. USEPA Regional Screening Levels

Using risk assessment guidance from the Superfund program, USEPA regional divisions have developed Regional Screening Levels (formerly Preliminary Remediation Goals) for chemical contaminants. Regional Screening Levels are risk-based contaminant concentrations, derived from standardized equation combining exposure information assumptions with USEPA toxicity data, considered to be protective of humans (including sensitive groups) over a lifetime. Regional Screening Levels are based upon human health risk and do not address potential ecological risk. As such, Regional Screening Levels are used for site screening to help identify conditions that may warrant further investigation and are not intended to be used as cleanup standards.

D. Disaster Management Act

The Disaster Management Act of 2000 establishes a national program for pre-disaster mitigation and streamlines administration of disaster relief. The Disaster Management Act places an emphasis on strong, integrated state and local hazards mitigation planning, provides incentives for planning and program management, and imposes sanctions for failure to meet state and local requirements. In order to remain eligible for post-disaster FEMA funding after November 2004, every jurisdiction in the United States must have an approved Hazard Mitigation Plan to address the management of and response to emergency situations. In addition, to be eligible for pre-disaster FEMA funding for use in hazard mitigation, each jurisdiction's approved Hazard Mitigation Plan must include the planned uses of such funds. The City of Chula Vista adopted a Hazard Mitigation Plan in May 2004 to help mitigate impacts to the City in the event of a natural or man-made disaster. The City's Hazard Mitigation Plan was included in the San Diego County Multi-Jurisdiction Hazard Mitigation Plan (described below) that was submitted to FEMA for approval in compliance with the conditions of the Disaster Management Act.

5.13.2.2 State

A. California Hazardous Waste Control Law

The California DTSC, a part of the CalEPA, regulates the generation, transportation, treatment, storage, and disposal of hazardous waste under the authority of the federal RCRA and the California Hazardous Waste Control Law. Both laws impose "cradle to grave" regulatory systems for handling hazardous waste in a manner that protects human health and the environment.

B. California Fire Code

The California Fire Code (California Code of Regulations Title 24, Part 9) is based on the International Fire Code, with necessary California amendments. The purpose of the California Fire Code is to establish the minimum requirements consistent with nationally recognized good practices to safeguard the public health, safety, and general welfare from the hazards of fire, explosion, or dangerous conditions in new and existing buildings, structures, and premises, as well as to provide safety and assistance to firefighters and emergency responders during emergency operations. The California Fire Code establishes regulations regarding the following:

1) The hazard of fire and explosion arising from the storage, handling, or use of structures, materials, or devices;

2) Conditions hazardous to life, property, or public welfare in the use or occupancy of buildings, structures, or premises;

3) Fire hazards in the buildings, structures, or on premises from use of, occupancy of, or operation;

4) Matters related to the construction, extension, repair, alteration, or removal of fire suppression or alarm systems; and

5) Conditions affecting the safety of firefighters and emergency responders during emergency operations.

C. Hazardous Materials Release Response Plans and Inventory Act

The Hazardous Materials Release Response Plans and Inventory Act requires facilities that handle hazardous materials in amounts above threshold quantities to establish and implement hazardous materials business plans. Pursuant to California Health and Safety Code Section 25504, hazardous materials business plans must contain a hazardous materials inventory disclosing the type, quantity, use, location, and health risks of every hazardous substance, chemical product, and waste handled by the facility; emergency response plans and procedures in the event of a reportable release or threatened release of a hazardous material; and provisions for employee training in safety procedures.

D. California Government Code Section 65962.5

The "Cortese List" refers to several government databases, compiled and updated by state regulatory agencies pursuant to California Government Code Section 65962.5, which identify potential hazardous materials sites, including sites that may have been subject to a release of hazardous substances and hazardous waste facilities. A site's presence on the Cortese List can affect the local permitting process

and compliance with the CEQA. Data resources that provide information regarding the sites and facilities identified as meeting the Cortese List requirements include the following (CalEPA 2012):

- List of Hazardous Waste and Substances Sites from the DTSC EnviroStor database;
- List of LUST Sites by County and Fiscal Year from the SWRCB GeoTracker database;
- List of Solid Waste Disposal Sites identified by the SWRCB with waste constituents above hazardous waste levels outside the waste management unit;
- List of "active" Cease and Desist Orders and Cleanup and Abatement Orders from the SWRCB; and
- List of Hazardous Waste Facilities subject to corrective action pursuant to California Health and Safety Code Section 25187.5, identified by DTSC.

E. Standardized Emergency Management System

The Standardized Emergency Management System (SEMS) is the cornerstone of California's emergency response system and the fundamental structure for the response phase of emergency management. SEMS is required by the California Emergency Services Act for managing multi-agency and multi-jurisdictional responses to emergencies in California. SEMS unifies all elements of California's emergency management community into a single integrated system and standardizes key elements. SEMS incorporates the use of the Incident Command System, California Disaster and Civil Defense Master Mutual Aid Agreement, the Operational Area concept, and multi-agency or inter-agency coordination. State agencies are required to use SEMS and local government entities, including the City of Chula Vista, must use SEMS in order to be eligible for any reimbursement of response-related costs under the state's disaster assistance programs.

5.13.2.3 Regional

A. San Diego County Site Assessment and Mitigation Program

The County of San Diego DEH is the regional agency generally entrusted with the monitoring and enforcement of various laws and regulations governing the handling, use, transportation, storage, and disposal of hazardous materials. The DEH maintains the SAM Program list of contaminated sites that have previously or are currently undergoing environmental investigations and/or remedial actions. The primary purpose of the SAM Program is to protect human health, water resources, and the environment within San Diego County by providing oversight of assessments and cleanups in accordance with the California Health and Safety Code and the California Code of Regulations. The SAM's Voluntary Assistance Program also provides staff consultation, project oversight, and technical or environmental report evaluation and concurrence (when appropriate) on projects pertaining to properties contaminated with hazardous substances.

B. San Diego County Multi-Jurisdictional Hazard Mitigation Plan

The Multi-Jurisdictional Hazard Mitigation Plan (County of San Diego 2010) is a countywide plan that identifies risks and ways to minimize damage by natural and manmade disasters. All 18 incorporated cities, including the City of Chula Vista, and unincorporated San Diego County participated in the planning process and have adopted the 2010 version of the Hazard Mitigation Plan. The Hazard Mitigation Plan is a comprehensive resource document that is intended to serve many purposes, including to enhance public awareness and understanding; create a decision tool for management;

promote compliance with state and federal program requirements; enhance local policies for hazard mitigation capability; provide inter-jurisdictional coordination of mitigation-related programming; and achieve regulatory compliance. The Hazard Mitigation Plan provides a hazard risk assessment and identifies goals, objectives, and actions for each jurisdiction. The risk assessment process involves identifying hazards, profiling hazard, identifying assets, assessing vulnerability, identifying repetitive loss, and analyzing development trends. The following hazards have been identified as posing the most threat to San Diego region and have been profiled in the Hazard Mitigation Plan: Wildfire/Structure Fire, Flood, Coastal Storms/Erosions/Tsunami, Earthquake/Liquefaction, Rain-Induced Landslides; Dam Failure; Hazardous Materials Incidents; Nuclear Materials Release; and Terrorism.

C. San Diego County Operational Area Emergency Plan

The San Diego County Operational Area, which consists of the County of San Diego and all jurisdictions within the County, was formed to assist in developing emergency plans, exercising those plans, developing Mutual Aid capabilities between jurisdictions, and establishing relationships that would improve communications between jurisdictions and agencies. The Operational Area Emergency Plan (Unified San Diego County Emergency Services Organization 2010) describes a comprehensive emergency management system which provides for a planned response to disaster situations associated with natural disasters, technological incidents, terrorism and nuclear-related incidents. The Operational Area Emergency Plan delineates operational concepts relating to various emergency situations, identifies components of the Emergency Management Organization, and describes the overall responsibilities for protecting life and property and assuring the overall well-being of the population. The Operational Area Emergency Plan also identifies the sources of outside support which might be provided (through mutual aid and specific statutory authorities) by other jurisdictions, state and federal agencies, and the private sector. The objectives of the Operational Area Emergency Plan are as follows:

1) To provide a system for the effective management of emergency situations.
2) To identify lines of authority and relationships.
3) To assign tasks and responsibilities.
4) To ensure adequate maintenance of facilities, services and resources.
5) To provide a framework for adequate resources for recovery operations.

5.13.2.4 Local

A. City of Chula Vista General Plan

The Environmental Element of the General Plan includes the following citywide objectives and policies regarding hazards and hazardous materials:

Objective E 16
Minimize the risk of injury and property damage associated with wildland fire hazards.

Policy E 16.1: Implement brush management programs that are consistent with the Chula Vista MSCP Subarea Plan and the City's Urban-Wildland Interface Code, within urban development and open space interface areas in order to reduce potential wildland fire hazards. Brush management guidelines within the MSCP Subarea Plan and the Urban-Wildland Interface Code shall include limits and measures to prevent increased risk of erosion.

Objective E 17
Ensure adequate remediation of contaminated sites as redevelopment occurs in order to protect public health and safety.

Policy E 17.1: Clean contaminated sites to protective limits to ensure that planned future uses of such sites and public health and safety are not compromised.

Policy E 17.2: Prior to the redevelopment of contaminated sites, ensure adequate remediation in accordance with the recommendations of appropriate environmental assessments and consistent with all applicable regulations and standards.

Objective E 18
Minimize the use of toxic products by residents and small businesses and facilitate the proper disposal of household hazardous waste.

Policy E 18.1: Provide convenient and affordable household hazardous waste collection facilities and services for residents and small businesses, including City facilities, community collection events, and curbside collection.

Policy E 18.2: Minimize the use of toxic products by residents and small businesses through public education on alternative products and methods.

Objective E 20
Ensure that facilities using, storing, and handling hazardous materials and waste do not result in significant adverse effects to existing and planned surrounding land uses.

Policy E 20.1: On a periodic basis, review and modify, where necessary, the City's zoning regulations to ensure that adequate provisions are in place to avoid adverse effects to surrounding land uses from facilities using, storing, and handling hazardous materials and waste.

Policy E 20.2: Through the environmental review of proposed developments, in accordance with CEQA, the City shall ensure that significant and potentially significant adverse effects from facilities using, storing, and handling hazardous materials and waste to existing and planned surrounding land uses will be avoided.

Policy E 20.3: Prior to the issuance or renewal of business licenses for businesses involving hazardous materials and/or generating hazardous waste, the City shall continue to require licensees to prepare and submit an acceptable Business Plan and Risk Management Prevention Program to the County DEH, as applicable, and to obtain all other necessary licenses and permits.

B. City of Chula Vista Fire Code

CVMC Chapter 15.36 adopts by reference the California Fire Code, 2010 Edition, for the purposes of prescribing regulations governing conditions hazardous to life and property from fire or explosion.

C. City of Chula Vista Urban-Wildland Interface Code

CVMC Chapter 15.38 adopts by reference the Urban-Wildland Interface Code, 2000 Edition, for the purposes of prescribing regulations mitigating the hazard to life and property from intrusion of fire from wildland fire exposures, fire exposures from adjacent structures, and prevention of structure fires from spreading to wildland fuels.

5.13.3 Criteria for Determination of Significance

According to Appendix G of the CEQA Guidelines, a significant impact associated with hazards and hazardous materials would occur if implementation of the proposed project would:

- Criterion 1: Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.
- Criterion 2: Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.
- Criterion 3: Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school.
- Criterion 4: Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, create a significant hazard to the public or the environment.
- Criterion 5: Be located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, and result in a safety hazard for people residing or working in the project area.
- Criterion 6: Be located within the vicinity of a private airstrip, and result in a safety hazard for people residing or working in the project area.
- Criterion 7: Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.
- Criterion 8: Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

5.13.4 Impacts

5.13.4.1 Hazardous Materials Transport, Use, Disposal, or Release

Criterion 1: Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Criterion 2: Would the project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Construction of future PGDSP development projects would involve the temporary use of common but potentially hazardous materials, including vehicle fuels, paints, cleaning materials, and caustic construction compounds. Operation of the permitted residential and commercial uses and maintenance

of parks and other public facilities proposed by the PGDSP would also involve limited use of common hazardous materials, including cleaning materials, pesticides and fertilizers, and paints and solvents. Use of these common hazardous materials in accordance with labeled instructions would not create significant hazards to the public or the environment. However, leaks and spills from construction equipment could potentially release hazardous materials to the environment.

Future PGDSP development projects would comply with all applicable federal, state, and local regulations related to the handling and storage of hazardous materials, spill containment and cleanup procedures, and worker safety, including the California Fire Code, DTSC regulations, and California Occupational Safety and Health Administration (Cal/OSHA) regulations. Adherence to these regulations would minimize the potential for leaks and spills and would ensure prompt and effective cleanup in the event of an accidental release, thereby preventing significant hazards to the public or the environment. In addition, certain land uses that involve the routine use, transport, and disposal of hazardous materials such as auto service stations and dry cleaners would be allowed in the PGD with a conditional use permit. Such facilities are regulated by the USEPA and/or DTSC, and compliance with all applicable regulations would prevent significant hazards to the public or the environment.

As discussed in Section 5.13.1.2 above, given the age of most of the structures within the PGD (pre-dating the early 1980s), the potential for hazardous building materials such as PCBs, treated wood, asbestos-containing materials, lead-based paint, and other Universal Waste is considered likely. There is also the potential for the presence of lead and pesticides in shallow soils adjacent to and/or beneath these structures (where crawl spaces are present) from peeling paint and/or application of pesticides. Demolition or renovation activities involving buildings constructed prior to the 1980s, as well as ground-disturbing activities in soils with elevated levels of lead or pesticides, would have the potential to expose construction workers to hazardous building materials, which could pose substantial health risks. This represents a potentially significant impact.

5.13.4.2 Hazards to Schools

Criterion 3: Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?

Harborside Elementary School at 681 Naples Street is the only school located within 0.25 mile of the PGD. The PGDSP does not propose any new industrial land uses that would emit hazardous emissions or handle acutely hazardous materials, substances, or waste. As discussed in Section 5.13.4.1 above, use of hazardous materials during construction or operation of proposed PGDSP land uses would not create significant hazards to the public or the environment. Therefore, impacts associated with hazards to schools would be less than significant.

5.13.4.3 Hazardous Materials Sites

Criterion 4: Would the project be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, create a significant hazard to the public or the environment?

As discussed in Section 5.13.1.1 above, based on the environmental database search and records review, the majority of the identified potentially hazardous materials sites do not represent a significant hazard to the public or the environment due to their distance from the PGD and/or case status (i.e., soil

release only or case closed). Due to releases and/or historical uses, contaminated groundwater and/or soils have been identified at the following sites:

- Arco at 800 Palomar Street. Groundwater beneath this site is impacted with gasoline. According to the latest available groundwater monitoring report (Stantec Consulting 2011), in March 2011, depth to groundwater ranged from 37.6 to 46.0 feet below grade and flowed towards the northwest on the western portion and to the northeast on the eastern portion of the site. Liquid phase product was detected in one well, located west of the dispenser area. Groundwater samples were collected from seven wells and analyzed for total petroleum hydrocarbons in the gasoline range; benzene, toluene, ethylbenzene, and xylenes; and fuel oxygenates including MTBE. Only MTBE was detected in groundwater samples. The extent of MTBE impact to groundwater is generally defined to the north, south, and west, but not to the east, under Walnut Avenue.
- Cima Property (765-795 Palomar Street) and Ada Street Project (778-812 Ada Street). Prior to development with the present-day structures, portions of the PGD were historically used for agricultural purposes. Elevated concentrations of pesticides in soils have been documented at the Cima Property and Ada Street Project sites and are likely present in other areas across the PGD.

