HELIX Environmental Planning

University and Innovation District SPA Plan Project

Final Environmental Impact Report

EIR 14-01
SCH No. 2014121097
August 2018

CITY OF CHULA VISTA

Prepared for:
City of Chula Vista
Development Services Department
276 Fourth Avenue, Building B
Chula Vista, CA 91910

Prepared by:
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ACRONYMS AND ABBREVIATIONS

µg/kg	micrograms per kilogram
µg/m3	micrograms per cubic meter
AAM	Annual Arithmetic Mean
AB	Assembly Bill
ACSE	American Society of Civil Engineers
ADT	Average Daily Trip
AFY	Acre feet per year
AGR	agricultural supply
AIA	airport influence area
ALS	Advance Life Support
ALUC	Airport Land Use Commission
ALUCP	Airport Land Use Compatibility Plan
AMSL	above mean sea level
APE	Area of Potential Effect
AQIP	Air Quality Improvement Plan
ASMD	Area Specific Management Directives
AST	above ground storage tank
ASTM	American Society for Testing and Materials
ATCM	Airborne Toxic Control Measure
ATS	advanced treatment systems
AWSC	All Way Stop Controlled
Basin Plan	Water Quality Control Plan for the San Diego Basin
BAT	best available technology
BAU	business as usual
BCT	best conventional pollutant control technology
BFSA	Brian F. Smith and Associates
BMI	benthic macroinvertebrate
BMPs	Best Management Practices
BNSF	Burlington Northern Santa Fe
BP	Before Present
BRT	Bus Rapid Transit
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CAFE	Corporate Average Fuel Economy
Cal Fire	California Department of Forestry and Fire Protection
Cal/OSHA	California Occupational Safety and Health Administration
CalARP	California Accidental Release Prevention Program
CalEEMod	California Emissions Estimator Model
CalEPA	California Environmental Protection Agency
CalGreen	California Green Building Standards Code
CalRecycle	California Department of Resources Recycling and Recovery
Caltrans	California Department of Transportation
CAP	Climate Action Plan

CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CASQA	California Stormwater Quality Association
CBC	California Building Code
CBSC	California Building Standards Code
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CERT	Community Emergency Response Team
CESA	California Endangered Species Act
CFC	California Fire Code
CFCs	chlorofluorocarbons
CFD	Community Facilities District
CFG Code	California Fish and Game Code
CFR	Code of Federal Regulations
CGS	California Geologic Survey
CH_4	methane
CHHSLs	California Human Health Screening Levels
CHP	California Highway Patrol
CHRIS-SCIC	California Historical Resources Information System - South Coastal Information Center
CIP	Capital Improvement Project
City	City of Chula Vista
CNEL	Community Noise Equivalency Level
CNPS	California Native Plant Society
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
COLD	cold freshwater habitat
CPF	Community Purpose Facility
CRC	California Residential Code
CRHR	California Register of Historic Resources
CSHMA	California Seismic Hazards Mapping Act
CSMP	Construction Site Monitoring Program
CUP	conditional use permit
CUPA	Certified Unified Program Agency
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
dB	decibel
dBA	A-weighted decibel
DDD	dichlorodiphenyldichloroethane
DDE	dichlorodiphenyldichloroethylene

DDT	dichlorodiphenyltrichloroethane
DEH/HMD	San Diego County Department of Environmental Health/ Hazardous Materials Division
DNE	does not exist
DTSC	Department of Toxic Substances Control
du	dwelling unit
du/ac	dwelling units per acre
DWR	California Department of Water Resources
ED	Economic Development Element
EDU	equivalent dwelling unit
EIR	Environmental Impact Report
EO	Executive Order
EOP	Operational Area Emergency Operations Plan (County of San Diego)
EPIC	Energy Policy Initiative Center
ESA	Endangered Species Acts
EUC	former name of Millenia project (Eastern Urban Center)
F	Fahrenheit
FAA	Federal Aviation Administration
FAR	floor area ratio
FBA	Facility Benefit Area
FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act
FFMP	Fire Facility, Equipment, and Deployment Master Plan
FHWA	Federal Highway Administration
FIA	Fiscal Impact Analysis
FMMP	Farmland Mapping and Monitoring Program
FPP	Fire Protection Plan
FRA	Federal Railroad Administration
FRAs	Federal Responsibility Areas
FSMP	Fire Station Master Plan
FTA	Federal Transit Administration
FTE	full-time equivalent
FUDS	Formerly Used Defense Sites
GBS	Green Building Standards
GDP	General Development Plan
GDPA	General Development Plan Amendment
GHG	greenhouse gas
GM	Growth Management Element
GMO	Growth Management Ordinance
GMOC	Growth Management Oversight Commission
GPA	General Plan Amendment
gpd	gallons per day
GPU	General Plan Update
GSF	gross square footage
GWP	global warming potential

HCM	Highway Capacity Manual
HCP	Habitat Conservation Plan
HCS	Highway Capacity Software
HFCs	hydrofluorocarbon
HLIT	Habitat Loss and Incidental Take
HMBEP	Hazardous Materials Business Emergency Plan
HMBP	Hazardous Materials Business Plan
HMP	Hydromodification Management Plan
HMTS	Hazardous Materials Technical Study
HOV	high occupancy vehicle
HP	horsepower
HPC	Historic Preservation Commission
HPO	Historic Preservation Ordinance
HPP	Historic Preservation Program
HRA	Health Risk Assessment
HRS	Hazard Ranking System
HSA	Hydrologic Subarea
HU	Hydrologic Unit
HVAC	Heating, Ventilation, and Air Conditioning
I-	Interstate
IBC	International Building Code
IBI	Index of Biotic Integrity
ICAO	International Civil Aviation Organization
ICC	International Code Council, Inc.
ICLEI	International Council of Environmental Initiatives
ILV	Intersection Lane Volume Analysis
IMP	Integrated Management Practices
in/sec	inches per second
IND	industrial service supply
IPCC	United Nations Intergovernmental Panel on Climate Change
IPM	integrated pest management
ITIP	Interregional Transportation Improvement Program
km	kilometer
KVPs	Key View Points
kWh	kilowatt-hours
LBP	lead-based paint
LCFS	Low Carbon Fuel Standard
L_{DN}	day-night sound level
LEED	Leadership in Energy and Environmental Design
L_{EQ}	Equivalent Energy Level
LID	low impact development
LLG	Linscott, Law & Greenspan Engineers
LOS	Level of Service
LPC	Light Pollution Code
LRAs	Local Responsibility Areas

LUST	leaking underground storage tank
LUT	Land Use and Transportation Policies
MBAS	methylene blue active substances
MBTA	Migratory Bird Treaty Act
MCE	Maximum Considered Earthquake
MEI	maximally exposed individual
MEP	maximum extent practicable
Metro System	City of San Diego ~~Metropolitan Wastewater~~Public Utilities Department Sewerage System
mgd	million gallons per day
mg/l	milligrams per liter
Mg/m^3	milligrams per cubic meter
MHMP	San Diego County Multi-Jurisdictional Hazard Mitigation Plan
MHPA	Multi-habitat Planning Area
MLD	Most Likely Descendent
MMRP	Mitigation Monitoring and Reporting Program
MMT	million metric tons
MOU	Memorandum of Understanding
mpg	miles per gallon
mph	miles per hour
MPO	Metropolitan Planning Organization
MRZ-2	Regionally Significant Aggregate Resource Area
MS4	Municipal Separate Storm Sewer Systems
MSCP	Multiple Species Conservation Program
MSSC	Minor Street Stop Controlled
MT	metric tons
MTS	Metropolitan Transit System
MUN	municipal and domestic supply
Municipal Permit	Municipal Separate Storm Sewer Systems Permit
MUTCD	Manual on Uniform Traffic Control Devices
MWD	The Metropolitan Water District of Southern California
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves Protection and Repatriation Act
NAHC	Native American Heritage Commission
NASA	National Aeronautics and Space Administration
National Register	National Register of Historic Places
NCCP	Natural Community Conservation Planning
NCP	National Contingency Plan
NHPA	National Historic Preservation Act
NHTSA	National Highway Traffic Safety Administration
NO	nitric oxide
NO_2	nitrogen dioxide
NOAA	National Oceanic and Atmospheric Administration
NOI	Notice of Intent
NOP	Notice of Preparation

NOx	oxides of nitrogen
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
NPPA	Native Plant Protection Act
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NSLU	Noise Sensitive Land Uses
O&M Plan	Operation and Maintenance Plan
O_3	ozone
OCP	organochlorine pesticide
OES	Office of Emergency Services (San Diego County)
OHP	Office of Historic Preservation
OHWM	ordinary high water mark
OITC	Outdoor/Indoor Transmission Class
OVRP	Otay Valley Regional Park
OWD	Otay Water District
Pb	Lead
P-C	Planned Community
PCBs	polychlorinated biphenyls
PDP	Priority Development Projects
PFC	perfluorocarbons
PFDIF	Public Facilities Development Impact Fee
PFFP	Public Facilities Finance Plan
PFS	Public Facilities and Services Element
PGA	peak ground acceleration
PLDO	Park Lands Dedication Ordinance
PM_{10}	particulate matter less than 10 microns
$PM_{2.5}$	particulate matter less than 2.5 microns
PMA	Preserve Management Area
POI	point of interest
POM	Preserve Owner/Manager
ppb	parts per billion
pph	persons per household
ppm	parts per million
PPV	peak particle velocity
PRC	Public Resources Code
PRMP	Parks and Recreation Master Plan
PROC	industrial process supply
Protocol	Transportation Project-Level Carbon Monoxide Protocol
Province	Peninsular Ranges Geomorphic Province
PV	photovoltaic
QCB	Quino Checkerspot butterfly
RAQS	Regional Air Quality Strategy
RARE	rare, threatened or endangered species

RCNM	Roadway Construction Noise Model
RCP	Regional Comprehensive Plan
RCRA	Resources Conservation and Recovery Act
REAP	Rain Event Action Plan
RHNA	Regional Housing Needs Assessment
RMP	Resource Management Plan/Risk Management Plan
RP	Regional Plan
RTIP	Regional Transportation Improvement Program
RTP	Regional Technology Park
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
RWQCB	Regional Water Quality Control Board
SAMP	Subarea Master Plan/ Special Area Management Plan
SANDAG	San Diego Association of Governments
SARA	Superfund Amendments and Reauthorization Act
SB	Senate Bill
SCAQMD	South Coast Air Quality Management District
SCS	Sustainable Communities Strategy
SDAB	San Diego Air Basin
SDAPCD	San Diego Air Pollution Control District
SDCRAA	San Diego County Regional Airport Authority
SDCWA	San Diego County Water Authority
SDG&E	San Diego Gas & Electric
SDNHM	San Diego Natural History Museum
SEIR	Supplement Environmental Impact Report
sf	square foot
SF_6	sulfur hexafluoride
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SMAQMD	Sacramento Metropolitan Air Quality Management District
SMBRP	Site Mitigation and Brownfields Reuse Program
SO_2	sulfur dioxide
SO_X	oxides of sulfur
SP	service population
SPA	Sectional Planning Area
SR	State Route
SRA	State Responsibility Area
SSC	species of special concern
STC	Sound Transmission Class
STIP	Statewide Transportation Improvement Program
STP	shovel test pit
SUHSD	Sweetwater Union High School District
SUSMP	Standard Urban Storm Mitigation Plan
SWIS	Solid Waste Information System
S_{WL}	sound power level
SWP	State Water Project
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	State Water Resources Control Board

SZA	Select Zone Analysis
TACs	Toxic Air Contaminants
T-BACT	Toxics-Best Available Control Technology
TDIF	Transportation Development Impact Fee
TDM	Transportation Demand Management
TDS	total dissolved solids
TIA	Traffic Impact Analysis
TM	Tentative Map
TMDL	total maximum daily load
TNM	Traffic Noise Model
TSM	Transportation System Management
TWAS	Temporary Watershed Assessment Station
U.S.C	United States Code
UBC	Uniform Building Code
Unified Program	Unified Hazardous Waste and Hazardous Materials Management Regulatory Program
USACE	U.S. Army Corps of Engineers
USD	University of San Diego
USDOT	U.S. Department of Transportation
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	United States Geological Survey
UST	underground storage tank
UWMP	Urban Water Management Plan
v/c	volume to capacity ratio
VMT	vehicle miles traveled
VOC	volatile organic compound
WAL	waste load allocation
WARM	warm freshwater habitat
WCP	Water Conservation Plan
WDR	water discharge requirement
Weston	Weston Solutions, Inc.
WHA	William Hezmalhalch Architects
WILD	wildlife habitat
WQBEL	water quality based effluent limitation
WQTR	Water Quality Technical Report
WSAV	Water Supply Assessment and Verification Report
WUS	Waters of the U.S.
WWRC	Western Regional Climate Center
ZNE	Zero Net Energy

PREFACE TO

A FINAL ENVIRONMENTAL IMPACT REPORT FOR THE UNIVERSITY AND INNOVATION DISTRICT SPA PLAN PROJECT

The Final Environmental Impact Report (FEIR) for the University and Innovation District SPA Plan Project is comprised of the following:

Errata – The Errata summarizes the changes that have been made to the text of the EIR based on the public comments received during the public review period or input from City staff to make clarifications to the Draft EIR.

Public Review Comments and Responses – The letters of comment received during the EIR public review period and the numbered responses precede the text of the EIR.

Revisions to the DEIR – In response to public comments and clarifications, the text of the EIR has been modified. Changes to the text are indicated by ~~strikeout~~ (deleted) and <u>underline</u> (inserted) markings.

Mitigation, Monitoring, and Reporting Program – As required by Section 20181.6 of the Public Resources Code, a listing of the mitigation requirements and the responsible parties for implementing the requirements is included after the EIR.