Contaminated groundwater and/or soil may pose significant hazards to public health and safety during construction or long-term use of future PGDSP development projects on hazardous materials sites. This represents a potentially significant impact.

5.13.4.4 Airport Hazards

Criterion 5: Would the project be located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, and result in a safety hazard for people residing or working in the project area?

Criterion 6: Would the project be located within the vicinity of a private airstrip, and result in a safety hazard for people residing or working in the project area?

Impacts related to airport hazards are assessed based on the Air Installations Compatible Use Zones for Naval Outlying Field Imperial Beach (U.S. Department of Defense 2011). The project site is located 2.6 miles northeast of Naval Outlying Field Imperial Beach, which is the closest private airfield to the PGD. No public airports are located in the vicinity of the PGD. The PGD is subject to periodic over-flights and flyovers of aircraft from Naval Outlying Field Imperial Beach. However, the project site is not located within the Clear Zones or Accident Potential Zones for the runways at Naval Outlying Field Imperial Beach. Due to existing development in the PGD, it is not foreseeable that additional aviation uses would be introduced in the immediate vicinity of the project site. In addition, PGDSP implementation would not result in a significant impact on future air traffic operations. Furthermore, the PGDSP development regulations specify a maximum building height of up to 60 feet at designated gateways only, such that new buildings would not create obstructions to air navigation. Thus, people residing or working in the PGD would not be exposed to airport hazards and impacts would be considered less than significant.

5.13.4.5 Emergency Response and Evacuation Plans

Criterion 7: Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

The comprehensive emergency response plan for the County of San Diego and all jurisdictions within the County is the San Diego County Operational Area Emergency Plan (Unified San Diego County Emergency Services Organization 2010). In the event of a major disaster, where a large part of Chula Vista may require evacuation, the primary circulation routes serving the PGD include I-5, Palomar Street, Industrial Boulevard, Broadway, and Main Street. Construction of future PGDSP development projects within roadway rights-of-way may require temporary roadway closures and detours, which would affect local traffic circulation. Changes to the traffic circulation pattern could potentially interfere with emergency response and/or evacuation routes and impair the implementation of the Operational Area Emergency Plan if the appropriate authorities are not properly notified prior to construction. This represents a potentially significant impact. Following construction, future PGDSP development projects would be required to provide appropriate access roads in accordance with the California Fire Code and would not interfere with emergency response and/or evacuation routes and impair the implementation of the Operational Area Emergency Plan during operation.

5.13.4.6 Wildland Fire Hazards

Criterion 8: Would the project expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

Wildland fires occur in rural areas and where development interfaces with undeveloped areas. The PGD is located in a highly developed, urban area in western Chula Vista that is not adjacent to wildlands. Accordingly, the Geology and Natural Hazards Baseline Study (Recon 2003) does not identify areas of high or very high wildfire hazards within or in the vicinity of the PGD. Therefore, PGDSP implementation would not expose people or structures to significant risks involving wildland fires. Impacts would be less than significant.

5.13.5 Level of Significance Prior to Mitigation

5.13.5.1 Hazardous Materials Transport, Use, Disposal, or Release

Demolition or renovation activities involving buildings constructed prior to the 1980s, as well as ground-disturbing activities in soils with elevated levels of lead or pesticides, would have the potential to expose construction workers to hazardous building materials, which could pose substantial health risks. Therefore, potentially significant impacts associated with hazardous materials transport, use, disposal, or release would occur.

5.13.5.2 Hazards to Schools

Implementation of the proposed PGDSP would not result in any new land uses that would emit hazardous emissions or handle acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school. Therefore, impacts associated with hazards to schools would be less than significant.

5.13.5.3 Hazardous Materials Sites

Due to releases and/or historical uses, sites containing contaminated groundwater and/or soils have been identified in the PGD. Contaminated groundwater and/or soil may pose significant hazards to public health and safety during construction or long-term use of future PGDSP development projects on hazardous materials sites. Therefore, potentially significant impacts associated with hazardous materials sites would occur.

5.13.5.4 Airport Hazards

Implementation of the proposed PGDSP would not result in the exposure of people residing or working in the PGD to airport hazards. Therefore, impacts associated with airport hazards would be less than significant.

5.13.5.5 Emergency Response and Evacuation Plans

Temporary roadway closures and detours during construction of future PGDSP development projects within roadway rights-of-way could potentially interfere with emergency response and/or evacuation routes and impair the implementation of the Operational Area Emergency Plan if the appropriate authorities are not properly notified prior to construction. Therefore, potentially significant impacts associated with emergency response and evacuation plans would occur.

5.13.5.6 Wildland Fire Hazards

Implementation of the proposed PGDSP would not expose people or structures to significant risks involving wildland fires. Therefore, impacts associated with wildland fire hazards would be less than significant.

5.13.6 Mitigation Measures

5.13.6.1 Hazardous Materials Transport, Use, Disposal, or Release

Implementation of mitigation measures 5.13-1 would reduce potential impacts associated with hazardous materials transport, use, disposal, or release to a less than significant level.

5.13-1 **Hazardous Building Materials Surveys.** Prior to demolition or renovation activities associated with future PGDSP development projects, a hazardous building materials survey shall be performed at buildings that were constructed prior to 1980. This type of survey typically addresses asbestos-containing materials, lead-based paint, PCBs in electrical equipment, mercury switches, and heating/cooling systems. The hazardous building materials survey shall be conducted under the direct supervision of a certified asbestos consultant and certified lead inspector/assessor. If asbestos-containing materials, lead-based paint, or other hazardous materials are identified during the hazardous building materials survey, a licensed abatement removal contractor shall remove and properly dispose of the hazardous materials in accordance with applicable federal, state, and local regulations. A certified consultant shall prepare a bid specification document, and perform abatement project planning, site and air monitoring, oversight activities, and reporting activities.

5.13.6.2 Hazards to Schools

No mitigation measures are required.

5.13.6.3 Hazardous Materials Sites

Implementation of mitigation measures 5.13-2 would reduce potential impacts associated with hazardous materials sites to a less than significant level.

5.13-2 **Risk Assessments.** Prior to the issuance of a grading permit of future PGDSP development projects on sites where contamination has been identified, or if contamination is discovered during construction activities, work shall be immediately suspended and a risk assessment shall be performed to address risks posed by any residual contamination and establish appropriate mitigation measures, such as natural attenuation, active remediation, and engineering controls, that would be protective of human health and the environment. All assessment and remediation activities shall be conducted in accordance with a Work Plan that has been approved by the regulatory agency with oversight. In addition, the following precautions shall be observed, as applicable:

i. Pre-project activities (e.g., planning or early design) shall take into consideration site-specific environmental evaluation to address hazardous materials concerns related to worker and community health and safety, waste generation and disposal, and regulatory requirements.

ii. If a site was historically used for agricultural purposes, there is the potential for on-site soil or groundwater to be impacted with pesticides, herbicides, or other related contaminants. Prior to construction, these sites shall be evaluated for potential impacts related to the agricultural land use.

iii. Caution shall be taken during excavation activities near the facilities associated with unauthorized releases because of the potential for encountering documented and undocumented releases of contaminants and hazardous materials or wastes that may have occurred within or adjacent to these sites. Excavation and soil monitoring shall be conducted by professionals trained in the identification and management of hazardous materials or wastes, such as contaminated soil or groundwater.

iv. If hazardous or regulated wastes are generated during construction or demolition activities, the wastes shall be handled and disposed of in accordance with applicable federal, state, and local regulations.

v. A human health risk assessment shall be performed, as necessary, to evaluate if a release or releases of hazardous materials presents an unacceptable risk to human health.

vi. Appropriate references regarding the potential to encounter contaminated soil or groundwater shall be included in construction specifications.

vii. A Site Safety Plan shall be prepared and implemented prior to initiation of construction activities to reduce potential health and safety hazards to workers and the public.

viii. If dewatering is necessary in instances where groundwater is encountered during construction activities, it shall be noted that dewatering activities require obtaining a discharge permit from the state and/or city. The discharge permit requirements may include sampling, treatment, and appropriate storage and disposal of groundwater.

ix. During construction activities, it may be necessary to excavate existing soil, or to bring fill soils to future PGDSP project sites from off-site locations. In areas that have been documented as being contaminated or where soil contamination is suspected, sampling shall be performed. Characterization of the soil is suggested prior to any excavation or removal activity and contaminated soil not suitable for onsite reuse shall be properly disposed of at an off-site facility. Fill soils shall also be evaluated or sampled to document that imported soil does not contain unacceptable concentrations of contamination.

x. Caution shall be taken during excavation activities near existing groundwater monitoring wells so that they are not damaged. Existing groundwater monitoring wells may have to be abandoned and reinstalled if they are located in an area that is undergoing redevelopment. The locations of existing groundwater monitoring wells can be found at the following web address: http://geotracker.waterboards.ca.gov.

xi. Illegal dumping of potentially hazardous wastes may have occurred on sites containing vacant land. Potentially hazardous wastes shall be appropriately disposed of prior to initiating redevelopment activities.

xii. Any USTs that are removed during redevelopment activities shall be removed under a permit by the DEH or other regulatory agency, as appropriate. The soil and groundwater within the vicinity of the USTs shall be adequately characterized and remediated, if necessary, to a standard that would be protective of water quality and human health, based on future site use.

xiii. In the event that USTs or undocumented areas of contamination are encountered during future redevelopment activities, work shall be discontinued until appropriate health and safety procedures are implemented and appropriate notifications are made. A contingency plan shall be prepared to address contractor procedures for such an event, to minimize the potential for costly construction delays. In addition, it shall be determined if regulatory notification is required regarding the contamination. Each regulatory agency and program within the respective agency has its own mechanism for initiating an investigation. The appropriate program shall be selected based on the nature of the contamination identified (e.g., DEH Local Oversight Program for tank release cases, DEH Voluntary Assistance Program for non-tank release cases, RWQCB for non-tank cases involving groundwater contamination, and Local Enforcement Agency (LEA)/APCD for landfill-related contamination issues). In general, LEA oversight/ notification is needed for work conducted within 1,000 feet of a landfill. The contamination remediation and removal activities shall be conducted in accordance with pertinent federal, state, and local regulatory guidelines, under the oversight of the appropriate regulatory agency.

5.13.6.4 Airport Hazards

No mitigation measures are required.

5.13.6.5 Emergency Response and Evacuation Plans

Implementation of mitigation measure 5.3-5 (described in Section 5.3, Transportation, Circulation, and Access), which requires the submittal of a project-specific traffic control plan to the City Engineer for

review and approval, would reduce potential impacts associated with emergency response and evacuation plans to a less than significant level.

5.13.6.6 Wildland Fire Hazards

No mitigation measures are required.

5.13.7 Level of Significance after Mitigation

With implementation of mitigation measures 5.13-1, 5.13-2, and 5.3-5, impacts related to hazards and hazardous materials would be reduced to below a level of significance.

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5.14 Housing/Population

The analysis in this section of the EIR addresses the potential impacts to housing and population that would result from future development and growth consistent with the PGDSP. Citywide housing and population impacts have been evaluated in Section 5.17 of the General Plan Update EIR (available for review at the City of Chula Vista Development Services Department at 276 Fourth Avenue; at the Chula Vista Civic Center Library at 365 F Street; and on the City of Chula Vista website at www.chulavistaca.gov), which is incorporated by reference pursuant to CEQA Guidelines Section 15150. The following discussion is intended to focus on the housing and population impacts associated with future infill development within the PGD, which is identified in the General Plan as an area designated to accommodate future planned growth.

5.14.1 Existing Conditions

5.14.1.1 Housing

The total housing stock of Chula Vista is estimated at 78,427 units (as of April 1, 2010), comprised of approximately 61 percent (47,971 units) single-family, 34 percent (26,691 units) multi-family, and 5 percent (3,765 units) mobile home and other (SANDAG 2012c). From 2000 to 2010, the City's housing stock increased by approximately 32 percent (18,932 units). As shown in Table 5.14-1, it is projected that Chula Vista will continue to experience significant rates of growth and development over the course of the 20-year PGDSP planning horizon. SANDAG anticipates that the City's housing stock will increase by approximately 22 percent (17,124 units) between 2008 and 2030. Although single-family units are forecasted to continue to form the majority of the housing stock in 2030, it is projected that single-family units would constitute 55 percent of 2030 housing stock, which represents a lesser share than under existing conditions (61 percent), and it is projected that multi-family residential units would constitute 42 percent of the 2030 housing stock, which represents a greater share than under existing conditions (34).

The PGD is currently comprised of a variety of land uses that include residential, commercial, and industrial uses. Residential development is the dominant land use, primarily concentrated south of Palomar Street, with densities ranging from approximately 5 to 20 dwelling units per acre. The existing housing stock within the PGD is estimated to be 400 units. Approximately 83 percent of the existing housing stock in western Chula Vista was built before 1980, indicating that substantial rehabilitation or replacement may be needed within the 20-year planning horizon of the PGDSP.

5.14.1.2 Population

Based on the General Plan, the City's population is projected to reach approximately 300,000 by 2030. The total population of Chula Vista is estimated at 243,916 persons (as of April 1, 2010), with an average of 3.21 persons per household (SANDAG 2012c). From 2000 to 2010, the City's population increased by approximately 41 percent (70,360 persons). As shown in Table 5.14-1, it is projected that Chula Vista will continue to experience significant rates of growth and development over the course of the 20-year PGDSP planning horizon. SANDAG anticipates that the City's population will increase by approximately 25 percent (58,581 persons) between 2008 and 2030.

The existing housing stock within the PGD is estimated to be 400 units. At an average of 3.21 persons per household, the existing population within the PGD is estimated to be 1,284 persons.

Table 5.14-1 Regional Growth Forecast

	2008	2020	2030	2008 to 2030 Growth	
				Net Change	Percent Change
Total Population	**230,397**	**267,418**	**288,978**	**58,581**	**25%**
Household Population	228,958	265,703	286,757	57,799	25%
Group Quarters Population	1,439	1,715	2,221	782	54%
Total Housing Units	**77,484**	**88,186**	**94,608**	**17,124**	**22%**
Single Family	47,593	50,898	51,762	4,169	9%
Multiple Family	26,136	33,600	39,294	13,158	50%
Mobile Homes	3,755	3,688	3,552	-203	-5%
Occupied Housing Units	**73,385**	**84,502**	**91,246**	**17,861**	**24%**
Single Family	44,459	48,142	49,293	4,834	11%
Multiple Family	25,299	32,783	38,505	13,206	52%
Mobile Homes	3,627	3,577	3,448	-179	-5%
Persons per Household[(1)]	**3.12**	**3.14**	**3.14**	**0.02**	**1%**

[(1)] Persons per Household = Household Population/Occupied Housing Units

Source: SANDAG 2011c

5.14.2 Regulatory Framework

5.14.2.1 Regional

A. SANDAG Regional Comprehensive Plan

The Regional Housing Element of the RCP applies "smart growth" principles to the development of new housing, emphasizing that 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. It is also the goal of the Regional Housing Element to provide more housing choices in all prices ranges such that homes are affordable to persons of all income levels and accessible to persons of all ages and abilities.

B. SANDAG Regional Housing Needs Assessment

Based on a methodology that weighs a number of factors (i.e., projected population growth, employment, commute patterns, and available sites), SANDAG determined quantifiable needs for housing units in the San Diego region according to various income categories. In its final Regional Housing Needs Assessment figures, SANDAG allocated 12,861 housing units to the City of Chula Vista for the 2010-2020 Housing Element Cycle, including 5,648 housing units for very low– and low-income households. Since January 1, 2010, Chula Vista has produced a total of 1,546 new units, including 155 low- and very low–income housing units. The City anticipated that its remaining development capacity will exceed the Regional Housing Needs Assessment for Chula Vista. The City anticipates that much of the new construction will result from building out the master planned communities in the East Planning Area, such as Otay Ranch, infill development, and mixed use development.