ERRATA

THE UNIVERSITY AND INNOVATION DISTRICT SPA PLAN PROJECT

A FINAL ENVIRONMENTAL IMPACT REPORT

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

The EIR is organized in the same manner as it was during public review, 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 received to the EIR. Following the comments and responses is the revised EIR. Where changes in the text have been made in responses to comments on the EIR, such changes are noted in the responses. Specifically, these changes to the EIR are limited to the following sections:

Chapter 1.0, Executive Summary:

Section 1.10, *Project Location and Setting*, on EIR page 1-1 has been updated to include a reference to the City of San Diego as the owner and operator of Lower Otay Lake. Section 1.3.6, *Discretionary Actions*, on EIR page 1-5 has been updated to remove reference to a Federal Aviation Administration (FAA) Determination of No Hazard to Air Navigation, as well as to identify that there are other jurisdictions outside of the City of Chula Vista that would issue right-of-way permits for roadway improvements outside of the City of Chula Vista. Minor clarifications were made under Section 1.5, *Issues to be Resolved by the City Council*, on EIR page 1-6, which clarified the significant impacts of the Project based on the results of EIR Chapter 5, *Environmental Impacts Analysis*. Lastly, the summary table has been updated to incorporate additions to air quality, biological resources, and hydrology and water quality mitigation measures.

Chapter 3.0, Project Description:

Section 3.6, *Discretionary Actions*, on EIR page 3-26 has been updated to remove reference to an FAA Determination of No Hazard to Air Navigation, as well as to identify that there are other jurisdictions outside of the City of Chula Vista that would issue future right-of-way permits for roadway improvements outside of the City of Chula Vista.

Chapter 4.0, Environmental Setting:

Section 4.5, *Surrounding Land Uses*, on EIR page 4-2 has been updated to include a reference to the City of San Diego as the owner and operator of Lower Otay Lake.

Section 5.1, Land Use:

Section 5.1.1.B.2., *Surrounding Land Uses*, on EIR page 5.1-11 has been updated to include a reference to the City of San Diego as the owner and operator of Lower Otay Lake.

Section 5.1, Air Quality:

Mitigation Measure 5.4-1a on EIR page 5.4-22 was amended to specify that construction best management practices would be required in addition to SDAPCD Rule 55 and reference to Mitigation Measures 5.10-1a through 5.10-1d was removed as they were inadvertently listed in the Draft EIR.

Section 5.6, Biological Resources:

Section 5.6.1.A.2.b on EIR page 4.6-4 has been revised to remove reference to the Quantification Settlement Agreement. Section 5.6.3.E.1.a on EIR page 5.6-36 has been revised to remove reference to historic sightings of Quino checkerspot butterfly. Mitigation measure 5.6-1a was revised to require functional equivalency as part of Preserve design. Mitigation measure 5.6-4 was revised to require notification of the City and Wildlife Agencies if Quino checkerspot butterfly is observed within 300 feet of the property. Mitigation measure 5.6-7 was revised to include an option to deviate from a 900-foot impact avoidance buffer if approved by the City, CDFW, and USFWS. Mitigation measure 5.6-8a was revised to require a pre-construction survey within 7 days of construction (instead of 10 days) and to reference a 300-foot avoidance butter (500 feet for raptors) if nesting birds are detected. Lastly, mitigation measure 5.6-10a was revised to specify that areas within or adjacent to the Lake Property would be given priority for mitigation.

Section 5.11, Hydrology and Water Quality:

Mitigation measure 5.11-1f has been revised to include monitoring for erosion at Lower Otay Lake and not just Otay River on EIR page 5.11-31.

Chapter 6.0, Cumulative Impacts:

Minor text clarifications were made to the cumulative impacts analyses for air quality, hazards, and wastewater. A clarification to the summary for air quality was made on EIR page 6-8 to state that there would be no cumulative odors impacts and that impacts to sensitive receptors would be reduced to less than significant with mitigation. Reference to the FAA was removed from EIR page 6-20. Reiteration that the scope and location of future wastewater treatment facilities is unknown was added to the cumulative discussion for potential impacts on utilities on EIR page 6-22.

Chapter 8.0, Significant Unavoidable Environmental Effects/Irreversible Changes

A reference to the significant unavoidable impacts related to cultural and paleontological resources was added to the summary discussion of the Project's significant unavoidable impacts on EIR page 8-1.

Chapter 10.0, Alternatives:

Reference to FAA notification was removed on EIR page 10-9 and changed to less-than-significant and Table 10-3 on EIR pages 10-15 and 10-16 was updated to reflect changes made during the Final EIR.

A FINAL ENVIRONMENTAL IMPACT REPORT FOR THE UNIVERSITY AND INNOVATION DISTRICT SPA PLAN PROJECT

Letters of Comment and Responses

Letters of comment to the Draft EIR were received from the following agencies and organizations. Comment letters were received during the Draft EIR public review period contained accepted revisions that resulted in changes to the Final EIR text. Revisions to the Final EIR 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 in the Draft EIR would not be increased.

A list of the agencies, organization, and individuals commenting on the Draft EIR is provided below:

- Letter A: California Department of Transportation
- Letter B: San Diego Association of Governments
- Letter C: California Department of Fish and Wildlife
- Letter D: United States Department of Fish and Wildlife
- Letter E: Otay Water District
- Letter F: San Diego County Archaeological Society
- Letter G: County of San Diego, Planning and Development Services
- Letter H: City of San Diego, Planning Department

Copies of all letters received by the City of Chula Vista regarding the Draft EIR and the responses to comments are provided on the following pages.

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

DEPARTMENT OF TRANSPORTATION
DISTRICT 11
4050 TAYLOR STREET, MS-240
SAN DIEGO, CA 92110
PHONE (619) 688-3193
FAX (619) 688-4299
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www.dot.ca.gov

Making Conservation a California Way of Life.

April 11, 2018

11-SD-125
PM 94.91
University and Innovation District SPA Plan
DEIR/TIA
SCH# 2014121097

Mr. Steve Power, Principal Planner
City of Chula Vista Development Services Department
276 Fourth Avenue
Chula Vista, CA 91910

Dear Mr. Power:

Thank you for including the California Department of Transportation (Caltrans) in the Draft Environmental Impact Report (DEIR) Traffic Impact Analysis (TIA) (SCH# 2014121097) for review of the proposed University and Innovation District Sectional Planning Area (SPA) Plan Project in the Otay Ranch General Development Plan. The project is located on the southeast corner of Discovery Falls Drive and Hunte Parkway in Otay Ranch. The mission of Caltrans is to provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability. The Local Development-Intergovernmental Review (LD-IGR) Program reviews land use projects and plans to ensure consistency with our mission and state planning priorities.

Caltrans has the following comments:

Traffic Impact Analysis

A-1 1. Traffic counts used for existing conditions are from 2011 and 2014. These volumes are significantly less than the most recent Caltrans counts. Current traffic counts need to be conducted and the TIA needs to be updated.

A-2 2. Section 3.3.1 of the DEIR indicates 20,000 students for the university. Using SANDAG's "Not So Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region" a 2.4/student trip generation would result in 48,000 Average Daily Traffic (ADT), but the acre trip generation is only 26,000 ADT. Justify why the acre trip generation is used since trips per student trip generation is significantly greater.

A-3 3. The internal capture rates in Table 7-1 are too high. Please provide sources and documentation that justify the internal capture rates or lower the rates.

"Provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability"

A-1 Preparation of the Draft EIR and issuance of the Notice of Preparation occurred in December 2014, and 2014 is the baseline for existing conditions in the EIR. Pursuant to Section 15126.2(a) of CEQA, the EIR shall be based upon the existing physical conditions as they exist at the time of the Notice of Preparation. The Traffic Impact Analysis (TIA) relied upon a traffic study completed in the area for University Villages in 2011 and supplemented those counts with 2014 counts. Future traffic studies would be conducted prior to future development if expected circulation improvements are not completed prior to future development, as discussed on pages 5.3-83, 5.3-86, and 5.3-89.

A-2 SANDAG has two rates for trip generation, including a per-acre and a per-student rate. Project-specific plans with individual building square footages and precise locations are not currently known, including defined access points for parking. Due to the unavailability of these specific details, it is appropriate to develop an estimate for future trip generation using an acreage-based rate. For instance, for the traffic analysis for Villages 8 and 9 in Otay Ranch, a trip generation of 100 trips per acre was used to estimate school-related trips, since school site plans were not available at the time those EIRs were prepared. Similarly, the TIA utilized a trip generation rate of 100 trips per acre for the 260 acres of University land uses, which is consistent with SANDAG guidelines. SANDAG's guidelines do not specify when to utilize the different trip generation rates, but it is standard practice (as evidenced by the analyses done for Villages 8 and 9) to use acreage-based rates when only conceptual information is available. Student-based rates are appropriate when more specific information is available, such as a project site plan.

A-3 As described in Section 7.1 of the TIA, due to the mix of land uses, some trips were assumed to be confined to the site. Specifically, an internal capture rate of 25% was assumed since most of the on-site housing will be for students, a 10% internal capture was assumed for research-related trips, and a 20% internal capture was assumed for on-site retail. These estimates were developed based on the traffic consultant's experience with similar types of projects (such as traffic studies for Villages 8 and 9) and in consultation with City staff to reflect the types of uses and activities that would be promoted by the University Innovation District SPA Plan. Housing is intended to be developed within the Project site, along with retail and office research uses to serve the University needs. Because the

A-4 4. Is the market rate housing only available for students, staff, and Innovation District Workers? If other people can rent or buy the housing, then the internal capture rate should be reduced.

A-5 5. Interstation 805 (I-805), State Route 125 (SR-125), and State Route 905 (SR-905) segments need to be included in the TIA.

A-6 6. The Synchro files do not match the City of Chula Vista's signal timing sheets for the following SR-125 intersections and need to be revised. They are the following:

- SR-125 and Birch Road
- SR-125 and Olympic Parkway
- SR-125 and Otay Lakes Road

A-7 7. The 2020 AM Synchro file has incorrect volumes.

A-8 8. The 2025 AM Synchro file shows a SR-125 and Main Street interchange with volumes, but the TIA report states that it does not exist in 2025.

A-9 9. The "Caltrans Guide for the Preparation of Traffic Impact Studies" states "Caltrans endeavors to maintain a target Level of Service (LOS) at the transition between LOS "C" and LOS "D" on State highway facilities." The guide also states, "if an existing State highway facility is operating at less than the appropriate target LOS, the existing measures of effectiveness should be maintained." Appendix "C," Page 3 of the guide also clearly shows the transition line above LOS "D." According to these standards LOS "D" is not an acceptable LOS, any volume added to a facility currently operating at LOS "D" is consider a significant impact. The following intersections are considered to be significantly impacted from the project and should be mitigated:

- SR-125 and Birch Road, Table 12-1 Existing + Project AM LOS "D," delay of 48.2 sec/veh seconds and PM LOS "D," delay 39.7 seconds.
- SR-125 and Otay Valley Road, Table 11-1 Year 2030 PM LOS "D" and delay of 49.2 sec/veh seconds.

A-10 10. Section 13.4.2 on the TIA indicates the SR-125 and Otay Valley Road interchange will be in place prior to 2030. However, Table 11-1 shows a PM LOS "D" and delay of 49.2 sec/veh in year 2030. A new interchange opening at LOS "D" is unacceptable. The design of the proposed interchange needs to be reassessed.

A-11 11. Are there funding mechanisms and environmental approvals for the interchanges at SR-125 and Main Street, SR-125 and Otay Valley Road, SR-125 and Lone Star Road? If not, please provide a traffic analysis for a scenario where these interchanges are not built.

A-3 (cont.) planned uses are intended to support a University, it is expected that most of the site would be occupied by students or student-related employees or faculty, which is reflected in the assumed internal capture rates.

A-4 The proposed housing would not be exclusively available for students and staff, which is why only a 25% internal capture rate was assumed for the housing. The intention is for most of the housing to be occupied by University students and staff (over 50%); therefore, using only a 25% internal capture is considered conservative. Also, please see response A-3.

A-5 Interstate 805 (I-805) and State Route 905 (SR-905) were not included in the TIA due to their distance from the Project site, more than three miles away. As a result, few University-related trips would be added to these facilities. State Route 125 (SR-125) was not included because the level of service (LOS) is rated "A," which represents free-flowing conditions, and impacts on this facility were not anticipated.

A-6 An incorrect Synchro file was sent to Caltrans outside of the CEQA document. The correct 2020 AM Synchro analysis sheets were included in the appendix to the EIR Traffic Study and the correct delays and LOS were reported in the analysis tables in the EIR Traffic Study.

A-7 As stated in response to comment A-6, an incorrect Synchro file was sent to Caltrans outside of the CEQA document. The correct 2020 AM Synchro analysis sheets were included in the appendix to the EIR Traffic Study and the correct delays and LOS were reported in the analysis tables in the EIR Traffic Study.

A-8 The SR-125/Main Street interchange is not slated to be constructed in the Year 2025 and therefore not included in the Year 2025 analysis in the EIR. The analysis of this intersection was mistakenly included in the EIR Traffic Study but the information was omitted from the EIR and no impacts were identified.

A-9 City of Chula Vista significance criteria was used to evaluate the significance of impacts. The City of Chula Vista, as the Lead Agency for the Project, considers LOS E or F to be unacceptable and LOS D to be acceptable. As such, these facilities were not identified as significant impacts and mitigation is not required.

A-12 12. Mitigation needs to be proposed accordingly for the impacts identified in the comments above.

A-13 13. Section 3.1.1, Page 7 & 8: Add asterisk and footnote stating that the intersection does not exist yet. The intersection that do not exist yet are Main Street/SR-125, Otay Valley Road/SR-125, and Lone Star Road/SR-125.

A-14 14. Section 4.2, Page 28: Include Caltrans methodology for location within Caltrans' Right-of-Way (R/W).
   a. Per GUIDE FOR THE PREPARATION OF TRAFFIC IMPACT STUDIES 2002, Section II: "Caltrans endeavors to maintain a target LOS at the transition between LOS "C" and LOS "D" on State highway facilities. However, Caltrans acknowledges that this may not always be feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS. If an existing State highway facility is operating at less than the appropriate target LOS, the existing Measures of Effectiveness (MOE) should be maintained."
      i. For example: If existing delay for signalized intersection is 36 sec/veh (LOS "D") and the existing + project delays shows a 49 sec/veh delay (LOS "D"), then mitigation is required to bring delay back to 36 sec/veh.