5.14.2.2 Local

A. City of Chula Vista General Plan

The Housing Element of the General Plan is an important planning tool which 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 2005-2010 Housing Element, which was adopted on October 24, 2006, is the City's most current Housing Element. The City is currently preparing the 2013-2020 Housing Element; however, this document is not available as of the date of this EIR. The 2005-2010 Housing Element details the City's five-year strategy for the enhancement and preservation of the community's character, identifies strategies for expanding housing opportunities for the City's various economic segments, and provides official policy guidance for local decision-making related to housing. Policies and programs of the 2005-2010 Housing Element were developed to address the shift of development opportunities to a more urbanized setting, particularly western Chula Vista, and the challenges associated with this shift. As such, the provision of new housing opportunities within mixed-use areas and at higher density levels, particularly in transit focus areas and identified town centers, is encouraged. The 2005-2010 Housing Element focuses on the following two key interrelated housing issues:

1) Given the shortfall of housing, particularly affordable housing, and the ensuing high cost of housing, the City must take measures to continue to preserve and expand affordable housing not only for future residents but to also accommodate the needs of those existing very low, low, and moderate-income residents; and
2) While revitalizing western Chula Vista will bring forward opportunities to enliven and enhance the community and provide for future housing needs, such efforts must be mindful of the challenges and the impact of change on the existing rental housing stock and residents.

Among its numerous policies and programs, the Housing Element includes the Balanced Communities-Affordable Housing Policy which requires new residential developments with 50 or more units to provide 10 percent of units as affordable housing for low- and moderate-income households within the development. The policy considers flexibility in compliance, offering alternatives to the on-site provision of affordable housing including off-site provision of affordable housing and payment of an in-lieu fee. Other applicable General Plan objectives and policies from the Housing Element include the following:

Objective H 4
Minimize impacts on housing choice within each of the four geographic planning areas, especially to very low and low income residents, that result from conversion or demolition of rental housing units.

Policy H 4.1: Promote an equitable distribution of housing types (e.g., multi-family rental and owner occupied housing) based upon identified needs within the Northwest, Southwest, and East Planning Areas to provide a range of housing opportunities for all income levels.

Objective H 5
Encourage the provision of a wide range of housing choices by location, type of unit, and price level, in particular the establishment of permanent affordable housing for low and moderate income households.

Policy H 5.1: Balanced Communities-Affordable Housing: Require newly constructed residential developments to provide a portion of their development affordable to low and moderate income households.

Policy H 5.2: Encourage the development of sufficient and suitable new rental housing opportunities within each of the City's four geographic Planning Areas, particularly for very low and low income households.

Objective H 6
Promote the development of a variety of housing choices, coupled with appropriate services, to meet the needs of special population groups, including the homeless, those "at-risk" of becoming homeless, persons with physical and/or development disabilities, emancipated foster youth, students, athletes at the Olympic Training Center, single-parent households, farmworkers, and seniors.

Policy H 6.2: Encourage the development of alternative housing types in locations with easy access to goods, services, transportation, recreation and other appropriate services to accommodate the special needs of seniors, persons with disabilities, emancipated foster youth, students, athletes and single-person households.

Objective H 7
Facilitate the creation, maintenance, preservation, and conservation of affordable housing for lower and moderate income households through comprehensive planning documents and processes, and the provision of financial assistance and other incentives.

Policy H 7.1: Ensure Chula Vista's plans and policies addressing housing, such as the Zoning Ordinance, Sectional Planning Area Plans, and Specific Plans, encourage a variety of housing products that respond to variations in income level, the changing live-work patterns of residents, and the needs of the City's diverse population.

Objective H 8
Ensure the availability of housing opportunities to persons regardless of race, color, ancestry, national origin, religion, sex, disability, marital status, and familial status, source of income, or sexual orientation.

Policy H 8.1: Ensure equal housing opportunities to prevent housing discrimination in the local housing market.

5.14.3 Criteria for Determination of Significance

According to Appendix G of the CEQA Guidelines, a significant impact to housing and population would occur if implementation of the proposed project would:

- Criterion 1: Induce substantial population growth in an area, either directly (e.g., by proposing new homes or businesses) or indirectly (e.g., through extension of roads or other infrastructure).
- Criterion 2: Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere.
- Criterion 3: Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.

5.14.4 Impacts

5.14.4.1 Population Growth

Criterion 1: Would the project induce substantial population growth in an area, either directly (e.g., by proposing new homes or businesses) or indirectly (e.g., through extension of roads or other infrastructure)?

Based on the adopted 2005 General Plan land use designations, projected build-out within the PGD could include up to 2,400 total housing units. At an average of 3.21 persons per unit (2010 Census), PGDSP build-out could result in a population of approximately 7,704 persons within the PGD, which represents a net increase of approximately 6,420 persons, or five times the existing population (1,284 persons), within the PGD over the next 20 years.

A Market Study (Gafcon Inc. 2011) was prepared for the project area which determined that the PGD is only likely to capture between 650 and 1,300 dwelling units within the next 20 years. Based on the Market Study, the net increase in the maximum number of dwelling units would result in a population increase of approximately 3,354 people (assuming a factor of 2.58 persons per household based on the General Plan's multi-family residential land uses permitted by the PGDSP). The EIR analysis is based on the findings of the Market Study, which serve as a realistic scenario for growth in the PGDSP. Therefore, it is anticipated that an increase in population of approximately 3,354 would occur from build-out of the PGDSP.

The foregoing calculation of population relies largely on historic family size information. The changing form of western Chula Vista may alter these forecasts significantly. The population projection will be affected by any change in national and regional demographics brought about by rates of immigration, aging in the population and alterations in birth rates. Moreover, the kind and intensity of development proposed for the focus areas of the PGDSP and the pace of development within the PGDSP area may result in changes to the historically observed family size and makeup.

Historically, smaller attached dwellings in multi-family developments have had lower family sizes than single-family housing. Recent infill and urban neighborhood developments in the San Diego region reflect even lower household populations and fewer minors per dwelling, with many developments predominantly occupied by childless couples of all ages.

As an implementing document of the General Plan, the PGDSP is intended to accommodate a portion of the City's projected population growth in a logical and deliberate manner that enhances the PGD, as well as augment the City's supply of housing and variety of housing options, while addressing and reducing other environmental impacts associated with expanded transportation systems, infrastructure, and natural resources. The PGDSP would apply "smart growth" principles, consistent with the General Plan, by directing higher density and higher intensity development in transit and commercial corridors, multi-family areas, vacant lands, and underutilized areas.

The infrastructure and public facilities related to the PGD were studied during the City's General Plan effort, as discussed in greater detail in Section 5.12, Public Services and Utilities. Since the PGDSP implements the General Plan, these studies and the resulting citywide implementation strategies provide the basis for public services and utilities needed to serve the PGD. Infrastructure installed to serve the PGD would be consistent with these studies. The PGDSP would not result in any unplanned

extension of roads or other infrastructure that would induce population growth beyond the General Plan projections.

Therefore, while the PGDSP would induce population growth of up to 3,354 persons within the PGD, this growth is planned for under the General Plan. The PGDSP incorporates zoning provisions and land use and development regulations, which are intended to ensure that population growth in the PGD is consistent with the General Plan projections for the area. All new development in the PGD would be subject to these regulations. As a result, the PGDSP would not result in a significant adverse impact on population growth. Other potential environmental impacts associated with population growth in the PGD (e.g., transportation/traffic, air quality, noise, etc.) are addressed in the relevant sections of this EIR.

5.14.4.2 Displacement of Housing or People

Criterion 2: Would the project displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

Criterion 3: Would the project displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

Based on the Market Study (Gafcon 2011) findings, projected build-out within the PGD over the next 20 years is anticipated to include up to 1,700 total housing units, representing a net increase of up to 1,300 new units, which is more than three times the number of units as provided by the existing housing stock (400 units). The additional housing would be created primarily in the form of multi-family dwelling units and mixed use development.

Development of the General Plan land uses would potentially result in some of the 400 existing housing units and approximately 1,254 residents in the PGD being displaced by individual projects proposed in conformance with the PGDSP. However, the PGDSP itself does not propose the displacement of any existing housing. The PGDSP provides a land use plan that would accommodate up to 1,300 new housing units in the PGD in addition to existing housing. Should existing housing and residents be displaced, implementation of the PGDSP would result in replacement housing within the PGD. Therefore, no replacement housing would be needed elsewhere. Impacts would be less than significant.

5.14.5 Level of Significance Prior to Mitigation

5.14.5.1 Population Growth Inducement

Implementation of the PGDSP would not induce substantial unplanned growth. Therefore, impacts related to population growth inducement would be less than significant.

5.14.5.2 Displacement of Housing or People

Implementation of the PGDSP would not necessitate the construction of housing outside of the PGD as a result of displacement of housing or people. Therefore, impacts related to displacement of housing or people would be less than significant.

5.14.6 Mitigation Measures

5.14.6.1 Population Growth Inducement

No mitigation measures are required.

5.14.6.2 Displacement of Housing or People

No mitigation measures are required.

5.14.7 Level of Significance after Mitigation

Implementation of the proposed PGDSP would not result in any significant impacts associated with population growth or the displacement of housing or people. Therefore, impacts related to housing and population would be less than significant and no mitigation is required.

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Chapter 6 Cumulative Impacts

As defined in CEQA Guidelines Section 15355, "cumulative impacts" refers to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts. A cumulative impact consists of an impact which is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts.

CEQA Guidelines Section 15130(a) requires a discussion of cumulative impacts of a project when the project's incremental effect is "cumulatively considerable," which 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 probable future projects. CEQA Guidelines Section 15130(b)(1) requires the evaluation of cumulative impacts 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.

The cumulative analysis for this EIR uses a combination of the two approaches listed above. Past projects were considered as part of the baseline condition for the PGDSP analysis and were therefore considered as part of the impact analysis identified in the various sections of Chapter 5. With regard to present and probable future projects, projections based on the adopted City of Chula Vista General Plan and City of San Diego General Plan (specifically, the Otay Mesa – Nestor community located in proximity to the PGDSP) and regional plans, such as the SANDAG RCP, were included in the consideration of cumulative projects. Specific cumulative projects currently in process or under construction in the City of Chula Vista within one mile of the PGDSP were also considered.

The cumulative projects that are considered in the cumulative impact analysis for the proposed PGDSP are identified below in Section 6.1. The cumulative impact analysis, which addresses each environmental topic discussed in Chapter 5, Environmental Impact Analysis, of this EIR, is provided below in Section 6.2.

6.1 Cumulative Projects

The cumulative analysis relies on the Chula Vista General Plan and City of San Diego General Plan (specifically, the Otay Mesa – Nestor community located in proximity to the PGDSP), along with other

regional planning documents, including the SANDAG RCP and RTP, Chula Vista MSCP Subarea Plan, and RAQS in accordance with CEQA Guidelines Section 15130(b)(1)(B).

The Chula Vista General Plan reflects 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 population growth projected to occur by 2030 in the General Plan and RCP would necessitate augmentation of the City's current housing stock, infrastructure, and public services. Cumulative impacts would occur as a result of multiple projects developed by 2030.

6.2 Cumulative Impact Analysis

The 2005 General Plan EIR included a cumulative impact analysis that addressed buildout of the General Plan, including the PGD. The land uses and growth that would be accommodated by the PGDSP are consistent with the General Plan land use designations and growth projected for the PGD. Therefore, implementation of the PGDSP would not be expected to result in additional cumulative impacts not identified in the General Plan EIR. The following cumulative impact analysis summarizes the conclusions of the General Plan EIR cumulative analysis, where applicable, and focuses on newly identified cumulative impacts that were not addressed in the General Plan Update EIR. The 2005 General Plan EIR is incorporated by reference and available for review at the City of Chula Vista Development Services Department at 276 Fourth Avenue; at the Chula Vista Civic Center Library at 365 F Street; and on the City of Chula Vista's website at www.chulavistaca.gov.

6.2.1 Land Use, Planning, and Zoning

The General Plan EIR evaluated the anticipated growth in the city in its cumulative analysis, including the PGD. The cumulative assessment of land use impacts in the EIR relies on the RCP. It recognizes that the General Plan objectives and policies meet the planning principles of the RCP. The General Plan's focus on smart growth and walkable communities minimizes much of the potential impacts associated with accommodation of growth. By promoting mobility through an increased jobs/housing balance, transit oriented development, increased densities and more extensive mixed-use developments, Chula Vista's General Plan Update incorporates the planning principles outlined in the RCP. As recognized in the RCP, Chula Vista's General Plan update takes two approaches to accommodating future growth. In several older areas west of I-805, the plan proposes infill development and redevelopment zones. The cumulative analysis concludes that the incremental land use effect of adopting the General Plan is not cumulatively considerable, specifically because of the General Plan's incorporation of smart growth principals.

The proposed PGDSP is consistent with the goals and policies of the General Plan and serves as the implementing document to realize the General Plan vision for the PGD. Through land use development regulations (zoning) and development design guidelines, the PGDSP, in conformance with the General Plan, provides for the orderly growth of the City. The proposed PGDSP, in conjunction with redevelopment and greater utilization of existing land within western Chula Vista, would contribute to an overall increase in urban density within this area. Based on the Market Study prepared for the PGDSP (Gafcon 2011), the expected increase in residential units in the PGDSP based on market projections is 1,300, which is less than the 2,000 units envisioned by the General Plan land use designations. Therefore, because the PGDSP is consistent with the vision and growth projections for the PGD in the

General Plan, no cumulative land use and planning impacts would occur with implementation of the PGDSP, consistent with the conclusions of the General Plan EIR.

6.2.2 Landform Alteration and Aesthetics

The General Plan EIR states that development in the Southwest Planning Area, which includes the PGD, would occur in previously developed locations. The aesthetic effects of the General Plan focused on the bulk and mass represented by the designated land uses. The potential for an adverse effect is contingent upon the design and location of future buildings. The General Plan EIR determined that future growth has the potential to impact the visual environment through fundamental changes in land use. Buildout of the General Plan would result in substantial changes to landform and visual quality throughout the General Plan area, including the Southwest Planning Area. The General Plan policies call for the development of design standards. Cumulative impacts were determined to be significant and unavoidable because of the lack of specific design standards at the time of General Plan preparation. The impact would remain significant until future specific plans are developed and zoning specifications are implemented.

The PGDSP provides the zoning specifications to further define landform alteration and aesthetics in the PGD, and updates the analysis in the General Plan EIR with specific design standards not available at the time the General Plan was prepared. Future growth in the PGD has the potential to impact the visual environment through fundamental changes in land use. Adoption of the PGDSP would result in increased density within the PGD sub-districts which would result in increased building heights and mass. However, the PGDSP contains land use regulations and design standards consistent with the General Plan vision for the PGD which outline allowable and recommended parameters for the development of the PGD. The design guidelines for the PGDSP contain standards such as building heights and massing, protection of public view corridors, and circulation linkages that establish mixed-use development and achieve a high quality pedestrian-scaled environment. The change in visual quality within the PGD would contribute incrementally to cumulative impacts with regards to aesthetics. However, design controls placed on subsequent projects in the PGD by the City would ensure that development occurs in accordance with the City's goals and design objectives for this area. Therefore, land use regulations and design guidelines proposed in the PGDSP would reduce the proposed project's contribution to a cumulative aesthetics impact to a less than cumulatively considerable level.