A-15 15. Section 4.2, Page 28: This TIA is using 2000 Highway Capacity Manual (HCM) and should be using 2010 HCM. In addition if your Synchro Analysis software is using 2010 HCM then it should reflect on TIA report and tables.

A-16 16. Section 5.0 Significance Criteria: This section should include Caltrans criteria or MOE for intersections and segments within Caltrans' R/W, per GUIDE FOR THE PREPARATION OF TRAFFIC IMPACT STUDIES 2002, Appendix "C".

A-17 17. Section 7.3.1 - Year 2020 Distribution: The distribution does not follow the existing urban buildout and is not logical.
   a. The 16% distribution to/from the east (Hunte Parkway) should be reduced by approximately 50% since existing urban housing is very minimal compared to the west.
   b. The 13% distribution to/from the north (SR-125& I-805) should be increased by approximately 15% since most motorist use freeways to access large developments.
   c. The 12% distribution to/from south (SR-125 & I-805) should be increased by approximately 25% since most motorist use freeways to access large developments.
   d. The 9% distribution to/from west of I-805 should be increased by approximately 34% since there is a denser population and this will be the closest University in this area of San Diego.
   e. This pattern should follow for all year's distributions (2025 and 2030) throughout the TIA.

A-10 LOS D was calculated at the SR-125/Otay Valley Road interchange. As explained in the response for Comment A-9, the City of Chula Vista considers LOS D to be acceptable and does not conclude that these facilities would be significantly impacted by the Project.

A-11 These interchanges are planned for installation and included in the SANDAG Year 2035 Traffic model as reasonably foreseeable. Therefore, it was appropriate to include them in the buildout analysis. Also, according to the East Otay Mesa Specific Plan Circulation Element, the SR-125 and Lone Star Road interchange is unfunded; however, the Lone Star Road Interchange has been evaluated in an EIR prepared and certified by the County of San Diego for SR-125 in March 2018 (SCH#:2016031028).

A-12 As stated in the responses for comments A-9 and A-10, the City of Chula Vista does not identify impacts for traffic facilities that operate at LOS D or better. As such, mitigation is not included.

A-13 Figure 3-2 and Table 6-1 of the traffic study shows the existing conditions and configurations of the study area intersections, including these three listed intersections, and states "Does Not Exist." The comment to add an asterisk and footnote on pages 7 and 8 does not affect the analysis or conclusions of the traffic study and no changes to the EIR are necessary.

A-14 See the response above for Comment A-9. The City of Chula Vista, as the Lead Agency for the Project, considers LOS E or F to be unacceptable and LOS D to be acceptable.

A-15 When this analysis was initially conducted, HCM 2010 was not widely in use. Hence, the analysis was conducted using HCM 2000. There are no substantive differences between HCM 2010 and HCM 2000 and HCM 2000 remains valid analysis software. Because there are no substantive differences between the models, the TIA relies on the HCM 2000 and the synchro analysis includes 2010 HCM and no updates are needed to the TIA or the synchro analysis.

A-16 The City of Chula Vista, as the Lead Agency for the Project, utilizes City significance criteria for all study area locations.

A-18

18. Figures 7-1 through 7-3: All Project Traffic Distribution show a higher or same distribution percentage on SR-125 than the distribution on I-805. The distribution on I-805 should be double or higher than SR-125 per current traffic trend. The toll on SR-125 is a major factor for most motorist (especially college students on limited income) who bypass SR-125 and use I-805 to Olympic Parkway.

A-19

19. Section 12, Table 12-1; Existing + Project Intersection Operations comments:
    a. Intersection 18, Olympic Parkway/I-805 SB Ramps AM Peak Hour: There is an error with your results since Table 6-1 shows delay of 45.4 sec/veh and LOS "D". This table shows 17.9 sec/veh delay and LOS "B."
    b. Intersection 18, Olympic Parkway/I-805 SB Ramps PM Peak Hour: There is a direct impact to this intersection since Table 6-1 shows 75.9 sec/veh delay and LOS "E" and this table shows >100 delay and LOS "F." Need to mitigate and bring delay back to 75.9 sec/veh delay, See comment #2.
    c. Intersection 19, Olympic Parkway/I-805 NB Ramps AM Peak Hour: There is a direct impact to this intersection since Table 6-1 shows 85.2 sec/veh delay and LOS "F" and this table shows >100 delay and LOS "F." Need to mitigate and bring delay back to 85.2 sec/veh delay, See comment #2.
    d. Intersection 19, Olympic Parkway/I-805 NB Ramps PM Peak Hour: There is a direct impact to this intersection since Table 6-1 shows 33.4 sec/veh delay and LOS "C" and this table shows >100 sec/veh delay and LOS "F." Need to mitigate and bring delay back to 35.0 sec/veh delay, See comment #2.
    e. Intersection 36, Main Street/I-805 SB Ramps AM Peak Hour: There is a direct impact to this intersection since Table 6-1 shows 32.5 sec/veh delay and LOS "C" and this table shows 49.0 sec/veh delay and LOS "D." Need to mitigate and bring delay back to 35.0 sec/veh delay, See comment #2.
    f. Intersection 36, Main Street/I-805 SB Ramps PM Peak Hour: There is a direct impact to this intersection since Table 6-1 shows 52.4 sec/veh delay and LOS "D" and this table shows >100 delay and LOS "F". Need to mitigate and bring delay back to 52.4 sec/veh delay, See comment #2.
    g. Intersection 37, Main Street/I-805 NB Ramps AM Peak Hour: There is a direct impact to this intersection since Table 6-1 shows 17.9 sec/veh delay and LOS "B" and this table shows 63.6 sec/veh delay and LOS "E." Need to mitigate and bring delay back to 35.0 sec/veh delay, See comment #2.
    h. Intersection 37, Main Street/I-805 NB Ramps PM Peak Hour: There is a direct impact to this intersection since Table 6-1 shows 25.3 sec/veh delay and LOS "C" and this table shows 40.2 sec/veh delay and LOS "D." Need to mitigate and bring delay back to 35.0 sec/veh delay, See comment #2.
    i. Intersection 61, Palm Avenue/I-805 SB Ramps PM Peak Hour: There is a direct impact to this intersection since Table 6-1 shows 42.5 sec/veh delay and LOS "D" and this table shows 58.1 sec/veh delay and LOS "E." Need to mitigate and bring delay back to 42.5 sec/veh delay, See comment #2.

A-17 The Project's trip distribution was developed for each analysis year based on the prevailing roadway network and the location of residential developments. Distribution for subsequent analysis years was modified to reflect changes in the available roadway network. Generally, the overall regional distribution was maintained. Overall, the trip generation was prepared based on the professional judgement of the traffic consultant based on numerous traffic studies conducted in the Otay Ranch area, including traffic studies for Villages 8 and 11. The roadway network which would serve the Project was reviewed, including the respective capacities and forecasted operations. Roads with excess capacity are more likely to carry future Project trips. The Project is located directly on Hunte Parkway and this road has excess capacity; therefore, it is reasonable to assume that Hunte Parkway would carry 16% south of Olympic Parkway, 11% north of Olympic Parkway and 5% north of Otay Lakes Road. Regarding SR-125 and I-805, there is a large inventory of apartments, condos, and single family residences near the development and many of these homes are expected to house University staff and students. As a result, Project traffic is expected to use these local roads, such as Birch Road, Olympic Parkway, Eastlake Parkway, and Otay Lakes Road. Since there is so much housing inventory in the Chula Vista area, the distribution percentages on SR-125 and I-805 are reasonable. Lastly, Otay Ranch Village 8 and Village 11 traffic studies were recently completed by the City of Chula Vista (2013-2014), and both of these developments are located close to the proposed Project. SANDAG models for these projects indicated the distribution percentages for these nearby projects and these studies were also used as basis for the Project trip distribution.

A-18 The toll and change in trend of traffic on I-805 was considered while developing the distribution percentages based on the professional judgement of the EIR traffic consultant. However, when traffic volumes on I-805 grow beyond a certain maximum, SR-125 would be more attractive, despite the cost of the toll. Hence the distribution percentages are higher than I-805, especially if traffic has to travel west to I-805 to avoid the toll on SR-125, and then travel back east to SR-125, where the final destination is located. In addition, the Project is located much closer to SR-125 than I-805. Also, please see response A-17.

j. Intersection 62, Palm Avenue/I-805 NB Ramps AM Peak Hour: There is a direct impact to this intersection since Table 6-1 shows 56.6 sec/veh delay and LOS "E" and this table shows 68.5 sec/veh delay and LOS "E." Need to mitigate and bring delay back to 56.6 sec/veh delay, See comment #2.

k. Intersection 62, Palm Ave/I-805 NB Ramps PM Peak Hour: There is a direct impact to this intersection since Table 6-1 shows 72.8 sec/veh delay and LOS "E" and this table shows 77.3 sec/veh delay and LOS "E." Need to mitigate and bring delay back to 72.8 sec/veh delay, See comment #2.

A-19 Cont.

20. Section 13.0 needs to include all direct impacts detailed in comment #7.

A-20

21. A queue analysis needs to be included in the TIA for all of Caltrans' freeway exit ramps that analyzes existing versus existing + proposed plan to mitigate any impact. Any impact to the state highway system from additional traffic needs to be mitigated.

A-21

22. The TIA and Synchro needs to be updated to address our comments and include better traffic distribution, exit ramp queue analysis, and direct impact mitigations. Synchro and TIA will need to be submitted to us for further review after comments have been addressed.

A-22

Hydrology

Any modification to the existing drainage and increase runoff to State facilities will not be allowed.

A-23

Utilities

It is understood that no new utility crossings on State Facilities will occur as a result of this project. However, if any work is performed within Caltrans' R/W, an encroachment permit will be required.

A-24

Right-of-Way

Any work performed within Caltrans' R/W will require discretionary review and approval by Caltrans and an encroachment permit will be required prior to construction. As part of the encroachment permit process, the applicant must provide an approved final environmental document, including the CEQA determination addressing any environmental impacts within Caltrans' R/W and any corresponding technical studies.

Additional information regarding encroachment permits may be obtained by contacting the Caltrans Permits Office at (619) 688-6158. Early coordination with Caltrans is strongly advised for all encroachment permits.

A-25

A-19 The existing plus Project scenario was provided for informational purposes and was not used to identify any traffic-related impacts, since it is not a realistic scenario to construct the Project in 2014. The entire Project is highly unlikely to be built without network improvements assumed in the years 2020, 2025 and 2030.

Traffic impacts were identified for the years 2020, 2025, and 2030 and mitigation was included to reduce impacts to less than significant.

A-20 There are no direct impacts detailed in comment #7. If this comment is referencing direct impacts in the existing plus Project scenario, please refer to response A-19, which explains that this scenario was included for informational purposes, since the Project will not be operational under the existing traffic conditions used in the TIA.

A-21 The City of Chula Vista's adopted CEQA thresholds for freeway impacts do not utilize criteria for queuing and do not require that this analysis be completed. Instead, freeway ramp impacts are evaluated in the TIA and EIR based on a threshold of project-related increases in ramp delays by more than two minutes, if operating at LOS E with 15-minute delays, or increases in delays by one minute, if operating at LOS F with 15-minute delays. Using this methodology, no significant impacts were identified and mitigation is not necessary.

A-22 As described in responses A-6, A-9, A-15 and A-17, the trip distribution and other analysis parameters are accurate and no changes to the analysis are needed. As a result, the TIA and Synchro analysis do not need to be updated.

A-23 Comment noted that any modification to existing drainage and runoff conditions to State facilities will not be allowed. No modifications are anticipated and revisions to the Draft EIR are not necessary.

A-24 Comment noted that no new utility crossings on State facilities are proposed and that if work is performed in a Caltrans right-of-way, an encroachment permit will be required.

A-25 Comment noted that any work performed in a Caltrans right-of-way will require review and approval by Caltrans and an encroachment permit will be necessary prior to construction, as well as a CEQA determination to address potential environmental impacts.

Mitigation

Caltrans endeavors that any direct and cumulative impacts to the State Highway System be eliminated or reduced to a level of insignificance pursuant to the California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA) standards.

A-26

Caltrans supports the concept of "fair-share contributions" for transportation related projects which may include future freeway operational improvements, managed lanes, ramp improvements, signal improvements, bus on shoulders, and/or other transportation related measures to mitigate for the significant impacts that this TIA has identified. This TIA should include a list of proposed potential mitigation measures or multi-modal strategies for significant impacts identified on State facilities.

Mitigation identified in the traffic study, subsequent environmental documents, and mitigation monitoring reports, should be coordinated with Caltrans to identify and implement the appropriate mitigation. This includes the actual implementation and collection of any "fair share" monies, as well as the appropriate timing of the mitigation. Mitigation improvements should be compatible with Caltrans concepts.

If you have any questions, please contact Mark McCumsey at (619) 688-6802 or by email at mark.mccumsey@dot.ca.gov

Sincerely,

DAMON DAVIS, Acting Branch Chief
Local Development and Intergovernmental Review Branch

A-26 Mitigation measures to mitigate below a level of significance have been recommended for all identified significant direct and cumulative impacts. Fair Share contributions have been recommended where appropriate. The Project will work with Caltrans to develop the final mitigation measures at State facilities.

SANDAG

401 B Street, Suite 800
San Diego, CA 92101-4231
(619) 699-1900
Fax (619) 699-1905
sandag.org

April 11, 2018 File Number 3300300

Mr. Steve Power
City of Chula Vista
276 Fourth Avenue
Chula Vista, CA 91910

Dear Mr. Power:

SUBJECT: University and Innovation District Sectional Planning Area Plan Project Draft Environmental Impact Report

Thank you for the opportunity to comment on the City of Chula Vista's University and Innovation District Sectional Planning Area (SPA) Plan Project Draft Environmental Impact Report (EIR). The San Diego Association of Governments (SANDAG) is submitting comments based on the policies included in San Diego Forward: The Regional Plan (Regional Plan). These policies will help provide people with more travel and housing choices, protect the environment, create healthy communities, and stimulate economic growth. SANDAG's comments are submitted from a regional perspective emphasizing the need for better land use and transportation coordination.