6.2.3 Transportation, Circulation, and Access

The General Plan EIR traffic analysis was based on the regional traffic database and modeling from SANDAG. As such, it included the projected growth for the region. The General Plan EIR concludes that even though mitigation measures exist to reduce traffic-related impacts, the incremental cumulative impacts would remain significant and unmitigable.

The Mobility Study for the PGDSP (LLG 2012) updates the analysis in the General Plan EIR. The traffic impact report included an analysis of the proposed project's contribution to cumulative regional traffic. The results of this analysis are discussed in detail in Section 5.3, Transportation, Circulation, and Access. The analysis included a Year 2030 scenario that analyzed the potential traffic impacts that would occur as a result of buildout of PGD and the cumulative growth in the region through the year 2030. At full buildout of the PGDSP, a significant cumulative impact would occur at the following intersections:

- Walnut Avenue/Palomar Street: LOS F – AM and PM peak periods
- Industrial Boulevard/Palomar Street (at-grade trolley): LOS E – AM and PM peak periods

Additionally, a significant cumulative impact would occur to the following roadway segments in year 2030:

- Palomar Street – I-5 to Walnut Avenue: LOS E
- Palomar Street – Walnut Avenue to Industrial Boulevard (at-grade trolley): LOS E
- Palomar Street – Industrial Boulevard to Transit Center Place (grade-separated trolley and at-grade trolley): LOS E and LOS F, respectively
- Industrial Boulevard – North of Palomar Street (grade-separated trolley and at-grade trolley): LOS E and LOS F, respectively

With timely implementation of mitigation measures 5.3-1 through 5.3-3, all intersections and roadways would operate at an acceptable level of service. However, mitigation measure 5.3-2 (Grade Separation for Trolley at Industrial Boulevard/Palomar Street Intersection) is outside of the jurisdiction of the City of Chula Vista. Therefore, the City cannot ensure the implementation or timing of this mitigation measure. As such, the proposed project's traffic impacts would not be fully mitigated to a less than significant level. Therefore, the proposed project's contribution would be cumulatively considerable.

6.2.4 Air Quality

The General Plan EIR determined that until such time that the region is in attainment with the ozone, PM_{10}, and $PM_{2.5}$ NAAQS and CAAQS, impacts with respect to applicable air quality plans would be significant and unavoidable. Operational impacts resulting in PM_{10} and $PM_{2.5}$, for which the region is not in conformance, would result in a cumulatively considerable net increase in these criteria pollutants. The General Plan EIR also concludes that a significant cumulative impact would result from inconsistency between the General Plan and the RAQS. The only measure identified to lessen the effect was an update of the RAQS, which is the responsibility of SANDAG and the San Diego Air Pollution Control District and is outside the jurisdiction of the City. The RAQS was updated in 2009 and now includes the 2005 General Plan growth projections. However, the region is still a non-attainment area for ozone, PM_{10}, and $PM_{2.5}$.

The Air Quality Technical Report for the PGDSP (SRA 2013) updates the analysis in the General Plan EIR. The air quality report included an analysis of the proposed project's cumulative contribution to criteria pollutants for which the region is in non-attainment. This analysis is included in Section 5.4.4.3, Cumulatively Considerable Emissions. As discussed in this section, the PGDSP would result in a cumulatively considerable contribution to air quality impacts during construction and operation of future projects in the PGD due to ozone precursor emissions (VOC and NO_X). Implementation of mitigation measure 5.4-1 would reduce the project's contribution to cumulative construction emissions and implementation of mitigation measure 5.4-2 would reduce the project's contribution to cumulative operational emissions; however, even with implementation of these mitigation measures, emissions associated with PGDSP implementation would be cumulatively considerable and would not be reduced to below a level of significance. Therefore, implementation of the PGDSP would result in a significant and unavoidable cumulative air quality impact.

Section 5.4.4.4, Sensitive Receptors, also addresses the potential cumulative impacts related to exposure of sensitive receptors to carbon monoxide hotspots and toxic air contaminants. As discussed in this section, buildout of the PGDSP and cumulative development by the Year 2030 would not result in a carbon monoxide hotspot. A cumulative impact would not occur.

Impacts related to siting new sensitive receptors near sources of TACs would generally be site specific. Similar to the proposed project, new emitters of TACs would need to comply with San Diego Air Pollution Control District criteria, such as Rule 1200. Potential diesel particulate matter emissions from commercial deliveries and bus service proposed in the adjacent villages would be subject to CARB regulations that would reduce emissions to the extent feasible. Compliance with CARB guidelines, as required for the PGD in mitigation measure 5.4-3, would result in the preparation of health risk assessments for new sensitive receptors near sources of TACs and would reduce site-specific and cumulative impacts to a less than significance level.

Regarding potential exposure to toxic air contaminated from the I-5 freeway, the maximum excess cancer risk from inhalation of diesel particulate matter was determined to be above the SCAQMD and OEHHA risk criteria. However, as explained in Section 5.4, due to the lack of any adopted significance threshold, the health risk analysis provided is for informational purposes and is not used to make a significance determination.

6.2.5 Global Climate Change

Global climate change and greenhouse gas emissions were not addressed in the 2005 General Plan EIR. Because climate change is a global issue and all GHG emissions contribute to the global GHG inventory regardless of location, GHG emissions impacts can only be addressed at the cumulative level. Therefore, Section 5.5, Global Climate Change, addresses the project's cumulative contribution to global climate change impacts. As discussed in this section, the GHG emissions reduction measures incorporated into the PGDSP would reduce GHG emissions by more than 28.35 percent below business-as-usual. Therefore, PGDSP implementation would not generate GHG emissions, either directly or indirectly, that would have a significant impact on the environment. The project's contribution to global climate change would not be cumulatively considerable.

6.2.6 Noise

The General Plan EIR indicated that a significant impact would occur to existing receivers where traffic volumes are projected to result in noise level increases of more than 3 dBA. The General Plan EIR concluded that noise impacts were cumulatively considerable, significant, and not mitigated because lessening the noise levels in those areas would require a lot-by-lot review of potential exterior use areas and an evaluation of the exterior-to-interior noise reduction of each building exposed to the increase.

However, none of the roadways listed in Table 5.12-6 of the General Plan EIR, Changes in Traffic Noise Levels (For Roadways with 3 dBA Increase or Greater), are located in the PGD.

The Noise Technical Report for the PGDSP (Atkins 2012) updates the analysis in the General Plan EIR. The analysis in Section 5.6.4.3, Permanent Increases in Ambient Noise Levels, addresses the cumulative permanent increase in noise levels that would occur as a result of increased traffic noise from the proposed project and other cumulative projects. As discussed in this analysis section, future noise levels along Palomar Street would continue to exceed the City's 65 dBA threshold for residential land uses. However, the increase in noise level attributable to implementation of the PGDSP is less than 1 dBA. The significance threshold for traffic-related noise increases is 3 dBA CNEL and exceedance of the General Plan exterior noise limits. Therefore, even though traffic noise levels along Palomar Street would result in a noise level exceeding the General Plan exterior noise limit, the implementation of the PGDSP would not result in a cumulatively considerable contribution to roadway noise because it would not result in a 3 dBA or greater noise increase.

6.2.7 Cultural Resources

The General Plan EIR determined that the continued pressure to develop or redevelop areas would result in incremental impacts to the historical record in the San Diego region. Regardless of the efforts to avoid impacts to cultural resources, the more that land is converted to developed uses, the greater the potential is for impacts to cultural resources. While any individual project may avoid or mitigate the direct loss of a specific resource, the effect would be considerable when considered cumulatively. The General Plan EIR concluded that the loss of historic or prehistoric resources from the past, present, and probable future projects in the southern California/northern Baja California, Mexico areas would contribute to cumulatively significant impacts to cultural resources.

As discussed in Section 5.7, Cultural Resources, implementation of the PGDSP would have the potential to result in potentially significant direct impacts to historic and archaeological resources. Mitigation measures 5.7-1 and 5.7-2 would reduce direct impacts to a less than significant level. These mitigation measures would reduce incremental cumulative impacts associated with implementation of the PGDSP, but they would not reduce the cumulative impact to cultural resources to below a level of significance due to the General Plan EIR's conclusion that any loss of cultural resources would be significant. The cumulative effect on cultural resources resulting from the adoption of the PGDSP, in conformance with the General Plan Update, is therefore significant and unmitigated. All cumulative projects would be required to comply with California Health and Safety Code Section 7050.5 and California Public Resources Code Section 5097.98. Compliance with these regulations would ensure that a significant cumulative impact related to human remains would not occur.

6.2.8 Paleontological Resources

The General Plan EIR determined that, as with archaeological and historic resources, the continued pressure to develop undeveloped areas would result in incremental impacts to the paleontological record in the San Diego region. Regardless of the efforts to avoid impacts to these resources, the more that land is converted to developed uses, the greater the potential is for adverse impacts to paleontological resources. While any individual project may avoid or mitigate the direct loss of a specific resource, the effect is considerable when considered cumulatively.

As discussed in Section 5.8, Paleontological Resources, the PGD overlies geologic formations assigned a moderate sensitivity rating. Since the PGD is highly developed, grading activities associated with future PGDSP development projects would typically be minimal, with the exception of sub-garages or sub-floors. However, future PGDSP development projects that propose grading in excess of 2,000 cubic yards volume and five feet depth would represent a potentially significant impact to sensitive paleontological resources. Mitigation measure 5.8-1 would reduce incremental cumulative impacts associated with implementation of the PGDSP, but would not reduce the cumulative impact to paleontological resources to below a level of significance due to the General Plan EIR's conclusion that any loss of paleontological resources would be significant. The cumulative effect on paleontological resources resulting from the adoption of the PGDSP, in conformance with the General Plan Update, is therefore significant and unmitigated.

6.2.9 Biological Resources

Impacts to biological resources in the City of Chula Vista are managed through the Chula Vista MSCP Subarea Plan. The Subarea Plan is part of the adopted General Plan. The Subarea Plan provides

comprehensive long-term habitat conservation to address the needs of multiple species and the preservation of natural vegetation communities for lands within the City and sphere of influence boundaries. Any project subject to City approval must conform to the Subarea Plan. Because compliance with the MSCP subarea plan prevents significant impacts to biological resources, the General Plan EIR determined that the effect of implementation of the General Plan would be less than cumulatively considerable.

As discussed in Section 5.9, Biological Resources, future PGDSP development projects would have the potential to result in significant impacts to biological resources and conflict with the City's MSCP Subarea Plan. However, with implementation of the mitigation measures 5.9-1 through 5.9-7, impacts to biological resources resulting from implementation of the proposed PGDSP would be reduced to below a level of significance and the future development project would be in compliance with the MSCP Subarea Plan. Therefore, consistent with the General Plan EIR, with implementation of mitigation measures 5.9-1 through 5.9-7, the proposed PGDSP's impact would be less than cumulatively considerable.

6.2.10 Hydrology and Drainage

The General Plan EIR concluded that compliance with General Plan policies that require construction and land development techniques pursuant to applicable SWRCB and RWQCB requirements, including compliance with all federal, state, and regional water quality objectives would ensure that impacts associated with surface water and ground water and drainage would not be significant. The General Plan concludes that General Plan policies are self-mitigating.

As discussed in Section 5.10, Hydrology and Drainage, future PGDSP development projects would be required to implement construction BMPs and permanent BMPs in compliance with NPDES permit requirements and the Chula Vista Development Storm Water Manual, which would minimize the potential for erosion and siltation, control surface runoff such that flooding does not occur, control flows so that the capacity of the City's storm water drainage system would not be exceeded, and maintain water quality in accordance with RWQCB standards. Compliance with applicable regulations would implement the General Plan objectives and policies to protect hydrology and water quality. Therefore, implementation of the proposed PGDSP would be less than cumulatively considerable.

6.2.11 Geology and Soils

The General Plan EIR concluded that adverse geological impacts resulting from development under the General Plan would be reduced below a level of significance, since General Plan policies require an engineering analysis to identify potential seismic hazards prior to construction and allow for project-specific design to take into account and avoid seismic hazards. The General Plan EIR, therefore, concluded that geological impacts would be less than significant.

As discussed in Section 5.11, Geology and Soils, future PGDSP development projects would potentially be located on compressible and/or expansive soils, which could create substantial risks to life or property. However, consistent with the General Plan policies, mitigation measure 5.11-1 would require site-specific geotechnical investigations for all future projects to evaluate specific geologic conditions and provide recommendations for project design and construction to minimize hazards. In addition, conformance to building construction standards for seismic safety in the Uniform Building Code and California Building Code would assure that new structures would be able to withstand seismic events within the City. Therefore, implementation of the PGDSP and associated future development would not

contribute to a cumulative impact related to geology and soils. The project's impact would be less than cumulatively considerable.

6.2.12 Public Services and Utilities

6.2.12.1 Fire Protection and Police Services

The General Plan EIR states that the policies of the General Plan and existing Fire Station Master Plan, which call for the City to maintain a set of threshold standards on a quantitative level of fire service and police service and prohibition of projects out of compliance with those standards, would self-mitigate impacts on fire protection and police services and ensure that the Fire Department and Police Department are adequately equipped and staffed. The General Plan EIR concluded that impacts on fire protection and police services associated with projected growth would be less than significant.

The overall population growth accommodated by the PGDSP and as envisioned by the 2005 General Plan would substantially increase demands on law enforcement, fire protection, and emergency medical services. While not specifically quantified, staffing and new facilities would be required to adequately accommodate the population increase expected at buildout. The public facilities development impacts fee would be collected at the time of subsequent individual development proposals to fund and construct needed public infrastructure, as required by mitigation measures 5.12-1 and 5.12-2 in Section 5.12, Public Services and Utilities. The provision of future fire service and law enforcement personnel would be scheduled and funded through the City's annual budget review and through the Fire Master Plan. Public infrastructure would be provided incrementally but concurrent with need. Pursuant to City of Chula Vista Growth Management Policy GM1.11, the City of Chula Vista establishes the authority to withhold discretionary approval and subsequent building permits from projects demonstrated to be out of compliance with applicable threshold standards. Implementation of mitigation measures 5.12-1 and 5.12-2 would ensure that the PGDSP would result in a less than significant cumulative impact with regard to fire protection and police services.

6.2.12.2 Schools

As discussed in the General Plan EIR, the provision of schools is the responsibility of the school district when additional demand is warranted. Schools are funded by statutory fees that mitigate the additional demand. Once the statutory fee is imposed, the impact is considered mitigated, since the government code provides that the payment of fees constitutes full and complete mitigation. Impacts resulting from developments completed in conformance with the General Plan are considered to be self-mitigating because policies of the General Plan accommodate projected student population, ensure that school services and facilities are concurrent with need, and are based on a quantitative threshold standard.

Development of the PGDSP is anticipated to result in the development of 1,300 net new residential units, which would add to the regional, cumulative demand for elementary, middle, and high schools to serve its population. The CVESD and SUHSD are currently in compliance with the City's Quality of Life Threshold Standard for schools; however, both the CVESD and SUHSD indicate that additional facilities will be required to accommodate growth in the next 5 years. Implementation of mitigation measure 5.12-3 would require future individual developments to contribute to school impact fees. Contribution of these fees would ensure that cumulative impacts are less than significant.

6.2.12.3 Libraries

The General Plan EIR states that current library facilities are insufficient to meet the GMOC threshold for library facilities. However, impacts resulting from development completed in conformance with the General Plan are considered to be self-mitigating because policies of the General Plan are based on a quantitative threshold standard (GMOC threshold) and require the denial of major development projects if library facilities are inadequate. Therefore, the General Plan EIR concluded that cumulative impacts on libraries would be less than significant.

Development of the PGDSP would create a demand for library services to serve its residents and contribute to the regional, cumulative demand for library services. However, development completed in conformance with the PGDSP would contribute to the public facilities development impacts fee that would be used towards library facilities within the City, in accordance with the City's Growth Management Ordinance, and required in mitigation measure 5.12-4. Contribution of these fees would ensure that cumulative impacts are less than significant.

6.2.12.4 Parks and Recreation

The General Plan EIR states that impacts on parks and recreation resulting from development completed in conformance with the General Plan are considered to be self-mitigating because policies of the General Plan are based on a quantitative threshold standard (GMOC threshold) that require that new development provide three acres of park land per 1,000 population. According to the General Plan EIR, policies contained in the General Plan ensure that park and recreation facilities would meet City standards and are sufficient to meet increased demand generated by the General Plan. General Plan policies also require the denial of major development projects if park and recreational facilities are inadequate. Therefore, the General Plan EIR concluded that cumulative impacts to parks and recreation would be less than significant.

The PDGSP proposes meeting the parkland requirement resulting from development by establishing an urban gathering network in the form of parks, plazas, paseos, and informal pedestrian spaces, and identifying locations for a future urban park and neighborhood park. The City has completed a draft Parks and Recreation Master Plan that identifies park facility needs, potential locations, connections with the surrounding community, and conceptual designs for parks to serve the City as a whole. The Parks and Recreation Master Plan will inventory City-owned sites and consider joint use of other public facilities within the PGDSP area. Implementation of the mitigation measure 5.12-5 would generate park and recreation impact fees that would lead to future construction of new facilities to serve the anticipated population growth in the PGDSP. Contribution of these fees would ensure that the PGDSP would result in a less than significant cumulative impact with regard to parks and recreation.

6.2.12.5 Water

The General Plan EIR states that the General Plan would have a significant adverse impact associated with increased demand for water that would require corresponding improvements to treatment and distribution facilities. In addition, the General Plan EIR states that the inability of the City to determine that sufficient water supplies would be available to individual projects and the higher demand projected under the General Plan would be potentially significant. According to the General Plan EIR, the implementation of mitigation measures to require CEQA compliance review for subdivisions with 500 or more units per the requirements of SB 610 and SB 221 would reduce the impact on water supply. However, the General Plan EIR concluded that there is no assurance that water would be available to

adequately serve the projected increase in population. Therefore, the General Plan EIR concluded that cumulative water impacts would be significant.

As discussed in Section 5.12.6, Water, the Water Supply Assessment (Sweetwater Authority 2012) prepared for the PGD confirmed that there would be adequate water supply to serve the proposed PGDSP build-out along with existing and future uses in both single- and multiple-dry-year water scenarios. Therefore, the proposed project's contribution to a significant cumulative water supply impact would not be cumulatively considerable.

6.2.12.6 Wastewater

The General Plan EIR states that the City will generate approximately 26.2 mgd of wastewater at buildout of the adopted General Plan, including the PGD. The City anticipates a future allocated treatment capacity of 20.870 mgd within the San Diego Metropolitan wastewater system and has begun discussions with the City of San Diego to identify a mechanism for the provision of additional capacity. The City is also exploring other options such as the construction of a wastewater reclamation facility as an independently owned or joint facility (with a water agency) that would reduce or negate the need for additional capacity rights. The General Plan EIR states that projected future flows at the buildout of the General Plan would exceed the City's current capacity and that additional population would place additional demand on sewer services. However, the General Plan EIR concludes that policies of the General Plan require major development projects to prepare public facility financing plans to identify facilities and funding mechanisms at the time of need. General Plan policies also provide the City the authority to withhold discretionary approvals and subsequent building permits from projects that are out of compliance with GMOC threshold standards. The General Plan EIR also concludes that implementation of General Plan Policies GM 1.1, GM 1.5, GM 1.9, and GM 1.11 avoids impacts associated with completion of infrastructure. The General Plan EIR further cites CVMC Sections 18.16 and 19.09.050 that require provision of adequate facilities for all discretionary permits, and states that General Plan and CVMC policies would self-mitigate impacts on wastewater facilities to less than significant.

As identified in Section 5.12.7, Wastewater, the PGDSP would increase the expected sewage load in the City. When added to other past, existing, and future planned development, the development of the PGDSP would contribute incrementally to impacts to sewer systems serving the region. The proposed project, as well as future development, would be required to adhere to the City's Threshold Standards Policy. This policy requires the City to provide the San Diego Metropolitan Sewer Authority with a 12- to 18-month 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. Implementation of mitigation measures 5.12-6 and 5.12-7 would ensure the proposed project is consistent with the City's Threshold Standards for wastewater. Therefore, implementation of the PGDSP would result in a less than significant cumulative impact.

6.2.12.7 Solid Waste

The General Plan EIR states that the Otay Landfill, which serves the City of Chula Vista, has sufficient capacity to accommodate the projected population at buildout of the General Plan. With no additional recycling programs, the Otay Landfill has adequate capacity for 25 years. As the City has implemented recycling programs, the Otay Landfill is expected to have sufficient capacity at General Plan buildout and no significant cumulative impact to waste management services is anticipated. The growth projection for buildout of the PGDSP is consistent with the General Plan. Therefore, implementation of the plan

would not generate solid waste demand that was not accounted for in the General Plan EIR analysis. Consistent with the General Plan conclusion, buildout of the PGDSP and cumulative growth in the City would not result in a cumulative solid waste impact.

6.2.12.8 Energy

The General Plan EIR determined that, as population increases, demand for energy also increases. Because the development and management of energy resources are not presently within the control of the City, there is no assurance that an adequate supply of energy would be available. While it is anticipated that an adequate supply of energy would be available, history has shown that shortages in energy supply can occur. Although the City has taken steps to limit the expanding need for energy through its Energy Strategy and Action Plan and CO_2 Reduction Plan, the potential increase in development represented by the proposed General Plan Update has the potential to add incrementally to this demand and represents a significant cumulative impact.

Build-out of the PGDSP would increase the demand for gas and electricity. Although development in the PGD would continue to implement the City's plans and ordinances to reduce energy use, and the proposed mixed use development would reduce vehicle miles traveled, implementation of the proposed land uses identified in the PGDSP has the potential to result in impacts to energy resources as a result of anticipated growth. Mitigation measure 5.12-8 identified in Section 5.12, Public Services and Utilities, would reduce significant direct energy impacts. While this mitigation measure would incrementally reduce the cumulative gas and electricity impact associated with implementation of the PGDSP, the measure would not reduce the cumulative energy impact to below a level of significance because future energy supplies cannot be assured. Therefore, the proposed project would result in a cumulatively considerable contribution to gas and electricity impacts.

6.2.13 Hazards and Hazardous Materials

The General Plan EIR states that development in accordance with the proposed plan would comply with the policies of Objective EE 19, which assure that new development would not be approved if there were a potential for hazardous materials use and transport to affect residents. According to the General Plan EIR, implementation of these policies is assured through accordance with CEQA according to Policy EE 19. The General Plan EIR, therefore, concludes that cumulative hazards associated with the routine transport, use, disposal, or accidental release of hazardous materials would be less than significant.

As discussed in Section 5.13, Hazards and Hazardous Materials, demolition or renovation activities for future construction under the PGDSP involving buildings constructed prior to the 1980s, as well as ground-disturbing activities in soils with elevated levels of lead or pesticides, would have the potential to expose construction workers to hazardous building materials, which could pose substantial health risks. However, mitigation measures 5.13-1 and 5.13-2 would reduce potential impacts associated with hazardous materials transport, use, disposal, or release to a less than significant level. Therefore, consistent with the conclusion of the General Plan EIR, cumulative hazards and hazardous materials impacts from implementation of the PGDSP would be less than significant.

6.2.14 Housing and Population

The General Plan EIR states that the General Plan would result in a substantial increase in the Chula Vista population. Because the General Plan would induce growth it would have a significant impact with

respect to population growth. No mitigation is available to avoid this effect, and the General Plan EIR concludes that cumulative population growth would be significant and unavoidable. The growth projection for buildout of the PGDSP is consistent with the General Plan. Therefore, implementation of the PGDSP would not generate unplanned growth. However, because growth that would occur under the General Plan would be considered cumulatively considerable and unavoidable, the proposed project's contribution to growth in Chula Vista is also considered cumulatively considerable and unavoidable.

Chapter 7 Effects Not Found to be Significant

Section 15128 of the CEQA Guidelines requires that an EIR contain a brief statement disclosing the reasons why various possible significant effects of a proposed project were found not to be significant and, therefore, have not be discussed in detail in the EIR. The proposed PGDSP was reviewed against the applicable environmental issues contained in the Initial Study Checklist in Appendix G of the CEQA Guidelines. Environmental topics for which potentially significant impacts have been identified are addressed in Chapter 5, Environmental Impact Analysis, of this EIR. Environmental topics for which impacts have been found not to be significant are discussed below.

7.1 Agriculture and Forestry Resources

Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resource Agency, to non-agricultural use?

The PGD is located in an area designated as "Urban and Built-up Land" on the San Diego County Important Farmland 2008 map (California Department of Conservation 2010) prepared pursuant to the Farmland Mapping and Monitoring Program. There are no areas designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) within or in the vicinity of the PGD. Thus, implementation of the proposed PGDSP would not convert farmland to non-agricultural use. No impact would occur.

Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?

The PGD is located in an area designated as "Built-Up Land" on the San Diego County Williamson Act Lands 2008 map (California Department of Conservation 2009). There are no parcels zoned for agricultural use and no lands under Williamson Act contract within or in the vicinity of the PGD. Thus, implementation of the proposed PGDSP would not conflict with existing zoning for agricultural use or a Williamson Act contract. No impact would occur.

Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)) or timberland (as defined by Public Resources Code Section 4526)?

The PGD is located in a highly developed urban area of Chula Vista currently zoned for residential, commercial, and industrial uses. The 2010 Assessment of California's Forests and Rangelands (California

Department of Forestry and Fire Protection 2010) does not designate forest land or timberland within or in the vicinity of the PGD. Thus, implementation of the proposed PGDSP would not conflict with existing zoning for, or cause rezoning of, forest land or timberland. No impact would occur.

Would the project result in the loss of forest land or conversion of forest land to non-forest use?

As discussed above, the 2010 Assessment of California's Forests and Rangelands (California Department of Forestry and Fire Protection 2010) does not designate forest land or timberland within or in the vicinity of the PGD. Thus, implementation of the proposed PGDSP would not result in the loss of forest land or conversion of forest land into non-forest use. No impact would occur.

Would the project involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?

As discussed above, there are no areas designated as Farmland or forest land within or in the vicinity of the PGD. Thus, implementation of the proposed PGDSP would not involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use. No impact would occur.

7.1.1 Mineral Resources

Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

According to Section 5.16 of the Chula Vista General Plan Update EIR (City of Chula Vista 2005b), since the majority of western Chula Vista has been previously developed, the potential for significant mineral resources to occur is considered low. Surface Mining and Reclamation Act (SMARA) Special Report 153 (California Department of Conservation 1982) indicates that there are no regionally significant Mineral Resource Zones (i.e., MRZ-2 classification) designated within or in the vicinity of the PGD, and no mining activities are currently occurring in western Chula Vista. Thus, implementation of the proposed PGDSP would not result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state. No impact would occur.

Would the project result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

As discussed above, SMARA Special Report 153 (California Department of Conservation 1982) indicates that there are no regionally significant Mineral Resources Zones (i.e., MRZ-2 classification) designated within or in the vicinity of the PGD, and no mining activities are currently occurring in western Chula Vista. As such, the Chula Vista General Plan (City of Chula Vista 2005a) does not delineate any potential mineral resource recovery sites within or in the vicinity of the PGD. Thus, implementation of the proposed PGDSP would not result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan. No impact would occur.

Chapter 8 Significant and Unavoidable Environmental Impacts

As required by CEQA Guidelines Section 15126.2(b), any significant environmental effects that cannot be avoided, including those impacts that can be mitigated but not reduced to below a level of significance even with the implementation of all feasible mitigation measures, must be identified. The final determination of the significance of impacts and the feasibility of mitigation measures will be made by the City of Chula Vista as part of their certification action for the Final EIR. Chapter 5, Environmental Impact Analysis, and Chapter 6, Cumulative Impacts, of this EIR provide a comprehensive discussion of the potentially significant impacts of the proposed PGDSP and the feasible mitigation measures to reduce such impacts. As discussed Chapters 5 and 6, implementation of the proposed PGDSP would result in significant and unavoidable impacts associated with the following environmental issues:

- Transportation, Circulation and Access (direct and cumulative impacts, as described in Sections 5.3.7 and 6.2.3)
- Air quality (direct and cumulative impacts, as described in Sections 5.4.7 and 6.2.4)
- Cultural resources (cumulative impact, as described in Section 6.2.7)
- Paleontological resources (cumulative impact, as described in Section 6.2.8)
- Energy (direct and cumulative impacts, as described in Sections 5.12.9 and 6.2.12.8)
- Housing and Population (cumulative impact, as described in Section 6.2.14)

A Statement of Overriding Considerations is required for the above-listed significant and unavoidable impacts. All other impacts identified in Chapters 5 and 6 were determined to be less than significant or would be reduced to below a level of significance with implementation of mitigation measures, as discussed in those sections.

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Chapter 9 Significant Irreversible Environmental Changes

Section 15126.2(c) of the CEQA Guidelines requires a discussion of significant irreversible environmental changes that would be caused by the proposed project should it be implemented. Specifically, Section 15126.2(c) of the CEQA Guidelines states:

> "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 improvement which provides 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 PGDSP would result in the consumption of limited, slowly renewable and non-renewable resources. This consumption would occur during the construction of future development projects associated with PGDSP build-out and would continue throughout the operational lifetime of such development.

Construction of future PGDSP development projects would require the consumption of resources that are not renewable or which may renew so slowly as to be considered non-renewable. These resources would include the following construction supplies: certain types of lumber and other forest products; aggregate materials used in concrete and asphalt such as sand, gravel, and stone; metals such as steel, copper, and lead; petrochemical construction materials such as plastics; water; and fossil fuels such as gasoline and oil. Use of these resources would represent an incremental effect on the regional consumption of these commodities.

The resources that would be continually consumed by operation of the future residential, retail, and office uses in the PGD would include water, electricity, natural gas, and fossil fuels. In addition, increased traffic would result in the long-term commitment of fossil fuels unless alternative fuel vehicles ultimately replace the internal combustion engine on a broad scale. However, the availability of mass transit and encouragement of other non-motorized modes of transport proposed by the PGDSP may serve to reduce consumption of gasoline associated with vehicle trips. Furthermore, the City of Chula Vista participates in the LEED Rating System. The PGDSP identifies opportunities for the PGD which include promoting clean "Green" industry, utilizing "Green" technology, and LEED concepts whenever possible.

Operation of future PGDSP development projects would also involve an unquantifiable, but limited, use of potentially hazardous materials typical of residential, retail, and office uses, including cleaning solvents, fertilizers, and/or pesticides. Use of these materials in accordance with manufacturers' instructions, applicable standards, and regulations would serve to protect against irreversible damages that could result from the accidental release of hazardous materials.

Chapter 10 Growth-Inducing Impacts

As required by CEQA Guidelines Section 15126.2(d), an EIR must include a discussion of the ways in which the proposed project could directly or indirectly foster economic development or population growth, or the construction of additional housing, and how that growth would, in turn, affect the surrounding environment. Growth can be induced in a number of ways, including the elimination of obstacles to growth, or through the stimulation of economic activity within the region. The elimination of obstacles to growth relates directly to the removal of infrastructure limitations or regulatory constraints that could result in growth unforeseen at the time of project approval. According to CEQA Guidelines Section 15126.2(d), "it must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment."