Smart Growth

This project is located an Existing/Planned Special Use Center (CV-15), a smart growth opportunity area identified on the Smart Growth Concept Map. Development in these areas supports a sustainable and healthy region, a vibrant economy, and an outstanding quality of life for all. Please ensure the University and Innovation District SPA references the following planned transportation projects and that the SPA provides access to these transit services:

- *Rapid* service (Routes 225, 689, and 709)

Transportation Demand Management

SANDAG appreciates the inclusion of transportation demand management (TDM) and parking management strategies in the University and Innovation District SPA and Draft EIR. Page 4-17 of the Circulation Element of the University and Innovation District SPA states:

> "In later years, when open land available for building development has been exhausted, serious investment in both structured parking (which frequently has a capital cost 10 times that of surface parking) and Transportation Demand Management (TDM) programs to reduce parking demand, will then become necessary".

MEMBER AGENCIES
Cities of
Carlsbad
Chula Vista
Coronado
Del Mar
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Imperial Beach
La Mesa
Lemon Grove
National City
Oceanside
Poway
San Diego
San Marcos
Santee
Solana Beach
Vista
and
County of San Diego

ADVISORY MEMBERS
Imperial County
California Department of Transportation
Metropolitan Transit System
North County Transit District
United States Department of Defense
San Diego Unified Port District
San Diego County Water Authority
Southern California Tribal Chairmen's Association
Mexico

B-1 This comment is addressed to the University Innovation District SPA Plan and is not related to the environmental analysis in the Draft EIR. No additional response or change to the Draft EIR is necessary.

B-2 This comment notes that SANDAG appreciates the inclusion of transportation demand management and parking management strategies the SPA Plan and is not related to the environmental analysis in the Draft EIR. No additional response or change to the Draft EIR is necessary.

B-3

Bike Parking

Please consider adding to the existing language to specify that bike parking be placed in convenient and highly visible locations close to building entrances. Showers, bike lockers, and other convenience amenities should also be included in new development to further encourage biking.

B-4

Other Considerations

SANDAG has a number of additional resources that can be used for additional information or clarification on smart growth and TDM. These can be found on our website at sandag.org:

- SANDAG Regional Parking Management Toolbox
- Planning and Designing for Pedestrians, Model Guidelines for the San Diego Region
- Trip Generation for Smart Growth
- Parking Strategies for Smart Growth
- Designing for Smart Growth, Creating Great Places in the San Diego Region

When available, please send any additional environmental documents related to this project to:

Intergovernmental Review
c/o SANDAG
401 B Street, Suite 800
San Diego, CA 92101

We appreciate the opportunity to comment on the City of Chula Vista's University and Innovation District SPA Plan Project Draft EIR. If you have any questions, please contact me at (619) 699-1943 or via e-mail at seth.litchney@sandag.org.

Sincerely,

SETH LITCHNEY
Senior Regional Planner

SLI/KHE/ais

3

B-3 This comment is addressed to the University Innovation District SPA Plan and is not related to the environmental analysis in the Draft EIR. No additional response or change to the Draft EIR is necessary.

B-4 This comment notes that SANDAG has additional resources for transportation planning available on its website and is not related to the environmental analysis in the Draft EIR. No additional response or change to the Draft EIR is necessary.

State of California – Natural Resources Agency
DEPARTMENT OF FISH AND WILDLIFE
South Coast Region
3883 Ruffin Road
San Diego, CA 92123
(858) 467-4201
www.wildlife.ca.gov

EDMUND G. BROWN JR., Governor
CHARLTON H. BONHAM, Director

April 9, 2018

Mr. Steve Power
City of Chula Vista
276 Fourth Ave
Chula Vista, CA 91910

Subject: Notice of Availability of a Draft Environmental Impact Report for the University and Innovation District Sectional Planning Area Plan (SCH # 2014121097), City of Chula Vista, California

Dear Mr. Power:

This letter provides the California Department of Fish and Wildlife's (Department's) comments on the February 23, 2018, Notice of Availability of a draft Environmental Impact Report (DEIR) for the University and Innovation District Sectional Planning Area Plan (University SPA). The Department is a Trustee Agency and a Responsible Agency pursuant to the California Environmental Quality Act (CEQA; §§ 15386 and 15381, respectively) and is responsible for ensuring appropriate conservation of the State's biological resources, including rare, threatened, and endangered plant and animal species, pursuant to the California Endangered Species Act (CESA) and other sections of the Fish and Game Code. The Department also administers the Natural Community Conservation Planning (NCCP) program. The City of Chula Vista (City) currently participates in the NCCP program by implementing its approved Multiple Species Conservation Program (MSCP) Subarea Plan (SAP) under the broader MSCP Subregional Plan.

The proposed project is the development of a university campus and a research and technology park, which also includes mixed used and retail areas, on approximately 380 acres of land located within Otay Ranch in the City of Chula Vista. The project also includes development of a portion of the approximately 30-acre "Lake property," which is adjacent to Lower Otay Lake and the City of San Diego's Multi-Habitat Planning Area (MHPA) and is not contiguous with the Main Campus. The project also includes both Planned and Future Facilities, including sewer connections with the Salt Creek Interceptor and a storm water retention basin within the adjacent Otay Ranch preserve lands. The Main Campus portion of the project is considered a covered project within the Chula Vista SAP, and was subject to an approved Boundary Line Adjustment that was approved in 2014 (FWS/CDFW-SD-11B0147-14CPA0306). The current project boundaries reflect this adjustment. The BLA approval also included U.S. Fish and Wildlife Service and the Department (jointly, the Wildlife Agencies) concurrence of increased acreage for off-site Future Facilities associated with the Village 10, due to the fact that they are co-located with Future Facilities being proposed by the University Innovation District project.

Impacts from the development of the Main Campus will be mitigated through conveyance of 1.188 acres within the Otay Ranch preserve and will be managed through a Community Facilities District (CFD). Development on the Lake parcel is not a covered project, and is therefore subject to the Habitat Loss Incidental Take (HLIT) permit requirement under the Chula Vista SAP. Mitigation for impacts to the Lake parcel and off-site improvement will include preservation and management of approximately 10.5 acres of Diegan coastal sage scrub and 4

acres of non-native grasslands. Mitigation is proposed to be within the preserve, but is not specifically identified in the DEIR. Planned and Future Facilities would also temporarily impact 0.38 acre of maritime succulent scrub, which is subject to restoration per the Otay Ranch Resource Management Plan (RMP).

The Department offers the following comments and recommendations to assist the City in avoiding, minimizing, and adequately mitigating project-related impacts to biological resources and to ensure that the project is consistent with, and does not adversely affect, regional habitat conservation efforts.

C-1

1. In response to the Notice of Project (NOP), the Wildlife Agencies prepared a comment letter that recommended an analysis of the progress toward implementing the Quino Checkerspot Butterfly Recovery Component (Subarea Plan page 4-41), specifically the Quino Habitat Restoration/Enhancement Program (Subarea Plan page 4-54), be included in the draft EIR. The Quino Habitat Restoration/Enhancement Program is to be funded by the Preserve Management Endowment Fund (Subarea Plan page 8-10, PMEF). Based on the draft EIR, it appears that the proposed project will incorporate Planned Facilities that are required to contribute to funding the PMEF. We recommend that the City include an evaluation in the final EIR of the University SPA's obligation to contribute to the PMEF as well as a general evaluation of the City's progress toward implementing the Quino Habitat Restoration/Enhancement Program.

C-2

2. Page 5.6-10 of the DEIR states, "Off-site impacts from drainage facilities and utility lines between the Lake Property and Lower Otay Lake would not be located in the Preserve, and therefore, not subject to Future Facilities area limits or Siting Criteria." Although this area is not located within the City of Chula Vista's preserve, and on page 5.6-12 the draft EIR correctly identifies this area as being within the City of San Diego's MHPA, the draft EIR does not provide enough information to determine consistency with the City of San Diego's SAP. The draft EIR states that, "some of the off-site impacts are located in areas of Diegan coastal sage scrub adjacent to the developed facilities." The City of San Diego's SAP states that, "Temporary construction areas and roads, staging areas, or permanent access roads must not disturb existing habitat unless determined to be unavoidable." The draft EIR does not discuss why placement within existing Diegan coastal sage scrub habitat is unavoidable. The final EIR should include a discussion of why alignments within the MHPA in developed or disturbed areas are not feasible. Additionally, since the City of San Diego is not a signatory to the Otay Ranch agreement, mitigation may need to occur at the City of San Diego's MSCP mitigation ratios rather than the Otay Ranch 1.188:1 ratio. Also, please ensure that the design and placement of facilities within the MHPA in the City of San Diego are consistent with section 1.4 - 1.4.3 of the City of San Diego's SAP. Design and placement of these facilities should be coordinated with Kristy Forburger, Senior Planner, City of San Diego Planning Department/Multiple Species Conservation Program (MSCP), (619) 236-6583, KForburger@sandiego.gov.

C-3

3. Page 5.6-13 of the document states, "Although a full list of focused biological surveys was not completed in support of the off-site evaluation, sufficient information is provided by the general biological survey data and information provided by others to complete the analysis." The information provided in the DEIR may not be sufficient to complete a full analysis of project-related impacts. For example, variegated dudleya (*Dudleya variegata*)

C-1 The Preserve Management Endowment Fund (PMEF) was included in the City's MSCP Subarea Plan to create an endowment program of approximately $1.85 million, funded through the following capital improvement programs:

- Salt Creek Sewer (including access roads and trails): $1 million (SW-219)
- Wolf Canyon Sewer (including access roads and trails): $500,000
- Main Street Bridge at Wolf Canyon: $250,000 (TDIF #60C)
- La Media Road: $100,000 (TDIF #52B)

With the completion of the Salt Creek Sewer line, the PMEF currently has ~$1 million in the account. The Wolf Canyon Sewer line has been abandoned and will be located within the right-of-way of the Main Street extension. Prior to initiating the Main Street Bridge and extension of La Media Road projects, they will deposit their assigned funds into the PMEF account.

Section 8.3.2.4 of the City's MSCP Subarea Plan specifically identified that the PMEF would be financed in association with the Planned Facilities listed above. The University project is not obligated to contribute to this fund.

To date, $50,000 has been spent to restore 14 acres of Quino checkerspot butterfly (QCB) habitat in the southeastern portion of the Salt Creek parcels in Otay Ranch Preserve. This mesa was chosen because of the presence of appropriate habitat in portions of the site for QCB host plant dot-seed plantain (*Plantago erecta*) and nectar plants, such as common goldfields (*Lasthenia sp.*) and farinose ground pink (*Linanthus dianthiflorus*). In addition, QCB was incidentally sighted on the mesa during the 2013 flight season and the site is within flight distance of a larger population of butterflies located immediately south of the Salt Creek parcels on County of San Diego land.

Restoration includes dethatching, seed (including the QCB host and nectar plants dot-seed plantain, goldfields, ground pink, as well as purple and foothill needle grass) collection and redistribution, grading of 30 vernal pools, weed control, photo and vegetation monitoring and modified protocol QCB survey.

C-3 cont.

was not included in the discussion of sensitive species in either the Biological Technical Report (BTR) or the draft EIR. However, an occurrence of variegated dudleya was recorded in the California Natural Diversity Database (CNDDB) on May 31, 2016, and is located directly within the proposed impact area within the Lake property. Variegated dudleya, a narrow endemic species under the MSCP, needs to be addressed in the discussion of sensitive species in both the BTR and DEIR, and specifically as part of mitigation measure 5.6-1a.

C-4

4. The EIR correctly notes that Planned and Future Facilities along with areas regulated by the HLIT ordinance require an analysis and mitigation for impacts to narrow endemic species on page 5.6-8. However, the DEIR does not include this analysis, and defers it as part of the proposed Mitigation Measure 5.6-1a for the project. The Wildlife Agencies cannot adequately assess impacts to narrow endemic species and Quino for Future and Planned Facilities, and the subsequent HLIT permit, without the appropriate survey information. This is especially important for Otay tarplant (*Deinandra conjugens*), variegated dudleya, cactus wren (*Campylorhynchus brunneicapillus*), San Diego fairy shrimp (*Branchinecta sandiegonensis*), and Quino checkerspot butterfly (*Euphydryas editha quino)*. The Department recommends early coordination with the Wildlife Agencies, to properly assess equivalency findings and appropriate mitigation, as well as request for concurrence if required.

C-5

5. Section 5.2.4 of the Chula Vista SAP states in reference to the Wetland Protection Program that the "Wildlife Agencies will review the mitigation program as part of the CEQA public review process." This is not possible due to the lack of survey information provided in the DEIR. Mitigation measure 5.6-2b discusses impacts to vernal pools and San Diego fairy shrimp. All vernal pools, including road rut pools containing San Diego fairy shrimp, are considered sensitive and require mitigation. All vernal pools impacted by the project should be mitigated at 2:1 - 4:1 ratio per Table 5-6 of the Chula Vista SAP. In the current situation, higher ratios (i.e., 3:1 or 4:1) should be required for vernal pools containing listed species or with relatively high numbers of sensitive species.

C-6

6. The regulatory section of the draft EIR discusses fully protected species on page 5.6-4, and states, "Sections 3511 (birds), 4700 (mammals), 5050 (reptiles and amphibians), and 5515 (fish) of the California Fish and Game Code designate certain species as 'fully protected.' Fully protected species, or parts thereof, may not be taken or possessed at any time except as part of an approved Natural Community Conservation Plan (NCCP) that treats such species as 'covered species' or in connection with statutory-specified actions pursuant to the 'Quantification Settlement Agreement' involving water transfer from the Imperial Irrigation District to the Metropolitan Water District of Southern California." The Chula Vista SAP does treat some fully protected species as covered species, but the NCCP Permit 2835-2003-002-05 in section 6.2.3 expressly states that take of fully protected species is not provided by this permit. The language in the final EIR should be revised to clarify that take of individuals of fully protected species is not provided for under the Chula Vista NCCP. Also, we recommend removal of language related to the water transfer "Quantification Settlement Agreement" as we do not believe it is applicable to the current project.