SANDAG, the agency responsible for forecasting regional growth, indicates that population grows in two ways: 1) natural increase, which results from the number of births over deaths; and 2) net migration, which is primarily based on the condition of the local economy (SANDAG 2003). SANDAG forecasts significant growth for the region and the City of Chula Vista over the next 20 years. The adopted Chula Vista General Plan (City of Chula Vista 2005a) was developed in response to anticipated growth. While growth in the recent past was accommodated in previously undeveloped land in the eastern portion of Chula Vista, the General Plan aims to direct growth toward the already urbanized western portions of Chula Vista, particularly in transit focus areas and identified town centers.

The proposed PGDSP provides the land use development zoning and design guidelines necessary to implement the vision of the General Plan to accommodate growth in the PGD. Based on principles of smart growth, the PGDSP serves to reduce sprawl by focusing future growth in the PGD through redevelopment and new/infill development, emphasizing pedestrian-friendly design and mixed use development. The proposed PGDSP is specifically intended to provide for the orderly growth of the PGD area of Chula Vista, define the limits to growth in the PGD, and act as a mechanism to accommodate and control future growth. Development allowed under the PGDSP would provide needed housing, create compact and pedestrian-friendly urban development, and protect natural resources. The PGDSP would result in a more inclusive community, maintain a balance between housing and employment, and foster a stable economic base and diverse employment opportunities.

The proposed PGDSP would accommodate an increase in population within the PGD. Based on the Market Study (Gafcon 2011) prepared for the PGDSP, over the next 20 years the PGD would accommodate a total of approximately 1,700 residences, which is an increase of 1,300 units compared to existing conditions (400 residential units). Based on a factor of 2.58 persons per household for multi-family residential land uses permitted by the PGDSP, the PGDSP would result in an increase in population in the PGD of 3,354 people at build-out. This growth in residential units, and associated

population, is consistent with the General Plan growth projection for the GDP. The PGDSP would not result in unplanned direct population growth.

The PGDSP recognizes that infrastructure capacities would have to be increased to accommodate projected growth, but does not propose to make those improvements at this time. The infrastructure and public facilities related to the PGD were studied during the City's General Plan effort, as discussed in greater detail in Section 5.12, Public Services and Utilities. Since the PGDSP implements the General Plan, these studies and the resulting citywide implementation strategies provide the basis for public services and utilities needed to serve the PGD. Infrastructure installed to serve the PGD would be consistent with these studies, and the City's Growth Management Ordinance. Implementation of the PGDSP would not include the extension of any unplanned infrastructure that would accommodate additional population growth beyond General Plan projections.

The proposed PGDSP would accommodate additional growth beyond existing conditions. As such, people may choose to live in Chula Vista rather than elsewhere in the San Diego region. In addition, the increased population in the area of Chula Vista may foster economic growth in the area by increasing demand for local serving commercial uses. The PGDSP would accommodate new mixed-use commercial and retail development in response to this demand, which would create increased employment opportunities. The market study prepared for the PGDSP identified furniture and electronics, health and personal care, clothing and accessories, and food service and drinking places as likely retail opportunities in the PGD (Gafcon 2011). The increase in economic opportunities in the PGD is consistent with the vision for the PGD in the General Plan and would not result in an unplanned increase in commercial and retail development.

The PGDSP establishes land uses that can accommodate growth, thereby removing a barrier to growth in the city. Therefore, it is growth inducing. The issues discussed in the Environmental Impact Analysis sections of this EIR (Sections 5.1 through 5.14) address the direct and indirect environmental effects of the planned growth in the PGD. Since there are impacts resulting from issues associated with this growth, the growth-inducing impacts of the proposed PGDSP are considered significant. The mitigation measures for the growth-inducing impacts of the PGDSP are identified in Sections 5.1 through 5.14 of this EIR. In addition, the development regulations and design guidelines of the PGDSP, which are intended to accommodate planned growth in the PGD, would reduce potential environmental impacts associated with growth inducement.

Chapter 11 Alternatives

In order to fully evaluate the environmental effects of a project, CEQA mandates that alternatives to the proposed project be analyzed. Section 15126.6 of the CEQA Guidelines requires that an EIR describe "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." An EIR need not consider every conceivable alternative to a project. Rather, it must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation. 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 impede to some degree the attainment of the project objectives, or would become more costly. Thus, in developing the alternatives to be analyzed, it is necessary to consider the objectives and the potentially significant impacts of the proposed project that have been identified in this EIR. As stated in Chapter 3, Project Description, of this EIR, the primary objectives of the PGDSP are as follows:

- Objective 1: Create a vibrant, safe, pedestrian friendly live/work/play environment that emphasizes the area as a southern gateway to the City of Chula Vista.
- Objective 2: Achieve a compact pattern of development conducive to walking and bicycling.
- Objective 3: Encourage light rail transit use and convenient access to services and jobs.
- Objective 4: Allow for a mix of uses, designed to attract pedestrians.
- Objective 5: Maintain an adequate level of parking and access for automobiles and integrate automobile use safely with pedestrians, bicyclists, and other users.
- Objective 6: Provide sufficient density of employees, residents, and recreational users to support transit.
- Objective 7: Generate a relatively high percentage of trips serviceable by transit.

The following sections evaluate three potential alternatives to the proposed project, including the No Project (Existing Plan) Alternative, Reduced Project Alternative, and the Modified Land Use Arrangement Alternative. A comparison of existing land uses, proposed project land uses, and land use development under the five potential alternatives to the proposed project is provided in Table 11-1.

Table 11-1 Potential Build-out of the Proposed Project and Alternatives

Land Use	Existing Development in PGD	Proposed Project	No Project (Existing Plan) Alternative	Reduced Project Alternative	Modified Land Use Arrangement Alternative
Residential (Units)	400	1,700	2,400	1,275	1,700
Retail (sq. ft.)	200,000	300,000	200,000	225,000	300,000
Office (sq. ft.)	--	50,000	--	37,500	50,000
Industrial (sq. ft.)	30,000	--	30,000	--	--

11.1 No Project (Existing Plan) Alternative

The No Project (Existing Plan) Alternative would continue to implement the current adopted Chula Vista Municipal Code Zoning and General Plan land use designations in the PGD. The existing zoning designations include single and multi-family residential, commercial, industrial, and utility corridor designations. No mixed use and only limited high-density residential development would be accommodated in the PGD based on the existing zoning designations, and existing zoning would not accommodate the development of a Transit Focus Area surrounding the Palomar Transit Center. A comparison of the potential build-out of this alternative compared to the proposed PGDSP is provided in Table 11-1. Potential residential build-out in the PGD would be higher under the existing General Plan designations as compared to the proposed project. However, under this alternative, the Mobility Plan component of the PGDSP would not be implemented to improve pedestrian and bicycle accessibility in the PGD. The potential impacts of this alternative are compared to the proposed project below. This is considered a plan to plan analysis because it compared the existing adopted General Plan to the proposed PGDSP. A summary comparison of potential impacts is provided in Table 11-3.

Land Use, Planning, and Zoning

Similar to the proposed project, the No Project (Existing Plan) Alternative would result in less than significant impacts related to the physical division of an established community because the land uses that would be accommodated by the existing General Plan and zoning code would be compatible with surrounding land uses. No physical division of the existing community would occur; however, this alternative would not implement the PGDSP Mobility Plan to provide pedestrian and bicycle facilities that enhance connectivity in the PGD.

Similar to the proposed project, the No Project (Existing Plan) Alternative would not conflict with the Zoning Code, Growth Management Ordinance, or the Chula Vista MSCP Subarea Plan with implementation of mitigation measures to reduce physical environmental impacts to a less than significant level. However, the No Project (Existing Plan) Alternative would conflict with the General Plan and RCP because it would not implement a specific plan for the PGD to create a Transit Focus Area. Overall, this alternative would result in increased land use impacts as compared to the proposed project.

Landform Alteration/Aesthetics

Under this alternative, the PGD would be developed and redeveloped with similar land uses at a higher intensity as compared to existing conditions, similar to the proposed project. The No Project (Existing

Plan) Alternative would result in similar less than significant impacts related to scenic vistas, scenic roadways, and lighting and glare as are identified for the project. However, this alternative would not implement the land use regulations and design guidelines proposed in the PGDSP to ensure high quality development across the PGD. Therefore, impacts related to visual character or quality would be increased compared to the proposed project.

Transportation, Circulation, and Access

The No Project (Existing Plan) Alternative would result in additional impacts related to traffic and level of service standards compared to the project because this project would result in a higher density residential build-out (2,400 units) compared to the proposed project (1,700 units) and would not implement the Mobility Plan component of the PGDSP to encourage non-vehicular trips. Because the Mobility Plan would not be implemented, this alternative would also result in greater impacts related to alternative transportation facilities. Therefore, in addition to the mitigation measures identified for the proposed project, additional mitigation would be required for this alternative. Similar to the proposed project, mitigation measure 5.3-2 is outside the control of the City and its implementation and timing cannot be guaranteed. Therefore, some intersection and segment impacts under this alternative are likely to be significant and unavoidable, similar to the proposed project. The mitigation measures identified for the proposed project would be required under this alternative to reduce potential impacts related to traffic hazards and emergency access. Similar to the proposed project, this alternative would not result in a significant impact related to air traffic patterns. Overall, impacts associated with transportation, circulation, and access under this alternative would be increased as compared to the proposed project.

Air Quality

The No Project (Existing Plan) Alternative would result in greater direct and significant and unavoidable cumulative impacts related to criteria air pollutant emissions as compared to the proposed project because more residential construction and development would occur under this alternative, and the PGDSP Mobility Plan would not be implemented to reduce vehicular trips. Therefore, in addition to the mitigation measures identified for the proposed project, additional mitigation would be required for this alternative. Impacts related to carbon monoxide hot spots would be similar to the proposed project, but this alternative would result in more residences located near the I-5 freeway with the potential to be exposed to diesel particulate matter. Additionally, this alternative would not implement the siting and adjacency guidelines proposed in the PGDSP to limit sensitive receptor exposure to incompatible uses. This alternative does not propose any land uses that would be considered a significant source of odors. Odor impacts would be less than significant, similar to the proposed project.

Global Climate Change

The No Project (Existing Plan) Alternative would result in greater GHG emissions compared to the proposed project because more residential development and construction would occur. Therefore, this alternative would result in more direct construction and vehicular emissions, and indirect water, solid waste, natural gas, and electricity emissions. Additionally, this alternative would not implement any of the features proposed in the PGDSP that would reduce GHG emissions, such as the PGDSP Mobility Plan that encourages non-vehicular trips. Without implementation of the GHG-reducing project features identified in the Mobility Plan, impacts related to global climate change may not be sufficiently reduced

compared to business-as-usual development and impacts would be potentially significant. This represents an increase in impacts as compared to the proposed project.

Noise

The No Project (Existing Plan) Alternative would result in greater impacts related to excessive noise levels and groundborne vibration compared to the project because this alternative would result in the development of additional noise-sensitive residences that would be exposed to construction, operational, and transportation noise sources. The alternative would result in additional construction compared to the project. However, construction would comply with the City's Noise Ordinance and impacts would be less than significant, similar to the proposed project. This alternative would result in increased vehicle trips as compared in the proposed project and would have the potential to result in a greater permanent increase in ambient noise level. This impact would be potentially significant. In addition to the mitigation measures identified for the proposed project, additional mitigation would be required for this alternative. Similar to the proposed project, impacts related to airport noise would be less than significant. Overall, impacts associated with noise under this alternative would be increased as compared to the proposed project.

Cultural Resources

Similar to the proposed project, future development under the No Project (Existing Plan) Alternative would have the potential to result in substantial adverse impacts to historic and archeological resources. Implementation of the cultural resources mitigation measures identified for the proposed project would also reduce direct impacts from the No Project (Existing Plan) Alternative to a less than significant level. Cumulative impacts would be significant and unavoidable, similar to the proposed project. Similar to the proposed project, compliance with existing regulations would reduce impacts to human remains as a result of this alternative to a less than significant level.

Paleontological Resources

Similar to the proposed project, future development under the No Project (Existing Plan) Alternative would have the potential to result in ground-disturbing construction activities that would result in potentially significant to paleontological resources. Implementation of the paleontological mitigation measure identified for the proposed project would also reduce direct impacts from the No Project (Existing Plan) Alternative to a less than significant level. Cumulative impacts would be significant and unavoidable, similar to the proposed project.

Biological Resources

The No Project (Existing Plan) Alternative would result in more residential development than the proposed project and would have the potential to result in impacts related to special status plant and wildlife species, riparian habitat, other sensitive natural communities, federally protected wetlands, and consistency with the MSCP Subarea Plan, similar to the proposed project. The biological mitigation measures identified for the proposed project would also mitigate impacts from this alternative to a less than significant level.

Hydrology and Water Quality

The No Project (Existing Plan) Alternative would result in similar less than significant impacts related to water quality standards, erosion and siltation, surface runoff, drainage capacity, and water quality degradation compared to the project because similar land uses would be developed. Similar to the proposed project, this alternative would not interfere with groundwater supplies and recharge, place housing or structures within a 100-year flood hazard area, or expose people or structures to significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam.

Geology and Soils

The No Project (Existing Plan) Alternative would result in the same impacts related to seismic hazards, soil erosion, and soil hazards compared to the proposed project because similar types of development would occur in the PGD. Similar to the proposed project, compliance with existing regulations would reduce impacts related to seismic hazards and soil erosion to a less than significant level, and mitigation measure 5.11-1 would reduce impacts related to soil hazards to a less than significant level.

Public Services and Utilities

The No Project (Existing Plan) Alternative would result in increased impacts to public services and utilities compared to the proposed project because more residential development would occur under this alternative. Therefore, demand for these services and utilities would increase. Implementation of the mitigation measures identified for the proposed project that require payment of development fees and compliance with the City's Growth Management Ordinance would reduce impacts to a less than significant level with the exception of water supply. Until a water supply assessment is approved for the residential development proposed under this alternative, impacts would be significant and unavoidable, consistent with the conclusion of the General Plan EIR. Therefore, impacts associated with water supply would be greater under this alternative than for the proposed project. Because there is no assurance of a long-term supply of energy in the future, the increased projected energy demand associated with this alternative could potentially result in the available supply of energy to fall below a level considered sufficient to meet the City's needs or cause a need for new and expanded facilities. Therefore, energy impacts would be increased as compared to the proposed project, and impacts would be considered significant and unavoidable.

Hazards and Hazardous Materials

Similar to the proposed project, development in the PGD under the No Project (Existing Plan) Alternative would have the potential to expose construction workers to hazardous building materials or contaminated groundwater and soil during demolition, renovation, and ground-disturbing construction activities, which could pose substantial health risks. The hazards mitigation measures identified for the proposed project would also be required for this alternative to reduce impacts related to hazardous materials transport, use, disposal, or release and hazardous materials sites to a less than significant level. This alternative would also require implementation of a mitigation measure similar to the one identified for the proposed project to reduce potential impacts to emergency response and evacuation plans as a result of roadway closures during construction. Similar to the proposed project, impacts related to hazards to schools, airport hazards, and wildland fires would be less than significant under this alternative.

Housing/Population

The No Project (Existing Plan) Alternative would result in greater population growth in the PGD than the proposed project because more residential development would be accommodated. Similar to the proposed project, growth would be consistent with the General Plan projections for the area and direct impacts would be less than significant. Similar to the proposed project, some displacement of existing housing and residents would occur as a result of growth, but this alternative would supply replacement housing so that housing would not be required elsewhere. The proposed project's cumulatively considerable and unavoidable impact related to population growth would also occur under this alternative because the population in the PGD would increase, similar to the proposed project.

Ability to Meet Project Objectives

The No Project (Existing Plan) Alternative would not fully meet any of the seven project objectives. It would partially meet four of the project objectives and would not meet the remaining three objectives. The No Project (Existing Plan) Alternative would not implement the Mobility Plan; therefore is would not create a pedestrian friendly mixed-use environment (Objective 1), achieve compact development conducive to walking and bicycling (Objective 2), or maintain adequate parking and integrate non-motorized transportation (Objective 5). This alternative would provide similar land uses to the proposed project with a higher residential build-out; however, it would not accommodate the development of a Transit Focus Area or mixed use development. Therefore, it would only partially result in growth that would encourage light rail transit use (Objective 3), provide a mix of uses to attract pedestrians (Objective 4), provide sufficient density to support transit (Objective 6), and provide for additional trips serviceable by transit (Objective 7). However, development under this alternative would not be subject to the land use regulations and design guidelines proposed in the PGDSP to ensure organized and compatible development across the PGD. A summary of the No Project (Existing Plan) Alternative's ability to meet the proposed project objectives is provided in Table 11-4.

11.2 Reduced Project Alternative

The Reduced Project Alternative would reduce build-out in the PGD by 25 percent compared to the projected build-out that would be accommodated under the PGDSP. The 25 percent reduction would be applied evenly across the PGD so that overall development intensity would be reduced. A total of 1,275 residences would be accommodated under this alternative, as compared to 1,700 under the proposed project, for a net increase in residential units under this alternative of 875 new homes. Commercial development would be reduced to 225,000 square feet, compared to 300,000 square feet under the proposed PGDSP, for a total net increase in commercial development of 25,000 square feet. Office development under this alternative would be reduced to 37,500 square feet of new development, compared to 50,000 square feet of new development under the proposed PGDSP. Similar to the proposed project, this alternative does not propose any new industrial development. Under the Reduced Project Alternative, the PGDSP Mobility Plan to enhance the use of transit, reduce vehicular trips and provide pedestrian and bicycle facilities that enhance connectivity in the PGD would be implemented. A comparison of the potential build-out of this alternative and the proposed PGDSP is provided in Table 11-1. The potential impacts of this alternative are compared to the proposed project below, and a summary comparison of potential impacts is provided in Table 11-3.

Land Use, Planning, and Zoning

Similar to the project, the Reduced Project Alternative would result in less than significant impacts related to the physical division of an established community because the land uses that would be accommodated by the PGDSP would be compatible with surrounding land uses. The less than significant land use compatibility impacts identified for the proposed project would be slightly reduced under this alternative because land use intensity would be closer to existing conditions. No physical division of the existing community would occur under this alternative and the PGDSP Mobility Plan to provide pedestrian and bicycle facilities that enhance connectivity in the PGD would be implemented, similar to the proposed project. Also similar to the proposed project, the Reduced Project Alternative would not conflict with the Zoning Code, Growth Management Ordinance, or the Chula Vista MSCP Subarea Plan with implementation of mitigation measures to reduce physical environmental impacts to a less than significant level. The Reduced Project Alternative would implement a specific plan for the PGD to create a Transit Focus Area and would not conflict with the General Plan or RCP, although at a reduced intensity as compared to the proposed project.

Landform Alteration/Aesthetics

Under this alternative, the PGD would be developed and redeveloped at a higher intensity compared to existing conditions, similar to the proposed project, and with similar land uses. The Reduced Project Alternative would result in similar less than significant impacts related to scenic vistas, scenic roadways, visual character or quality, and lighting and glare as the proposed project, although impacts would be slightly reduced because development intensity would be reduced as compared to the proposed project.

Transportation, Circulation, and Access

The Reduced Project Alternative would result in reduced impacts related to traffic and level of service standards as compared to the proposed project because this alternative would result in fewer average daily trips than the proposed project and would also implement the Mobility Plan component of the PGDSP to encourage non-vehicular trips. However, due to the amount of development that would still occur, impacts would likely still be significant and mitigation would still be required under this alternative. Similar to the proposed project, mitigation measure 5.3-2 is outside the control of the City and its implementation and timing cannot be guaranteed. Therefore, some intersection and segment impacts under this alternative would be significant and unavoidable, similar to the proposed project. This alternative would result in the same impacts related to traffic hazards and emergency access as the proposed project and similar mitigation measures would be required. Similar to the proposed project, this alternative would not result in a significant impact related to alternative transportation or air traffic patterns. Overall, traffic impacts would be decreased under this alternative as compared to the proposed project.

Air Quality

The Reduced Project Alternative would result in approximately 25 percent fewer criteria air pollutant emissions than the proposed project because overall development would be reduced by approximately 25 percent, and the PGDSP Mobility Plan would still be implemented to reduce vehicular trips and associated criteria air pollutant emissions. However, the 25 percent reduction would not likely reduce the significant and unavoidable cumulative ~~ROG~~VOC and NO_x construction and operation impacts identified for the proposed project to a less than significant level. Less than significant impacts related to

carbon monoxide hot spots would be similar to the proposed project, and this alternative would result in approximately 25 percent fewer residences being located near the I-5 freeway with the potential to be exposed to diesel particulate matter. Similar to the proposed project, this alternative does not propose any land uses that would be considered a significant source of odors. Overall, air quality impacts resulting from this alternative would be decreased as compared to the proposed project; however, a significant and unavoidable impact from the exceedance of significance thresholds for ~~ROG~~VOC and NO_x emissions would still be likely to occur.

Global Climate Change

The Reduced Project Alternative would result in reduced GHG emissions as compared to the proposed project because 25 percent less development would occur. Therefore, this alternative would result in approximately 25 percent fewer construction, operational and vehicular emissions, and indirect water, solid waste, natural gas, and electricity emissions. This alternative would implement the same features as the proposed project to reduce GHG emissions, such as the Mobility Plan to encourage transit and reduce vehicle trips. Impacts would be less than significant, similar to the proposed project.

Noise

The Reduced Project Alternative would result in reduced impacts related to excessive noise levels and groundborne vibration as compared to the project because this alternative would result in approximately 25 percent fewer new noise-sensitive residences that would be exposed to construction, operational, and transportation noise sources. However, impacts related to these issues would still be significant and mitigation measures similar to those identified for the proposed project would be required for this alternative due to the development of approximately 875 new noise-sensitive residences. This alternative would result in fewer vehicle trips and construction activities than the proposed project. It would not result in a substantial temporary or permanent increase in the ambient noise level or airport noise-related impacts, similar to the proposed project. Overall, noise impacts would be decreased as compared to the proposed project.

Cultural Resources

Similar to the proposed project, future development under the Reduced Project Alternative would have the potential to result in substantial adverse impacts to historic and archeological resources due to land disturbing activities associated with the construction of new development. Implementation of mitigation measures similar to those identified for the proposed project would also reduce direct impacts from the Reduced Project Alternative to a less than significant level. Cumulative impacts would be significant and unavoidable, similar to the proposed project. Similar to the proposed project, compliance with existing regulations would reduce impacts associated with the discovery of human remains to a less than significant level.

Paleontological Resources

Similar to the proposed project, future development under the Reduced Project Alternative would have the potential to result in ground-disturbing construction activities that would result in potentially significant impacts to paleontological resources. Implementation of a mitigation measure similar to that identified for the proposed project would also reduce direct impacts from the Reduced Project

Alternative to a less than significant level. Cumulative impacts would be significant and unavoidable, similar to the proposed project.

Biological Resources

The Reduced Project Alternative would result in 25 percent less development as compared to the proposed project, but would still have the potential to result in impacts related to special status plant and wildlife species, riparian habitat, other sensitive natural communities, federally protected wetlands, and consistency with the MSCP Subarea Plan due to the construction and operation of new development. Mitigation measures similar to those identified for the proposed project would also mitigate impacts from this alternative to a less than significant level.

Hydrology and Water Quality

The Reduced Project Alternative would result in similar less than significant impacts related to water quality standards, erosion and siltation, surface runoff, drainage capacity, and water quality degradation as the proposed project because similar types of land uses would be developed. Impacts would be slightly reduced because less development would occur. Same as the proposed project, compliance with existing regulations would ensure that impacts from this alternative were less than significant. Similar to the project, this alternative would not interfere with groundwater supplies and recharge, place housing or structures within a 100-year flood hazard area, or expose people or structures to significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam.

Geology and Soils

The Reduced Project Alternative would result in similar impacts related to seismic hazards, soil erosion, and soil hazards as are identified for the proposed project because similar types of development would occur in the PGD, although at a reduced intensity. Similar to the proposed project, compliance with existing regulations would ensure that impacts related to seismic hazards and soil erosion under this alternative are less than significant, and a mitigation measure similar to the one identified for the proposed project would reduce impacts related to soil hazards to a less than significant level.

Public Services and Utilities

The Reduced Project Alternative would result in decreased impacts to public services and utilities compared to the proposed project because approximately 25 percent less development would occur under this alternative. Therefore, demand for public services and utilities under this alternative would be less than the proposed project. However, similar significant impacts would still be likely to occur and implementation of the mitigation measures identified for the proposed project that require payment of development fees and compliance with the City's Growth Management Ordinance would reduce impacts under this alternative to a less than significant level. Similar to the proposed project, water supply and solid waste impacts would be less than significant because less development would occur under this alternative than under the proposed project. Since this alternative's demand for water supply and generation of solid waste would be less than the proposed project's, adequate water supplies and landfill capacity would also be available to serve this alternative. However, because there is no assurance of a long-term supply of energy in the future, the increased projected energy demand associated with this alternative could potentially result in the available supply of energy to fall below a level considered sufficient to meet the City's needs or cause a need for new and expanded facilities.

Therefore, while reduced as compared to the proposed project, energy impacts would still be significant and unavoidable.

Hazards and Hazardous Materials

Similar to the proposed project, development in the PGD under the Reduced Project Alternative would have the potential to expose construction workers to hazardous building materials or contaminated groundwater and soil during demolition, renovation, and ground-disturbing construction activities, which could pose substantial health risks. Impacts would be slightly reduced because less development would occur; however, impacts related to hazardous materials transport, use, disposal, or release and hazardous materials sites would still be significant and mitigation measures similar to those identified for the proposed project would be required to reduce impacts to a less than significant level. Similar to the proposed project, this alternative would require implementation of a mitigation measure to reduce potentially significant impacts associated with emergency response and evacuation plans as a result of roadway closures during construction. Impacts related to hazards to schools, airport hazards, and wildland fires would be less than significant, similar to the proposed project.

Housing/Population

The Reduced Project Alternative would result in approximately 25 percent less population growth in the PGD compared to the proposed project because 25 percent less residential development would be accommodated. Similar to the proposed project, growth would be consistent with the General Plan projections for the area and direct impacts would be less than significant. Similar to the proposed project, some displacement of existing housing and residents would occur as a result of growth, but this alternative would supply replacement housing in the PGD so that housing would not be required elsewhere. The cumulatively considerable and unavoidable impact related to population growth identified for the proposed project would also occur under this alternative because the population in the PGD would increase.

Ability to Meet Project Objectives

The Reduced Project Alternative would meet two of the seven project objectives and would partially meet the remaining five objectives. The Reduced Project Alternative would implement a specific plan for the PGD, including a Mobility Plan to increase alternative transportation modes; therefore, it would encourage use of light rail transit (Objective 3) and maintain adequate parking and integrate non-motorized transportation (Objective 5). This alternative would provide a mix of land uses. However, development intensity would be reduced across the PGD as compared to the proposed project; therefore, this alternative would only partially create a pedestrian friendly mixed-use environment (Objective 1), achieve compact development conducive to walking and bicycling (Objective 2), provide a mix of uses to attract pedestrians (Objective 4), provide sufficient density to support transit (Objective 6), and provide for additional trips serviceable by transit (Objective 7). A summary of this alternative's ability to meet the proposed project objectives is provided in Table 11-4.

11.3 Modified Land Use Arrangement Alternative

The Modified Land Use Arrangement Alternative would accommodate the same total projected number of residential units in the PGD as would be accommodated under the proposed project (1,700 units). However, the development density would be increased in the Mixed Use Corridor (MU-2) Sub-district and decreased in the Palomar Residential Village (PRV) Sub-district. Under the Modified Land Use Arrangement Alternative, the residential density in the PRV would be reduced from approximately 16 units per acre to 10 units per acre. The residential density in the MU-2 Sub-district would be increased from an average of approximately 14 dwelling units per acre to approximately 23 dwelling units per acre. This would be accomplished by increasing the allowable building height to 60 feet across the entire MU-2 Sub-district, rather than just in the designated gateway areas. This alternative would accommodate an additional 100,000 square feet of commercial land uses and does not propose any new industrial development, similar to the proposed project. This alternative would implement the PGDSP Mobility Plan to increase transit use, reduce vehicle trips, and provide pedestrian and bicycle facilities that enhance connectivity in the PGD. A comparison of the potential build-out of this alternative to the proposed project is provided in Table 11-1. A comparison of the potential build-out of the PRV and MU-2 sub-districts under the proposed project and this alternative is provided in Table 11-2. The potential impacts of this alternative are compared to the proposed project in the discussion below, and a summary comparison of potential impacts is provided in Table 11-3.

Table 11-2 Potential Residential Build-out by Sub-District - Proposed Project and Modified Land Use Arrangement Alternative

Sub-district	Acres	Proposed Project—Maximum Residential Units	Reduced Palomar Residential Village (PRV) Sub-District—Maximum Residential Units
Palomar Residential Village (PRV) Sub-district	43.5	700	435
Mixed Use Corridor (MU-2) Sub-district	37	450	715

Land Use, Planning, and Zoning

Similar to the proposed project, the Modified Land Use Arrangement Alternative would result in less than significant impacts related to the physical division of an established community because the land uses that would be accommodated under this alternative would be compatible with surrounding land uses. This alternative would also implement the PGDSP Mobility Plan to provide pedestrian and bicycle facilities that enhance connectivity in the PGD. The less than significant land use compatibility impacts identified for the proposed project would also apply to the Modified Land Use Arrangement Alternative because land use intensity in the PRV Sub-district would be closer to existing conditions, although intensity in the MU-2 Sub-district would be higher than the existing condition. Similar to the proposed project, the Modified Land Use Arrangement Alternative would result in conflicts with the Zoning Code, Growth Management Ordinance, or the Chula Vista MSCP Subarea Plan and would require mitigation measures to reduce impacts to a less than significant level. The Modified Land Use Arrangement Alternative would implement a specific plan for the PGD to create a Transit Focus Area; therefore, it would not conflict with the RCP, similar to the proposed project. However, this alternative would result in a conflict with the General Plan because the land use intensity for the PRV sub-district of 10 units per acre is not consistent with the General Plan land use designation for this area of Residential High (18-27 units per acre). Therefore, this alternative would result in an increased land use impact compared to the proposed project.

Landform Alteration/Aesthetics

Under this alternative, the PGD would be developed and redeveloped at a higher intensity compared to existing conditions, similar to the proposed project, and with similar land uses. The Modified Land Use Arrangement Alternative would result in similar less than significant impacts related to scenic vistas, scenic roadways, visual character or quality, and lighting and glare compared to the project. However, the visual character of the PGD would be different under this alternative because land use intensity would be reduced in the PRV Sub-District and increased in the MU-2 Sub-district as compared to the proposed project.