C-7

7. Measure 6 of Section 5.2.8.1 of the MSCP Subarea Plan states, "As part of the overall Preserve management strategy, a weed control program will be established for all

C-1 (cont.) Additional funds will be used to hire a consultant to complete and implement a QCB recovery plan for North City and Otay Ranch Preserve so that the City meets its MSCP Subarea Plan and Implementing Agreement responsibilities by ensuring that a minimum of 50 acres of resource enhancement for the QCB is completed.

C-2 Utilities such as the proposed drainage outlets are an allowed use within MHPA if the findings in the City of San Diego's SAP Section 1.4.2 are met. Attached are draft findings for Section 1.4.2. Access roads and staging areas will not disturb existing habitat within the City of San Diego's MHPA. The attached findings demonstrate why moving the drainage outlets is not feasible.

According to the City of San Diego's CEQA Thresholds (Biological Resources, page 23, https://www.sandiego.gov/sites/default/files/legacy/development-services/pdf/news/sdtceqa.pdf), "Total upland impacts (Tiers I- IIIB) less than 0.1 acre are not considered significant and do not require mitigation." The drainage outlets for the project were planned and located to minimize environmental impacts based on their location in and immediately adjacent to developed land. The total impact within MHPA has been limited to 0.04 acre of Diegan coastal sage scrub and 0.007 acre of developed land. No MSCP covered species or wetland vegetation were observed at the proposed drainage outlet locations. Thus, no impact will occur under the City of San Diego's CEQA threshold.

C-3 HELIX conducted sensitive plant surveys of the Lake Property and proposed road alignments in 2016 during variegated dudleya season. Surveys were conducted on April 15 and June 10, 2016 and would have observed variegated dudleya if it were present within the impact area. The CNDDB point for variegated dudleya that is listed in comment C-3 is located south of the Lake Property, but the actual site cannot be precisely located based on the location description, "between Salt Creek and Lower Otay Reservoir; approximately 0.5 to 1 air mile west of Savage Dam, NE Otay Valley." In addition, as stated in Appendix C of the BTR, the site does not have high potential to support variegated dudleya due to the poor quality of vernal pool habitat and lack of suitable clay or metavolcanic soils on the site.

C-7 cont.

water/sewer line access roads built through potential Quino checkerspot butterfly habitat." The discussion included in the DEIR states, "The proposed Planned and Future Facilities are not located in an area that is currently considered significant Quino habitat; however, this will be confirmed by subsequent studies once project level infrastructure plans are available. Proposed access roads would conform to the construction specifications of this Measure. Approval of a weed control program for the proposed Planned and Future Facilities will be a condition of final Project approval." Measure 6 applies to all potential Quino habitat, so it would not make a difference whether the area is considered significant Quino habitat. The Department recommends that a mitigation measure to develop this weed control plan is included in the project, and that review and coordination with the Preserve Owner Manager (POM) be required.

C-8

8. The BTR on page 44 and the DEIR on 6.5-36 state, "Historic sightings of Quino checkerspot butterfly in this part of the Salt Creek Valley are rare and generally considered to be transient individuals (Dudek 2009)." It is unclear from the referenced report how this conclusion was made, or the purpose when using the term "transient." We disagree with this use of the term because it negates the importance of the metapopulation dynamics of this species, which is the means by which populations and local distributions expand and contract, naturally, over time. We recommend that current protocol level surveys be performed in order to make an assessment of impacts to Quino. Historic information, which may be misinterpreted, can be misleading and should not be relied upon for analysis in the EIR.

C-9

9. On page 5.6-31 the DEIR states, "The detention basin and pipelines would be located on an existing dirt road and access roads are not expected to preclude wildlife from using the area because wildlife would be able to traverse the road. In addition, the roads are not expected to receive much traffic as they are used for periodic maintenance and not on a daily basis. Construction of the storm and sewer facilities would not preclude wildlife from using the area in the long-term as these facilities are underground." Please include a provision in the final EIR that all utility access roads within the preserve are gated to preclude illegal access in the preserve. Also, the DEIR states that, "The Main Campus property road would provide access to both the co-located sewer and storm drain lines, and serve as a trail, avoiding redundant roads in the Preserve." Please ensure all public trails and their connections are shown on maps provided in the Final EIR. Figure 3-4 of the DEIR shows the Salt Creek Sewer Interceptor/Greenbelt Trail going north of the San Diego County Water Authority Aqueduct and continuing into the northern section of Salt Creek. These trail branches appear to not be consistent with the Otay Trail Alignment Study, and furthermore contradict discussion the Department has had with the City concerning trails in Salt Creek. The Department recommends that these northern branches be removed from the figure, unless they are being evaluated as part of the current project, in which case additional analysis of the potential adverse effects of this trail segment would need to be provided. The DEIR should evaluate the potential impacts of any trails on wildlife, including the proposed rural trails which appear to fragment the southwest corner of the preserve into many small sections, as well as possible alternatives that do not include these additional trails. We further recommend that any trails be only open during daylight hours, and that close monitoring be provided to protect against establishment of unauthorized spur trails.

C-3 (cont.) Therefore, the Project is not expected to impact variegated dudleya; however, variegated dudleya would be observed and recorded during rare plant surveys that would be conducted per mitigation measure 5.6-1a, which requires surveys for rare plants prior to the issuance of off-site permits for any clearing, grubbing, or grading activities. If rare plants are identified in the future, including variegated dudleya, avoidance and minimization measures would be required per mitigation measure 5.6-1a.

C-4 The DEIR analysis of potential impacts to narrow endemic species is included on DEIR page 5.6-23, which concludes that the Project has the potential to result in direct impacts to San Diego sunflower, Palmer's grapplinghook, ashy spike-moss, San Diego barrel cactus, narrow-leaved nightshade, and Otay tarplant, which were either characterized as observed or having a potential to occur within the Project site. Because construction timing of the Project is unknown and observed species and other non-observed species with a potential to occur could be impacted in the future, mitigation measure 5.6-1a requires sensitive plant surveys prior to the issuance of any land development permits. Mitigation measure 5.6-1a does not defer mitigation or leave details unknown because it includes performance measures for transplantation (if applicable) and mitigation ratios that must be achieved. This approach will allow for current information to be obtained at the time of potential impacts. The City will coordinate with the Wildlife Agencies on the equivalency findings and mitigation before issuing the HLIT permit.

C-5 Similar to the response above for comment C-4, requiring future fairy shrimp surveys prior to the issuance of clearing, grubbing, or grading permits is appropriate because construction timing is unknown. Road ruts in particular can appear in different locations from year to year and conducting complete and final analyses for vernal pools and fairy shrimp now would produce information that would likely be outdated by the time construction of the Project occurs.

C-6 The Final EIR has been revised to omit reference to the fact that take is allowed as part of an approved NCCP that treats fully protected species as covered species. The Final EIR has also been revised to remove language related to the water transfer Quantification Settlement Agreement.

C-10

10. The DEIR discussion of northern harrier states, "Area-specific management directives must manage agricultural and disturbed lands that become part of the preserve within 4 miles of nesting habitat to preserve foraging habitat, include an impact avoidance area at least 900 feet around active nests, and maintain winter foraging habitat in preserve areas including those in Otay Ranch east of Wueste Road." Mitigation measure 5.6-7 calls for surveys with 900 feet, but does not call for a 900-foot avoidance buffer around active nests. Please revise the mitigation to include the required buffer around an active nest to avoid potential impacts to northern harrier.

C-11

11. Mitigation measure 5.6-8a discusses avoidance for nesting birds; the Department recommends that the measure in the final EIR require that clearing of vegetation occurs outside of the peak avian breeding season which generally runs from February 1 through September 1 (as early as January 1 for some raptors). If project construction is necessary during the bird breeding season, a qualified biologist with experience in conducting breeding bird surveys should conduct weekly bird surveys for nesting birds, within three days prior to the work in the area, and ensure no nesting birds in the project area would be impacted by the project. If an active nest is identified, a buffer shall be established between the construction activities and the nest so that nesting activities are not interrupted. The buffer should be a minimum width of 300 feet (500 feet for raptors), be delineated by temporary fencing, and remain in effect as long as construction is occurring or until the nest is no longer active. No project construction shall occur within the fenced nest zone until the young have fledged, are no longer being fed by the parents, have left the nest, and will no longer be impacted by the project. Reductions in the nest buffer distance may be appropriate depending on the avian species involved, ambient levels of human activity, screening vegetation, or possibly other factors.

C-12

12. The Chula Vista SAP states in section 7.6.2, Conditions of Coverage for the University Project, "Disturbance of coastal sage scrub within the new university development areas on the east side of Salt Creek will be subject to grading restrictions during the gnatcatcher nesting season." Although a development area was removed from the eastern side of Salt Creek as part of the Boundary Line Adjustment, this statement should also apply to development within the Lake property since it is a University development area on the east side of Salt Creek. Mitigation measure 5.6-4 does not reflect this restriction, and should be revised to be consistent with the Chula Vista SAP. Also, restoration work per mitigation measure 5.6-10c should follow this restriction.

C-13

13. Landscape plans for all development associated with the project would avoid use of invasive species in their designs. According to the Preserve Edge Plan, "landscape plans adjacent to the Preserve will not contain any invasive species, as determined by the City of Chula Vista and identified in the MSCP Subarea Plan, Appendix N, *List of Invasive Species*." Although the list included in the SAP is a good starting point, please also refer to Cal-IPC as well as San Diego Monitoring and Management Program (SDMMP) for an up-to-date list of invasive plants that should not be included in the plant pallet for the project.

C-14

14. The DEIR states, "Long-term edge effects could include noise, lighting, domestic animal predation, and attraction of natural predators. These indirect impacts to sensitive wildlife would be significant (Impact 5.6-9). Mitigation Measure 5.6-9 would reduce impacts to less than significant levels." Mitigation Measure 5.6-9 describes the Siting Criteria

C-7 The MSCP Subarea Plan requires that a weed control program is prepared, which would be a condition of approval for the Project. Because compliance with the MSCP Subarea Plan is a requirement, the preparation of a weed control program would be required during subsequent actions within the Project site and as such, a weed control program is not listed as a mitigation measure.

Additionally, the Preserve Owner Manager (POM) prepares an annual work plan based on the fiscal calendar year. The purpose of the work plan is to provide a summary of proposed monitoring and management tasks to be performed on conveyed lands under POM management in using funds generated by Community Facilities District 97-2.

Monitoring and management tasks are based on the priorities identified in the Biota Monitoring Plan in the Otay Ranch Phase 2 Resource Management Plan. This includes Invasive Species Treatment. For all herbicide activities, a field crew with annual pesticide training—under the supervision of a Qualified Applicator and a biologist—will spray weeds within the proposed non-native plant treatment areas.

C-8 Similar to the response above for comment C-4, requiring future Quino checkerspot butterfly surveys prior to the issuance of clearing, grubbing, or grading permits per mitigation measure 5.6-3 is appropriate because construction timing is unknown at this time. This allows for current information to be collected close to the time of potential impact, which will provide better information and allow for a pre-construction consideration of these potential impacts. The Final EIR has been revised to remove the sentence on historic sightings.

C-9 Access to the preserve will be restricted. The location and type of access controls (i.e., gates, fencing, post markers and signage) shall be incorporated into the Landscape Master Plan to the satisfaction of the Development Services Director.

Figure 3-4 of the DEIR has been updated to reflect the latest draft of the Otay Trail Alignment Study which does not include the trail within the northern section of Salt Creek. The Otay Trail Alignment Study is still in the early designing stages and will undergo future environmental review. As the details are subject to change, the updated trails on Figure 3-4 are not proposed by the Project but represent the best information available at this time.

C-14 cont.

Analysis for Planned and Future Facilities, but nothing in the measure directly addresses domestic animal predation or attraction of natural predators. Additional measures to deter domestic animal predation and the attraction of natural predators should be included in the project. These may include dogs being kept on leash and placement of animal-proof covers on trash receptacles.

C-15

15. The DEIR correctly identifies mitigation ratios consistent with Table 5-3 of the City's SAP for mitigation within the preserve. The DEIR does not specifically identify mitigation for the project. The Department requests the opportunity to review and comment on the mitigation plan for the project, along with restoration plans developed per the mitigation measures in 5.6-10, as well as the Preserve Edge Plan and siting criteria analysis, and Area Specific Management Directives developed for the project.

We appreciate the opportunity to comment on the subject DEIR. If you have questions regarding this letter, please contact Elyse Levy of the Department at Elyse.Levy@wildlife.ca.gov or (858) 467-4237.

Sincerely,

Gail K. Sevrens
Environmental Program Manager
South Coast Region

ec: State Clearinghouse
Karen Goebel, USFWS

C-10 Mitigation measure 5.6-7 has been revised to require a 900-foot avoidance buffer unless a different buffer is recommended by the City-approved biologist and approved by the City, CDFW, and USFWS.

C-11 Mitigation measure 5.6-8a has been revised to require a 300-foot avoidance buffer (500 feet for raptors) unless a different buffer is recommended by the City-approved biologist and approved by the City, CDFW, and USFWS. In addition, the timing of the survey was changed from 10 days prior to construction to seven days prior to construction. It is not feasible to conduct the survey, prepare the report, and obtain City and Wildlife Agency concurrence within three days prior to starting work.

C-12 Mitigation measure 5.6-4 includes grading restrictions during the gnatcatcher nesting season, consistent with the Chula Vista SAP. The mitigation measure has been revised to include CDFW and USFWS concurrence for modifications to the 300-foot buffer width. Mitigation measure 5.6-10c does not describe the specifics of how restoration would be implemented, and thus does not need to specify gnatcatcher avoidance measures.

C-13 The Preserve Edge Plan has been updated to also refer to Cal-IPC and SDMMP invasive plant list.

C-14 The City's Municipal code, 6.24.030, requires dog owners to restrain their dogs in public with few exceptions. Regarding trash covers, because there are no trash receptacles within 100 feet of the preserve edge, trash covers are not necessary and are not required.