Transportation, Circulation, and Access

The Modified Land Use Arrangement Alternative would result in similar significant impacts related to traffic and level of service standards as were identified for the proposed project because this alternative would generate the same number of vehicle trips due to the same amount of overall development proposed for the PGD. This alternative would also implement the Mobility Plan component of the PGDSP to encourage the use of transit and reduce vehicular trips. Mitigation measures would be required to reduce impacts, although they may be slightly different than those identified for the proposed project due to the change in intensity of land uses in the PRV and MU-2 Sub-districts. Due to the current at-grade trolley crossing at the intersection of Industrial Boulevard/Palomar Street, it is likely that this alternative would have similar impacts to this intersection as proposed project. As discussed for the proposed project, mitigation measure 5.3-2 to grade-separate the trolley crossing is outside the control of the City and its implementation and timing cannot be guaranteed. Therefore, some intersection and segment impacts under this alternative are likely to be significant and unavoidable, similar to the proposed project. This alternative would result in similar impacts related to traffic hazards and emergency access as were identified for the proposed project and mitigation measures would be required. Similar to the proposed project, this alternative would not result in a significant impact related to alternative transportation or air traffic patterns.

Air Quality

The Modified Land Use Arrangement Alternative would result in the same criteria air pollutant emissions as were identified for the proposed project because total build-out would be the same as the proposed project. Cumulative impacts related to the emission of criteria air pollutants (~~ROG~~VOC and NO_X) would be significant and unavoidable, similar to the proposed project. Less than significant impacts related to carbon monoxide hot spots would be similar to the proposed project, and this alternative would result in fewer residences located near the I-5 freeway in the PRV Sub-district with the potential to be exposed to diesel particulate matter. Similar to the proposed project, this alternative does not propose any land uses that would be considered a significant source of odors.

Global Climate Change

The Modified Land Use Arrangement Alternative would result in similar GHG emissions as were identified for the proposed project because the same total amount of development would occur. This alternative would implement the features proposed in the PGDSP that would reduce GHG emissions, such as the Mobility Plan to encourage non-vehicular trips. Impacts would be less than significant, similar to the proposed project.

Noise

The Modified Land Use Arrangement Alternative would result in similar significant impacts related to excessive noise levels and groundborne vibration as the proposed project because this alternative would result in the same total number of noise-sensitive residences that would be exposed to construction, operational, and transportation noise sources. However, fewer impacts would occur in the PRV Sub-district and more impacts would occur in the MU-2 Sub-district because fewer new receptors would be located in the PRV Sub-district and additional receptors would be located in the MU-2 Sub-district, including additional residences closer to major roadways. The mitigation measures identified for the proposed project would still be required to reduce impacts identified for this alternative. This alternative would result in the same level of construction and number of vehicle trips compared in the proposed project and would not result in a substantial temporary or permanent increase in ambient noise level or airport noise-related impacts, similar to the proposed project.

Cultural Resources

Similar to the proposed project, future development under the Modified Land Use Arrangement Alternative would have the potential to result in substantial adverse impacts to historic and archeological resources from ground-disturbing activities associated with construction. Implementation of mitigation measures similar to those identified for the proposed project would also reduce direct impacts from the Modified Land Use Arrangement Alternative to a less than significant level. Cumulative impacts would be significant and unavoidable, similar to the proposed project. Similar to the proposed project, compliance with existing regulations would ensure that impacts to human remains would be less than significant.

Paleontological Resources

Similar to the proposed project, future development under the Modified Land Use Arrangement Alternative would have the potential to result in ground-disturbing construction activities that would result in potentially significant impacts to paleontological resources. Implementation of a mitigation measure similar to the one identified for the proposed project would also reduce direct impacts from the Modified Land Use Arrangement Alternative to a less than significant level. Cumulative impacts would be significant and unavoidable, similar to the proposed project.

Biological Resources

The Modified Land Use Arrangement Alternative would accommodate new development and redevelopment across the PGD and would have the potential to result in significant impacts related to special status plant and wildlife species, riparian habitat and other sensitive natural communities, federally protected wetlands, and consistency with the MSCP Subarea Plan, similar to the proposed project. Mitigation measures similar to those identified for the proposed project would also mitigate significant impacts from this alternative to a less than significant level.

Hydrology and Water Quality

The Modified Land Use Arrangement Alternative would result in similar less than significant impacts related to water quality standards, erosion and siltation, surface runoff, drainage capacity, and water quality degradation as were identified for the proposed project because similar land uses would be developed and be required to comply with existing regulations. Overall impacts would be slightly

reduced in the PRV Sub-district because less residential development would occur. Similar to the proposed project, this alternative would not interfere with groundwater supplies and recharge, place housing or structures within a 100-year flood hazard area, or expose people or structures to significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam.

Geology and Soils

The Modified Land Use Arrangement Alternative would result in the same impacts related to seismic hazards, soil erosion, and soil hazards as were identified for the proposed project because similar types of development would occur in the PGD. Similar to the proposed project, compliance with existing regulations would ensure impacts related to seismic hazards and soil erosion are less than significant, and mitigation would be required to reduce impacts related to soil hazards to a less than significant level.

Public Services and Utilities

The Modified Land Use Arrangement Alternative would result in the same significant impacts to public services and utilities as were identified for the proposed project because the same total build-out would occur under this alternative. Therefore, demand for these services and utilities would be the same as the proposed project. Implementation of the mitigation measures similar to those identified for the proposed project that require payment of development fees and compliance with the City's Growth Management Ordinance would reduce impacts from this alternative to a less than significant level. Additionally, similar to the proposed project, impacts to water supply would be less than significant because the same demand for water would occur under this alternative and the water supply assessment prepared for the proposed project determined that adequate water supply would be available. However, because there is no assurance of a long-term supply of energy in the future, the increased projected energy demand associated with this alternative could potentially result in the available supply of energy to fall below a level considered sufficient to meet the City's needs or cause a need for new and expanded facilities. Therefore, similar to the proposed project, energy impacts would still be significant and unavoidable.

Hazards and Hazardous Materials

Similar to the proposed project, development in the PGD under the Modified Land Use Arrangement Alternative would have the potential to expose construction workers to hazardous building materials or contaminated groundwater and soil during demolition, renovation, and ground-disturbing construction activities, which could pose substantial health risks. This would result in a potentially significant impact and mitigation measures similar to those identified for the proposed project would be required to reduce impacts to a less than significant level. This alternative would also require implementation of a mitigation measure to reduce potentially significant impacts associated with emergency response and evacuation plans as a result of roadway closures during construction to a less than significant level. Similar to the proposed project, impacts related to hazards to schools, airport hazards, and wildland fires would be less than significant.

Housing/Population

The Modified Land Use Arrangement Alternative would result in the same population growth in the PGD as was identified for the proposed project because the same total amount of residential build-out would be accommodated. Similar to the proposed project, growth would be consistent with the General Plan projections for the area and direct impacts would be less than significant. Similar to the proposed project, some displacement of existing housing and residents would occur as a result of growth, but this alternative would supply replacement housing in the PGD so that housing would not be required elsewhere. Potential displacement of housing and people would be reduced in the PRV Sub-district because development in this sub-district would be reduced; however, displacement in the MU-2 Sub-district may be increased due to additional development in this sub-district. The proposed project's cumulatively considerable and unavoidable impact related to population growth would also occur under this alternative because the population in the PGD would increase.

Ability to Meet Project Objectives

The Modified Land Use Arrangement Alternative would meet five of the seven project objectives and partially fulfill the remaining two objectives. The Reduced Project Alternative would implement the PGDSP, including the Mobility Plan component to increase transit use and decrease vehicle trips; therefore is would create a pedestrian friendly mixed-use environment (Objective 1), achieve compact development conducive to walking and bicycling (Objective 2), encourage use of light rail transit (Objective 3), provide a mix of uses to attract pedestrians (Objective 4), maintain adequate parking and integrate non-motorized transportation (Objective 5). This alternative would increase density compared to existing conditions, but not to the extent planned for the Transit Focus Area. Therefore, it would only partially provide sufficient density to support transit (Objective 6) and provide for additional trips serviceable by transit (Objective 7). A summary of this alternative's ability to meet the project objectives is provided in Table 11-4.

11.4 Environmentally Superior Alternative

The Reduced Project Alternative would be the environmentally superior alternative, as it would lessen the project's significant impacts associated with transportation, circulation, and access; air quality, noise, public services and utilities, and hazards and hazardous materials. This alternative would also lessen but not avoid any of the project's significant and unavoidable impacts associated with transportation, circulation, and access; air quality; energy; cumulative loss of cultural and paleontological resources; and cumulative population growth. This alternative would meet two of the proposed project objectives, but would only partially meet the project objectives to create a pedestrian friendly mixed-use environment (Objective 1), achieve compact development conducive to walking and bicycling (Objective 2), provide a mix of uses to attract pedestrians (Objective 4), provide sufficient density to support transit (Objective 6), and provide for additional trips serviceable by transit (Objective 7). Table 11-3 provides a generalized summary comparison of the project and the three project alternatives.

Table 11-3 Summary of Alternative Impacts Compared to Proposed Project

Issue	Proposed Project		Alternatives		
	Without Mitigation	With Mitigation	No Project (Existing Plan) Alternative	Reduced Project Alternative	Modified Land Use Arrangement Alternative
Key: PS = Potentially Significant; LS = Less than Significant Impact; SU = Significant and Unavoidable ▲ = Alternative is likely to result in greater impacts to issue when compared to proposed project. — = Alternative is likely to result in similar impacts to issue when compared to proposed project. ▼ = Alternative is likely to result in lesser impacts to issue when compared to proposed project, however, impacts would still be significant before and/or after mitigation.					
5.1 Land Use, Planning, and Zoning					
Community Character and Land Use Compatibility	LS	LS	—	—	—
Applicable Land Use Plans, Policy, or Regulation	LS	LS	▲	—	▲
5.2 Landform Alteration/Aesthetics					
Scenic Vistas and Resources	LS	LS	—	—	—
Visual Character	LS	LS	▲	—	—
Light and Glare	LS	LS	—	—	—
5.3 Transportation, Circulation, and Access					
Traffic and Level of Service Standards	PS	SU	▲	▼	—
Air Traffic Patterns	LS	LS	—	—	—
Traffic Hazards	PS	LS	—	—	—
Emergency Access	PS	LS	—	—	—
Alternative Transportation Facilities	LS	LS	▲	—	—
5.4 Air Quality					
Applicable Air Quality Plans	LS	LS	—	—	—
Air Quality Violations	LS	LS	—	—	—
Cumulatively Considerable Emissions	PS	SU	▲	▼	—
Sensitive Receptors	LS	LS	—	—	—
Objectionable Odors	LS	LS	—	—	—
5.5 Global Climate Change					
Direct and Indirect Generation of GHGs	LS	LS	▲	—	—
Applicable GHG Emissions Reduction Plan, Policy, or Regulations	LS	LS	▲	—	—
5.6 Noise					
Excessive Noise Levels	PS	LS	▲	▼	—
Excessive Groundborne Vibration	PS	LS	▲	▼	—
Permanent Increases in Ambient Noise Levels	LS	LS	▲	—	—
Temporary Increases in Ambient Noise Levels	LS	LS	—	—	—
Aircraft Noise	LS	LS	—	—	—

Table 11-3 continued

Issue	Proposed Project		Alternatives		
	Without Mitigation	With Mitigation	No Project (Existing Plan) Alternative	Reduced Project Alternative	Modified Land Use Arrangement Alternative
Key: PS = Potentially Significant; LS = Less than Significant Impact; SU = Significant and Unavoidable ▲ = Alternative is likely to result in greater impacts to issue when compared to proposed project. **—** = Alternative is likely to result in similar impacts to issue when compared to proposed project. ▼ = Alternative is likely to result in lesser impacts to issue when compared to proposed project, however, impacts would still be significant before and/or after mitigation.					
5.7 Cultural Resources					
Historical Resources	PS	LS	—	—	—
Archaeological Resources	PS	SU (cumulative)	—	—	—
Human Remains	LS	LS	—	—	—
5.8 Paleontological Resources					
Paleontological Resources	PS	SU (cumulative)	—	—	—
5.9 Biological Resources					
Special-Status Species	PS	LS	—	—	—
Sensitive Natural Communities	PS	LS	—	—	—
Wetlands	PS	LS	—	—	—
Wildlife Movement and Nursery Sites	LS	LS	—	—	—
Local Policies, Ordinances, and Adopted Conservation Plans	PS	LS	—	—	—
5.10 Hydrology and Drainage					
Water Quality Degradation	LS	LS	—	—	—
Groundwater Depletion	LS	LS	—	—	—
Drainage Alterations	LS	LS	—	—	—
Flood Hazards	LS	LS	—	—	—
5.11 Geology and Soils					
Seismic Hazards	LS	LS	—	—	—
Soil Erosion	LS	LS	—	—	—
Soil Hazards	PS	LS	—	—	—
5.12 Public Services and Utilities					
Fire and Emergency Medical Services	PS	LS	▲	▼	—
Police Services	PS	LS	▲	▼	—
Schools	PS	LS	▲	▼	—
Libraries	PS	LS	▲	▼	—
Parks and Recreation	PS	LS	▲	▼	—
Water	LS	LS	▲	—	—
Wastewater	PS	LS	▲	▼	—
Solid Waste	LS	LS	▲	—	—
Energy	PS	SU	▲	▼	—

Table 11-3 continued

Issue	Proposed Project		Alternatives		
	Without Mitigation	With Mitigation	No Project (Existing Plan) Alternative	Reduced Project Alternative	Modified Land Use Arrangement Alternative
Key: PS = Potentially Significant; LS = Less than Significant Impact; SU = Significant and Unavoidable ▲ = Alternative is likely to result in greater impacts to issue when compared to proposed project. **—** = Alternative is likely to result in similar impacts to issue when compared to proposed project. ▼ = Alternative is likely to result in lesser impacts to issue when compared to proposed project, however, impacts would still be significant before and/or after mitigation.					
5.13 Hazards and Hazardous Materials					
Hazardous Materials Transport, Use, Disposal, or Release	PS	LS	—	▼	—
Hazards to Schools	LS	LS	—	—	—
Hazardous Materials Sites	PS	LS	—	▼	—
Airport Hazards	LS	LS	—	—	—
Emergency Response and Evacuation Plans	PS	LS	—	—	—
Wildland Fire Hazards	LS	LS	—	—	—
5.14 Housing/Population					
Population Growth Inducement	LS	SU (cumulative)	—	—	—
Displacement of Housing or People	LS	LS	—	—	—

Table 11-4 Ability of Alternatives to Meet Project Objectives

Objective	No Project (Existing Plan) Alternative	Reduced Project Alternative	Modified Land Use Arrangement Alternative
Objective 1: Create a vibrant, safe, pedestrian friendly live/work/play environment that emphasizes the area as a southern gateway to the City of Chula Vista.	No	Partial	Yes
Objective 2: Achieve a compact pattern of development conducive to walking and bicycling.	No	Partial	Yes
Objective 3: Encourage light rail transit use and convenient access to services and jobs.	Partial	Yes	Yes
Objective 4: Allow for a mix of uses, designed to attract pedestrians.	Partial	Partial	Yes
Objective 5: Maintain an adequate level of parking and access for automobiles and integrate automobile use safely with pedestrians, bicyclists, and other users.	No	Yes	Yes
Objective 6: Provide sufficient density of employees, residents, and recreational users to support transit.	Partial	Partial	Partial
Objective 7: Generate a relatively high percentage of trips serviceable by transit.	Partial	Partial	Partial

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Chapter 13 EIR Preparation

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