C-15 The City will coordinate with the Wildlife Agencies on the equivalency findings and mitigation before issuing the HLIT permit. Coordination will provide the Department an opportunity to review and comment on the mitigation plan for the Lake Property, restoration plans, siting criteria analysis and Area Specific Management Directives. The Preserve Edge Plan can be reviewed at: http://www.chulavistaca.gov/home/showdocument?id=16479 (part 1) and http://www.chulavistaca.gov/home/showdocument?id=16481 (part 2).

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ecological Services
Carlsbad Fish and Wildlife Office
2177 Salk Avenue, Suite 250
Carlsbad, California 92008

In Reply Refer To:
FWS-SD-15B0106-18CPA0182

April 6, 2018
Sent by Email

Mr. Steve Power
City of Chula Vista
276 Fourth Avenue
Chula Vista, California 91910

Subject: Draft Environmental Impact Report for the University and Innovation District Project, City of Chula Vista, County of San Diego, California

Dear Mr. Power:

This letter provides the U.S. Fish and Wildlife Service (Service) comments on the February 2018 draft Environmental Impact Report (DEIR) for the University and Innovation District Sectional Planning Area (SPA) Plan Project in the City of Chula Vista (City) and reflects our telephone conversation with City staff on April 2, 2018.

On January 11, 2005, the Service issued a section 10(a)(1)(B) permit pursuant to the Endangered Species Act of 1973 (Act), as amended (16 U.S.C. 1531 *et seq.*), for the City's Multiple Species Conservation Program (MSCP) Subarea Plan. The MSCP is a comprehensive, long-term habitat conservation planning program that addresses the needs of multiple species and the preservation of natural vegetation communities within the southwestern subregion of San Diego County. The MSCP also addresses the loss of covered species and their habitats due to the direct, indirect, and cumulative impacts associated with land development. The City's MSCP Subarea Plan and its associated Implementing Agreement and permit are the means by which the City has obligated to assemble the MSCP Preserve and to mitigate for impacts to covered species and their habitats.

The proposed project involves implementation of a Sectional Planning Area plan for both university and research park development on approximately 380 acres of land located in the southern section of the City near Salt Creek. The 352.8-acre Main Campus Property is identified as a "covered" project in the City's MSCP Subarea Plan, but the 30.5-acre Lake Property is within a development area outside of any defined covered project. We offer the following comments to ensure consistency with the Subarea Plan's conservation goals.

D-1

1. We recommend the progress toward implementing the Quino Checkerspot Butterfly Recovery Component (section 4.4 of the MSCP Subarea Plan) including the Quino Habitat Restoration/Enhancement Program and Preserve Management Endowment Fund (PMEF; Subarea Plan page 8-10) be assessed and that an evaluation of the project's obligation to contribute to the PMEF be included in the final EIR;

D-1 Please see the response above for comment C-2.

2. The Lake Property and offsite impacts associated with the Main Campus Property (e.g., Planned and Future Facilities) are not included as Covered Projects in the City's MSCP Subarea Plan and are, therefore, required to demonstrate consistency with the Habitat Loss and Incidental Take (HLIT) ordinance (section 5.2.2 of the MSCP Subarea Plan). The DEIR did not provide a complete analysis of HLIT consistency because no project-specific species data were available. We request project-specific species surveys as soon as possible to allow the City to adequately evaluate HLIT consistency. If surveys are delayed, we are concerned that project designs will advance to a point where it will be difficult to change details in response to HLIT findings;

D-2

3. As described in the DEIR, offsite impacts from the Lake property will extend into land included in Multiple Habitat Planning Area (MHPA) for the City of San Diego MSCP Subarea Plan. The DEIR states that these impacts will be addressed through the City of Chula Vista's MSCP Subarea Plan process (e.g. HLIT ordinance). The project should ensure consistency with the City of San Diego's MHPA requirements as well, and we recommend the City of Chula Vista coordinates directly with the City of San Diego to ensure that the project is consistent with each jurisdiction's subarea plans; and

D-3

4. The DEIR does not specifically describe where biological impacts from the project will be mitigated. Given the quality of the habitat and location adjacent to existing conserved lands managed by the Preserve Owner Manager (POM), we recommend conservation of the remainder of Lake Property and in perpetuity management by the POM as part of the mitigation for the project.

D-4

Thank you for the opportunity to comment on the subject DEIR. If you have any questions, please contact Eric Porter at 760-431-9440, extension 285.

Sincerely,

DOREEN STADTLANDER

Digitally signed by DOREEN STADTLANDER
Date: 2018.04.06 11:56:08 -07'00'

for Karen A. Goebel
Assistant Field Supervisor

cc:
Gail Sevrens, California Department of Fish and Wildlife, San Diego, CA

D-2 Similar to the response above for comment C-4, requiring Project-specific sensitive species surveys prior to the issuance of clearing, grubbing, or grading permits is appropriate because construction timing is unknown. Finalizing the HLIT findings now would produce information that would likely be outdated by the time construction of the Project occurs. The City will coordinate with the Wildlife Agencies on the HLIT findings CDFW and USFWS concurrence for the HLIT findings prior to issuing the HLIT permit.

D-3 Please see the response above for comment C-2 and the attached draft MHPA findings. As stated, total upland impacts (Tiers I- IIIB) less than 0.1 acre are not considered significant and do not require mitigation. Because no mitigation would be required, coordination with the City of San Diego is not necessary.

D-4 Mitigation Measure 5.6-10a has been revised to state that mitigation in the area of the Project, including within the Lake Property, will be considered first, if feasible.

OTAY WATER DISTRICT
...Dedicated to Community Service
2554 SWEETWATER SPRINGS BOULEVARD, SPRING VALLEY, CALIFORNIA 91978-2004
TELEPHONE: 670-2222, AREA CODE 619 www.otaywater.gov

March 21, 2018

Project: d0028-090277
Activity: 3111

Steve Power, AICP
City of Chula Vista
Planning & Development Services
276 Fourth Avenue
Chula Vista, CA 91910

Subject: University and Innovation District SPA Plan Draft EIR

Dear Mr. Power:

E-1 As per Section 62.01 of the Otay Water District's (District) Code of Ordinances, "To provide for future line extensions, pipelines installed within public streets must be constructed to the subdivision boundary and pipelines not installed within a public street must be installed in a District easement or right-of-way and must extend across the frontage of the parcel or parcels to be served."

The District has no objection to the subject project (Project). The District approved the Water Supply Assessment and Verification Report (WSA&V) at its October 5, 2016 Board meeting. The developer is required to submit a Sub-Area Master Plan and a calculation of water demands prior to the commencement of the Project. The developer is required to annex parcels into an improvement district.

E-2 The developer will be required to submit improvement plans for District approval and extend the water mains to front all properties in question. The developer will be required to extend all proposed potable and recycled water pipelines surrounding the Project, per the District's Master Plan. If service laterals do not exist for the Project, the applicant must pay to have the District install them.

E-3 As per Policy 26 of the Code of Ordinances (Policy), all reimbursement requests must be presented to the District's Board (Board) prior to and upon completion of construction, before any reimbursement payments will be made. It also implements a deadline when reimbursement requests must be received by the District. Under this Policy, developers are required to submit their request for reimbursement within five (5) years from the date the agreement was approved by the Board. It also requires that existing agreements, which have exceeded the Sunset limit of five (5) years, be presented to the Board for a new extension.

E-1 Comment is noted that the District has no objection to the proposed Project and that a Water Supply Assessment and Verification Report was approved in by the District in October 2016. Pursuant to Senate Bill 221, which is intended to promote collaborative planning between local water suppliers and cities and counties, the future developer of the Project will be required to submit a subarea master plan and calculation of proposed water demands. These requirements are discussed in the Public Facilities Financing Plan, which is included as Appendix A to the SPA Plan. No changes to the Draft EIR are necessary.

E-2 Comment is noted that the ultimate developer of the Project will be required to submit improvement plans for District approval and that if service laterals do not exist for the Project, the applicant will pay for the District to install them. The extension of service laterals is discussed in the Public Facilities Financing Plan, which is included as Appendix A to the SPA Plan. No changes to the Draft EIR are necessary.

E-3 Comments are noted about reimbursement requests made to the Board. No changes to the Draft EIR are necessary.

E-4 Prior to the purchase of any recycled water meter(s), irrigation plans must be: (1) designed to District water agency standards for reclaimed standards/specifications, and (2) submitted to the District and the County Department of Environmental Health for plan check and approval. The developer must contact the District for further requirements.

E-5 Each service must have an approved reduced pressure principle backflow device purchased and installed by the owner. The fire service line will not be allowed to be connected to any buildings; the line will be intended for fire services purposes only. Failure to comply with this request will result in violation of the District's Code of Ordinances and will be subject to penalties determined by the District. Water furnished for fire hydrant or fire sprinkler service shall be used only for fire protection purposes and shall be connected to a District water main. Where service is provided for fire hydrant or fire sprinkler service on privately-owned land, the service shall be provided by the District at the property line of land to be served. The developer should contact the Project's fire agency for any fire protection requirements.

E-6 **Water availability is subject to all the District requirements in effect at this time and you are strongly encouraged to adopt water conservation measures throughout the development.**

The District's Engineering Public Services Division can be contacted at (619) 670-2241, or visit the website at www.otaywater.gov for further requirements regarding inspection services, water main extensions, service laterals, backflow devices, meter costs, Code of Ordinances, and any other conditions that may have arisen since this letter was written for this Project.

Also, enclosed are the documents you forwarded with your review request.

Sincerely,
OTAY WATER DISTRICT

Dan Martin, P.E.
Engineering Manager

DM:mlc

Enclosure: Water Resources Master Plan (Revised April 2013) – Map Exhibit

P:\Public-S\LETTERS\Agency Comment Ltrs (City Of Chula Vista And Co. Of San Diego\2018 Laserfiche\University And Innovation District SPA Plan D0026-090277 3-21-18.Docx

E-4 Comment noted that before purchasing recycled water meters, irrigation plans must be designed and submitted for District review and approval. No changes to the Draft EIR are necessary.

E-5 Comment noted that services for water must include specific approved devices related to fire protection. No changes to the Draft EIR are necessary.

E-6 Comment noted that water conservation measures are strongly encouraged. A Water Conservation Plan is included as part of the Project (see Appendix G of the SPA Plan) and includes water conservation measures that are beyond those required by local and state governments. The Water Conservation Plan is described in Section 3.3.13.F on page 3-23 of the EIR Project Description, including measures to install hot water pipe insulation, pressure reducing valves, water efficient dishwashers, dual flush toils, and water efficient landscaping.

San Diego County Archaeological Society, Inc.
Environmental Review Committee

1 March 2018

To: Mr. Steve Power, AICP
Principal Planner
City of Chula Vista
276 Fourth Avenue
Chula Vista, California 91910

Subject: Draft Environmental Impact Report
University and Innovation District SPA Plan Project
EIR 14-01

Dear Mr. Power:

I have reviewed the cultural resources aspects of the subject DEIR on behalf of this committee of the San Diego County Archaeological Society.

Based on the information contained in the DEIR and its cultural resources appendix, the framework provided for future treatment of cultural resources appears thorough and we have no comments to offer at this time. Our detailed review will be at the individual project level, for which we request the City to include SDCAS .

F-1

Thank you for providing this DEIR to us for review and comment.

Sincerely,

James W. Royle, Jr., Chairperson
Environmental Review Committee

cc: Helix Environmental
SDCAS President
File

P.O. Box 81106 San Diego, CA 92138-1106 (858) 538-0935

F-1 This comment is noted that the San Diego County Archaeological Society has no comments to offer at this time and that detailed review will occur at the individual project level.

County of San Diego

MARK WARDLAW
DIRECTOR

PLANNING & DEVELOPMENT SERVICES
5510 OVERLAND AVENUE, SUITE 310, SAN DIEGO, CA 92123
(858) 694-2962 • Fax (858) 694-2555
www.sdcounty.ca.gov/pds

KATHLEEN A. FLANNERY
ASSISTANT DIRECTOR

April 11, 2018

Steve Power AICP
Principal Planner
City of Chula Vista
276 Fourth Avenue
Chula Vista, CA 91910

Via e-mail to: spower@chulavistaca.gov

REQUEST FOR COMMENTS ON THE NOTICE OF AVAILABILITY OF THE UNIVERSITY AND INNOVATION DISTRICT SPECIFC PLAN AREA PROJECT DRAFT ENVIRONMENTAL IMPACT REPORT

Mr. Power,

The County of San Diego (County) reviewed the City of Chula Vista's Notice of Availability of the University and Innovation District (UID) Specific Plan Area Plan Draft Environmental Impact Report (DEIR) dated February 26, 2018 (Project).

The County appreciates the opportunity to review the Project and offers the following comments for your consideration. Please note that none of these comments should be construed as County support for this Project.

AIR POLLUTION CONTROL DISTRICT

The San Diego County Air Pollution Control District (APCD) is charged with improving the region's air quality to protect public health and the environment. The Project provides an opportunity to incorporate clean technologies while providing education, economic, and housing opportunities in Chula Vista.

The air quality mitigation measures included in the DEIR (discussed below) address some of the operational air quality impacts of the proposed development but, according to the DEIR, do not mitigate the emission levels to below the significance thresholds. The APCD suggests the consideration of technologically and economically feasible emission reductions that go above and beyond those achieved by the Project through existing requirements and help to further mitigate the potentially significant impacts on air quality.

G-1

The APCD offers the following comments:

1. Page 1-27, 1-28, 5.4-22 and 5.4-23 – the document references mitigation measures 5.10-1a – 5.10-1d. These mitigation measures do not seem to be specified in the environmental document. Please revise the document to articulate these mitigation measures.

G-1 Mitigation Measures 5.10-1a through 5.10-1d were omitted from the Section 5.10 of the Draft EIR and included as Project design features EIR Chapter 3, Project Description; however, reference to these measures were mistakenly not omitted from Sections 1 and 5.4. The Final EIR has been updated to omit references to these measures throughout the EIR.

G-2

2. Page 5.4-22, Mitigation Measure 5.4-1a – this section addresses Air Quality-Related Construction Best Management Practices (BMPs). The Mitigation Measure should note that the listed measures are in addition to the requirements of APCD Rule 55 referenced on page 5.4-8 and 5.4-9.

G-3

3. Page 5.4-23, 24 section 5.4.6 B.2 – this section addresses Air Quality Violations. The DEIR states, "There are no other feasible mitigation measures available at the Project level to reduce vehicular emissions other than reducing vehicle trips." The APCD encourages and supports transportation aspects of the plan including complete streets, traffic calming, improved transit, pedestrian, and bicycle networks. Further, we believe there are supporting measures that could be considered as possible mitigation, such as the Tier 1 and Tier 2 voluntary measures listed in the Guide to the 2016 California Green Building Standards Code:
    a. Clean air vehicle parking (§A5.106.5.2).
    b. Electric Vehicle charger wiring and the necessary electrical capacity for new construction (§A5.106.5.3).
    c. Bicycle parking requirements – short term and long term, racks, lockers (§5.106.4).
    d. Showers, lockers, and changing rooms for active transportation users (§A5.106.4.3).

G-4

4. Page 5.4-24 Section 5.4.6 B.2 – this section notes, "Additionally, there are no feasible mitigation measures currently available to reduce area sources of emissions without regulating the purchases of individual consumers." Although the DEIR specifies low Volatile Organic Compounds (VOC) architectural coatings, we believe low VOC flooring and insulation could also be considered as in the Tier 1 and Tier 2 voluntary measures listed in the Guide to the 2016 California Green Building Standards Code:
    a. Finish material pollutant control. Use of low VOC construction materials such as architectural coatings, flooring and insulation (§A5.504.4).

G-5

5. The Project also includes an Air Quality Improvement Plan (AQIP) (Appendix B). In reviewing that document, the APCD has the following comments:
    a. Page B-7 C. Intent of the AQIP. This paragraph could articulate more clearly the intent of the AQIP to reduce conventional air pollutants as well as greenhouse gas emissions. For example, "The AQIP provides an analysis of air pollution impacts which would result from the proposed development and demonstrates the best available design to reduce vehicle trips, maintain or improve traffic flow, reduce vehicle miles traveled, and reduce Greenhouse Gas (GHG) direct or-and indirect emissions of conventional air pollutants (such as particulate matter, volatile organic compounds and nitrogen oxides) and greenhouse gases (GHG). This AQIP also demonstrates…"
    b. Page B-11. The most recent version of the Regional Air Quality Strategy was adopted by the APCD in 2016.
    c. Page B-15 California Air Resources Board): Scoping Plan. Last paragraph – the latest Scoping Plan was adopted in December of 2017. The AQIP should be revised to reflect the information from that scoping plan.

G-2 The Final EIR has been updated to include the requested note in Measure 5.4-1a.

G-3 The measures recommended are already included as part of the SPA Plan. As detailed in Chapter 6, Sustainability, the SPA Plan includes an extensive list of Parking and Transit Demand Management Recommendations. The Project will include installation of electric vehicle supply equipment for use by plug-in electric vehicles. Finally, bicycle racks will be distributed throughout the University Innovation District area, while shower and bicycle storage facilities will be provided at employment centers.

G-4 The primary source of VOCs related to operations is consumer products. The suggestions provided in the comment are for construction materials. Installation of low VOC flooring or insulation will not change the operational period emissions. The requirements in mitigation measures 5.4-1a and 5.4-1b for construction impacts adequately address construction-related air quality impacts without the low VOC flooring and insulation measures.

G-5 This comment does not address the Draft EIR and provides suggestions for updating the Sectional Planning Area (SPA) Plan. No changes to the Draft EIR were made in response to these comments.

d. Page B-29 AQ-1. The last point identifies the use of architectural coatings with VOC content of "50" grams per liter or less. This should be "10" grams per liter or less, as required by the DEIR, Mitigation Measure 5.4-1a.

e. Page B-29. BMPs listed in Rule 55 could be included in the measures listed in AQ-1 rather than being broken out separately, or could be listed as AQ-3, since they do not seem to fit with AQ-2 "Use of Tier 4 Final Off-Road Equipment".

f. Page B-33 outlines the land use policies that support cleaner transportation. This paragraph could also include proposals that support electric vehicles such as electric vehicle charging station requirements for new construction, incentive programs for electric car share and bike share, and preferred parking options for clean vehicles and carpools.

G-5 cont.

g. Page B-42. Table 12 Transportation-Related Measures could include a measure that incorporates active transportation support facilities such as secure bike parking, showers, and locker facilities in buildings. Energy-Conservation Related Measures could include a measure requiring the installation of EV charging stations, not only pre-wiring for eventual installation.

h. Page B-43. Table 12 Construction Related Measures to Improve Air Quality should list the VOC content of architectural coatings as "10" grams per liter or less, as required by the Draft EIR, Mitigation Measure 5.4-1a.

i. Page B-43. Table 12 Construction Related Measures to Improve Air Quality should specify "Tier 4 final" to reflect the latest emission standard. Future requirements could specify using the cleanest equipment that is feasibly available to incorporate hybrid or electric equipment as it becomes available and cost effective.

TRAFFIC/TRANSPORTATION

G-6

The Department of Public Works (DPW) concurs with the project's impacts and proposed mitigation phasing at Proctor Valley Rd./San Miguel Rd. (Traffic Signal prior to 5,164 Equivalent Dwelling Unit) and a fair share payment due to their cumulative impact at San Miguel Rd./Bonita Rd. However, DPW recommends a study of additional roadway segments as outlined below.

1. DEIR page 5.3-10 (Section 5.3.1(B.1.c)) should specifically cite County roadway segments (e.g., Proctor Valley Road, San Miguel Road, and Bonita Road).

G-7

2. Analysis of roadway segment operations (and any potential mitigation measures) should include the following County roadway segments:

   a. Proctor Valley Road
      i. San Miguel Road to north of San Miguel Ranch Road;
      ii. East of City of Chula Vista towards Jamul/Hollywood Casino;
      iii. Traffic study should assess potential impacts to Proctor Valley Road east of the City of Chula Vista. The Hollywood Casino and/or future developments in the area may attract trips to/from the proposed project.

   b. San Miguel Road: Bonita Road to Proctor Valley Road;

G-6 Tables 6-1 and 6-2 of the TIA and Tables 5.3-3 and 5.3-4 of the Draft EIR identify the jurisdictions of intersections, including San Diego County.

G-7 In response to 2(a)(i), this segment and intersections along this segment are included in the analysis. See Tables 6-1, 6-2, 9-1, 9-2, of the TIA.

In response to 2(a)(ii) and (iii), based on the trip distribution for the Project, the Project would not add a large amount of traffic to this roadway. There are virtually no other destinations other than the casino along this route, which is more than 15 miles from the Project site. Traffic attracted by the casino is also analyzed in the environmental review documentation for that project.

In response to 2(b), this segment and intersections along this segment are included in the analysis. See all intersection and segment analysis tables in the TIA and Draft EIR.

G-7 cont.

c. Bonita Road
   i. City of Chula Vista to Central Avenue;
   ii. Central Avenue to San Miguel Road.

PARKS AND RECREATION

1. The Project is immediately north/northwest of the Otay Valley Regional Park (OVRP) and adjacent to the Otay Ranch Preserve.

   a. The County partners with the Cities of San Diego and Chula Vista to plan, operate, and maintain OVRP through a Joint Exercise Powers Agreement.

G-8

      i. As an OVRP implementing partner, the Department of Parks and Recreation (DPR) appreciated the incorporation of trails and trail connections, as discussed in the Preserve Edge Plan, including those OVRP trails within the Project area.

   b. The County and City of Chula Vista are joint Preserve Owner Managers (POM) for the Otay Ranch Preserve. Any potential impacts to preserve lands conveyed to the POM including off-site infrastructure improvements should be discussed and coordinated with County POM staff, Melanie Tylke, at (858) 966-1377 or Melanie.Tylke@sdcounty.ca.gov.

VECTOR CONTROL PROGRAM

1. The County of San Diego Vector Control Program (VCP) is responsible for the protection of public health through the surveillance and control of mosquitoes that are vectors for human disease, including West Nile virus.

2. The VCP respectfully requests that the DEIR address potential impacts from possible mosquito breeding sources created by the project and that the projects be designed and constructed in a manner to minimize those impacts. Specifically, ensure construction-related depressions created by grading activities, vehicle tires, and excavation do not result in depressions that will hold standing water. In addition, ensure drains, BMPs, detention ponds, and other structures do not create a potential mosquito breeding source. Any area that is capable of accumulating and holding at least ½ inch of water for more than 96 hours can support mosquito breeding and development. Finally, if habitat remediation is required for the project, the design should be consistent with guidelines for preventing mosquito habitat creation.

G-9

3. Please note, the VCP has the authority pursuant to state law and County Code to order the abatement of any mosquito breeding that does occur either during construction or after the project is completed that is determined to be a vector breeding public nuisance. The VCP will exert that authority as necessary to protect public health if the project is not designed and constructed to prevent such breeding.

4. For your information, the County Guidelines for Determining Significance for Vectors can be accessed at http://www.sandiegocounty.gov/content/dam/sdc/pds/docs/vector_guidelines.pdf and the California Department of Public Health Best Management Practices for Mosquito Control in California is available at: http://www.cdph.ca.gov/HealthInfo/discond/Documents/BMPforMosquitoControl07-12.pdf.

The County appreciates the opportunity to comment on this Project. We look forward to receiving future documents related to this Project and providing additional assistance at your request. If you have any questions

G-7 cont. In response to 2(c)(i) and (ii), these two segments and intersections along this segment are included in the analysis. See Tables 6-1, 6-2, 9-1, and 9-2 of the TIA.

G-8 These comments are noted that the County partners with the cities of San Diego and Chula Vista to operate the Otay Valley Regional Park through a Joint Exercise Powers Agreement and potential impacts to preserve lands that are conveyed to the Preserve Owner Manager, including off-site infrastructure improvements, will be discussed and coordinated with the County.

G-9 At this time, grading plans for the Project are preliminary and would be further refined prior to the submittal for a grading permit. As a result, details related to the creation of mosquito breeding sources are not available. Further, vector control is not included as a threshold of significance in the EIR, nor is it typically evaluated in environmental analyses in the City of Chula Vista in Otay Ranch. As noted in the comment, the County of San Diego Vector Control Program has the authority per state law and County Code to abate mosquito breeding during or after construction, and future development within the Project site would be subject to all applicable state and federal laws related to vector control as referenced in this comment.

regarding these comments, please contact Timothy Vertino, Land Use / Environmental Planner, at (858) 495-5468, or via e-mail at timothy.vertino@sdcounty.ca.gov.

Sincerely,

Eric Lardy

Eric Lardy, AICP
Group Program Manager, Advance Planning Division
Planning & Development Services

E-mail cc: Victor Avina, Policy Advisor, Board of Supervisors, District 1
Vincent Kattoula, CAO Staff Officer, LUEG
Timothy Vertino, Land Use / Environmental Planner
Kathleen Keehan, Air Quality Specialist, SDAPCD
Jeff Kashak, Land Use / Planner, DPW
Emmet Aquino, Project Park Manager, DPR
Melanie Tylke, Land Use / Environmental Planner, DPR
Mary Bennett, Administrative Analysist, DEH

The City of SAN DIEGO
Planning Department

April 25, 2018

City of Chula Vista
Development Services Department
Attn: Steve Power AICP, Principal Planner
276 Fourth Avenue
Chula Vista, CA 91910

Submitted via email to: spower@chulavista.ca.gov

Subject: **CITY OF SAN DIEGO COMMENTS ON THE DRAFT ENVIRONMENTAL IMPACT REPORT (DEIR) FOR THE UNIVERSITY AND INNOVATION DISTRICT SECTIONAL PLANNING AREA PLAN (SPA PLAN) DEIR No. 14-01**
SCH No. 2014121097

The City of San Diego ("City") Planning Department has received the Draft Environmental Impact Report (DEIR) for the University and Innovation District Sectional Planning Area Plan (SPA Plan), prepared by the City of Chula Vista and distributed to applicable City departments for review. The City, as a Responsible Agency under CEQA, has reviewed the DEIR and appreciates this opportunity to provide comments to the City of Chula Vista. In response to this request for public comments, the City has identified potential environmental issues that may result in a significant impact to the environment. Continued coordination between the City, the City of Chula Vista, and other local, regional, state, and federal agencies will be essential. Following are comments on the DEIR for your consideration.

Myra Herrmann - Senior Planner/Archaeology/Tribal Liaison
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General Comments

H-1 Chapter 1 – Executive Summary, Section 1.3.6 of the DEIR addresses specific discretionary actions to be taken by the City of Chula Vista for the proposed project, while also acknowledging that future applicants would need to apply for permits from several state and federal agencies to develop the project site. However, the DEIR fails to identify that permits would be required from the City of San Diego for implementation of the mitigation measures and work necessary within the City of San Diego public right-of-way (ROW). Such mitigation measures include specific roadway improvements at Avenida De Las Vistas/Heritage Road (Mitigation Measure 5.3-5 and 5.3-12a), the Heritage Road/Otay Mesa Road Intersection (5.3-12b), and City of San Diego/Caltrans intersections at Palm Avenue/I-805 NB Ramps (Mitigation Measures 5.3-4a and 5.3-4b).

H-2 Chapter 5-15 – Public Utilities, wastewater within the Otay Ranch area will eventually be conveyed to the Salt Creek Sewer Interceptor that discharges into the City of San Diego's Metropolitan Wastewater Sewage system, owned and operated by the City's Public Utilities Department (PUD). This wastewater would ultimately be treated by the City of San Diego at the Point Loma Wastewater Treatment Plant. The Point Loma Wastewater Treatment Plant currently treats

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H-1 The City of San Diego and the County of San Diego have been added to Section 1.3.6 of the EIR as local agencies that would require permits for improvements made within their right-of-way.

H-2 The City of San Diego has been added to Section 1.3.6 in the Final EIR as a local agency that would issue subsequent discretionary actions related to future public utility agreements between the cities of Chula Vista and San Diego.

H-2 cont.

approximately 139.2 mgd of wastewater for the City of San Diego and 15 other cities and districts in the region, and has a maximum daily treatment capacity of 240 mgd. This section of the DEIR acknowledges that buildout of the Chula Vista General Plan would require 29.89 mgd, which is 9.026 mgd beyond existing capacity, and as such, was not further analyzed as a part of the current project and calls out a Significant/Unavoidable impact. This section also acknowledges the need to acquire rights for additional capacity in the City of San Diego's Metro System, while also evaluating construction of a new wastewater treatment plant to address future capacity and the need for additional project-level environmental review. As such, Chapter 1, Section 1.3.6 of the DEIR should be amended to acknowledge subsequent discretionary actions by the City of San Diego for negotiating future public utility agreements with the City of Chula Vista, allowing for reliance on this document to the extent practicable for such actions.

H-3

Cultural Resources
Although the City of Chula Vista is Lead Agency under for CEQA for this project, if human remains are encountered within any City-owned public right-of-way or open space during any phase of the archaeological mitigation program (testing, data recovery or monitoring), consultation in accordance with the California Health and Safety Code and the Public Resources Code must include coordination with qualified archaeological staff from the City of San Diego in order to assure that resources under our jurisdiction are being treated in accordance with City requirements. The treatment of human remains, associated artifacts, and soils discovered on projects within the City's jurisdiction may result in a different recovery, repatriation, or curation process than would be required under Chula Vista's permitting authority. This is true not only for Native American human remains, but for any archaeological site within the City jurisdiction. For this reason, early coordination on any archaeological issues within City-owned public ROW or managed open space will be required. This may require modification to the proposed archaeological mitigation program or acknowledgment that additional measures may be required by the City for resources within our permitting authority.

H-4

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The Proposed project is located immediately north/northwest of the Otay Valley Regional Park (OVRP) and adjacent to the Otay Ranch Preserve. The City of San Diego partners with the City of Chula Vista and County of San Diego to plan, operate, and maintain OVRP through a Joint Exercise Powers Agreement (JEPA). As an OVRP implementing partner, the City of San Diego appreciates that trails and trail connections have been incorporated into the Plan, as discussed in the Preserve Edge Plan, including those OVRP trails within the project area. Comments are provided on both the SPA PLAN (Chapter 5) and the DEIR as follows:

University and Innovation Distract SPA Plan Chapter 5 - Recreation and Open Space

Section 5.2 addresses Open Space within the Plan. Subsection 5.2.2, specifically addresses the Preserve Edge along with a subset of requirements to create a buffer zone between development and the Otay Ranch Preserve; specifically, with respect to Paving and Surfaces ("C") and Other Applicable Requirements ("E"). As such, the City requests that the Otay Valley Regional Park Trails Guidelines be added to this list to ensure that the SPA Plan considers the Guidelines when determining trail surfacing. More specifically, items 3 and 4 from the Design and Layout

H-3 If human remains are encountered within any City of Chula Vista-owned public right-of-way or open space during any phase of the archaeological monitoring program, coordination with qualified archaeological staff from the City of San Diego would be included in accordance with existing City of San Diego requirements. No changes to the Draft EIR were necessary in response to this comment.

H-4 This comment pertains to the SPA Plan and is not a comment on the environmental analysis provided in the Draft EIR. No changes to the Draft EIR were made in response to this comment.

Subsection of Section IV: Development Guidelines of the OVRP Trails Guidelines should also be added to the Paving and Surfaces list ("C") as follows:

3. Consider alternative surface materials for erosion control including gravel, fiber matting, polymer-based compounds, and mulching with organic or non-organic materials. Trails and maintenance/emergency roads shall not be paved unless otherwise specified.

4. Trail surfaces should permit a variety of recreational uses and be easily maintained. Trail surfaces shall be constructed from materials that provide a firm, smooth surface and comply with ADA guidelines, where applicable. Native soil, decomposed granite or other alternative environmental friendly trail surface material may be permitted where appropriate.

H-4 cont.

Comments on the Draft EIR – 3.3.2 Off-Site Improvements:
Proposed off-site utility improvements are shown on Figure 3-2 and include drainage improvements (including a detention basin) to the south of the Main Campus Property for storm water conveyance, and sewer improvements to serve the Lake Property. For the Main Campus Property, off-site drainage would be conveyed within pipelines that would follow an existing trail easement to the south of the Project site. For the Lake Property, off-site improvements would be necessary for the proposed sewer system to be located within existing access roads and would connect to the Salt Creek Interceptor between the Lake Property and Main Campus Property. Also, the proposed Project would include a rural trail along an existing 8-foot-wide dirt road within the Preserve as a link between the trails within the UID, Village 10, and the Salt Creek Sewer Interceptor/Greenbelt Trail; the construction of this trail would be consistent with the Chula Vista Multiple Species Conservation Program (MSCP) Subarea Plan (a comprehensive, long-term habitat conservation plan that addresses the needs of multiple sensitive plant and animal species and the preservation of natural vegetation communities in southern San Diego County). The proposed rural trail would be located just south of the Project site and is shown as a yellow line on Figure 3-4, Pedestrian and Bicycle Circulation Plan.

H-5

The detention basin appears to be within the OVRP and Otay Ranch Preserve. The EIR, including Section 5.1.3 Impact Analysis, should analyze whether this use is compatible with the OVRP Concept Plan and the Otay Ranch Resource Management Plan (RMP) and address any conflicts/impacts and provide applicable mitigation.

Similarly, the Preserve Edge Plan (Figure 1) includes the Water Quality Basin which appears to receive much of the runoff from the Project and which is within the Otay Ranch Preserve and the OVRP, but does not address it in the text of the Plan or DEIR Impacts Analysis.

H-6

Finally, we request that the OVRP Citizen's Advisory Committee (CAC) be notified of the availability of the DEIR and provided the chance to review and comment.

H-7

H-5 The Otay Valley Regional Park Concept Plan states, "Much of the land within the Concept Plan is privately owned and has development potential based on existing zoning, land use plans and other development regulations. The Concept Plan does not change existing zoning, land use plans or add new development regulations. It does not preclude private development. It provides policy direction for the jurisdictions for coordinated land acquisition and development for the Regional Park within this framework of private property rights." Therefore, the OVRP Concept Plan does not govern the installation of detention basins, and analysis within the EIR is not necessary. The EIR and BTR analyze consistency with the Otay Ranch RMP in multiple locations throughout the documents, including EIR Section 5.1 (Land Use), Section 5.6 (Biological Resources), Section 4.12 (Agricultural Resources), and Section 6.0 (Cumulative Impacts) . The Project is consistent with the Otay Ranch RMP and all impacts are mitigated.

H-6 The "Water Quality Basin" shown on Preserve Edge Plan Figure 1 is the same detention basin labeled "Off Site Drainage" on EIR Figure 3-2. The detention basin is not addressed within the Preserve Edge Plan because the Preserve Edge Plan addresses edge effects of the Project itself, not the off-site utility improvements. However, impacts associated with the detention basin are discussed in Section 5.1 (Land Use), Section 5.2 (Aesthetics), Section 5.6 (Biological Resources), Section 5.7 (Cultural Resources), and Chapter 6 (Cumulative Impacts) in the EIR and the BTR. Also, detention basin impacts are analyzed in the EIR for Village 9 and the University Villages EIR.

H-7 A Notice of Availability of the DEIR was sent to the City of San Diego and County of San Diego representatives of the OVRP Citizen's Advisory Committee, and a chance to review and comment on the DEIR was provided.

Nicole McGinnis – Natural Resources Manager
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H-8

Acronyms and Abbreviations
The DEIR refers to the City of San Diego's Metropolitan Wastewater Department, which no longer exists and should reflect the Department's current name: Public Utilities Department. The City of San Diego Public Utilities Department manages the Metro System and requests the name be updated throughout the EIR.

Referencing Lower Otay Reservoir as a Drinking Water Reservoir
Lower Otay Reservoir and the land surrounding it has been owned and controlled by the City of San Diego as part of its water system for over one hundred years. The City's Public Utilities Department manages these lands for the overarching purpose of protecting water quality in the City's source waters. All other management goals are subordinate to ensuring the health and safety of the public's water supply.

Within the 699-page DEIR the only reference to the Lower Otay Reservoir as a drinking water reservoir can be found on page 5.11-19, which states that:

> *It should also be noted that the proposed treatment control BMPs would meet the applicable water quality requirements identified for Lower Otay Lake by the City of San Diego (which uses the lake as a drinking water source).*

H-9

Because of the significance of the reservoir to the City of San Diego's municipal water supply system and the fact that the Lake Property site drains directly to the reservoir, we request that the DEIR more explicitly state that Lower Otay Reservoir is owned and operated by the City of San Diego Public Utilities Department as a drinking water reservoir. Below are some recommended sections of the DEIR where this language should be included or updated:

- 1.1 Project Location and Setting
- 4.5 Surrounding Land Uses
- 5.1.1 Existing Conditions, Section B. Existing Conditions, Section 2. Surrounding Land Uses
- 5.1.3 Impact Analysis, Section 2 Incompatibility with Surrounding Land Uses
- 5.1.3 Impact Analysis, Section 4 Compatibility of the Off-Site Improvements and Grading with Surrounding Land Uses

H-10

Section 5.3 Transportation/Traffic
Within the Transportation/Traffic section of the DEIR, impact 5.3-24 and mitigation measure 5.3-24 are related to the Lake Property and the usage of Wueste Road. Below is the description of the impact and proposed mitigation measure from Page 5.3-92 of the DEIR.

> ***Impact** 5.3-24: Based on the conclusions in the 2001 EIR, traffic impacts from the Lake Property are assessed as potentially significant. An updated traffic analysis of the Lake Property was not included in the TIA for the UID because specific development plans are not currently available and uses assumed in the UID SPA Plan are similar or lower in density than those considered in the 2001 EIR. Therefore, a detailed traffic study would need to be prepared when development plans are available.*

H-8 The Final EIR has been updated to reflect the name change to the City's Public Utilities Department and has omitted reference to the City of San Diego's Metropolitan Wastewater Department throughout the document.

H-9 Additions to identify the City of San Diego as the owner and operator of Lower Otay Lake has been added to the EIR in sections 1.1, 4.5, and 5.1.1 in response to this comment. Additions were not added to Section 5.1.3 because there is no discussion of Lower Otay Reservoir in this section.

H-10 As noted, mitigation measure 5.3-24 requires subsequent traffic analysis prior to the approval of future development plans at the Lake Property. This future analysis would include a detailed and thorough traffic impact analysis and the City of San Diego will have opportunities to comment on mitigation measures for traffic impacts associated with the Lake Property. As stated in the Draft EIR, the proposed Project would not increase the permitted density at the Lake Property and as such, would not increase potential impacts associated with the Lake Property beyond those analyzed in the 2001 EIR.

Impact 5.3-24 Subsequent Traffic Analysis for Lake Property. *Prior to the approval of any detailed development plans for the Lake Property, a detailed traffic study shall be conducted by a City-approved traffic consultant. Specific mitigation measures for traffic impacts associated with the Lake Property shall be required at that time, to the satisfaction of the City Engineer, including any improvements related to any necessary roadway segments, intersections, and ingress-egress to reduce impacts to below a level of significance and to comply with the City's GMOC standards.*

H-10 cont.

The City of San Diego requests to be involved in the development and implementation of any mitigation measures for traffic impacts associated with the Lake Property. The only way to access the Lake Property is Wueste Road, which runs along the western shoreline of Lower Otay. As a drinking water reservoir, the water quality within the reservoir is extremely vital, and as such any project related impacts need to be properly identified and mitigated to promote the source water protection of the City's municipal water supply.

The City of San Diego would like to emphasize that a thorough and detailed analysis of the traffic impacts on Wueste Road must be completed. Although the Lake Property was analyzed in the 2001 EIR, traffic impacts on Wueste Road were not analyzed and this analysis is also missing in the DEIR. For this reason, the mitigation measures proposed and cumulative analysis in the Transportation/Traffic section of this DEIR are inadequate.

Section 5.6 Biological Resources

This section of the DEIR provides the following information regarding the Coastal Cactus Wren:

Coastal cactus wren. *Coastal cactus wren has potential to occur within portions of the Main Campus Property that support maritime succulent scrub. This non-listed, MSCP-covered species is known to occur in the local area and has been previously observed within scrub habitat to the immediate south of the Main Campus Property and west of the Lake Property. Impacts to coastal cactus wren would be considered potentially significant (Impact 5.6-8b).*

H-11

Impacts 5.6-8a through 8c: *Implementation of the Project could potentially result in potential significant direct and indirect impacts to the southern California rufous-crowned sparrow and coastal cactus wren, as well as potential impacts to raptors and breeding migratory birds.*

The City of San Diego has been actively working with regional partners on the restoration and re-establishment of coastal cactus wren within the County. The San Diego Management and Monitoring Program is actively leading these efforts and published the *South San Diego County Coastal Cactus Wren Conservation and Management Plan*, which identifies species distribution, habitat, connectivity gaps and potential connectivity restoration. Based upon this plan, the Salt Creek Preserve has one of the densest cactus wren populations in the county and the eastern edge of Lower Otay was identified as potential connectivity creation/restoration. Because of the location of Lake Property and the subsequent use of Wueste Road, the local cactus wren population will be negatively impacted. The DEIR should disclose these potential impacts and provide mitigation to limit disturbance to this species for all phases of the project.

H-11 Potential impacts to coastal cactus wren are listed as significant, and mitigation measure 5.6-8a would limit disturbance to this species and reduce potential impacts to less than significant.

Section 5.11 Hydrology and Water Quality

5.11.1 Existing Conditions

Although not a regulatory requirement for the project, please include the City of San Diego's Source Water Protection Guidelines which were directly utilized for the development of the bioretention and storm water BMPS within Appendix H.

H-12

The DEIR provides the following information regarding outfall erosion:

5.11.5 Mitigation Measures

> ***5.11-1f Outfall Erosion**: Prior to issuance of each grading permit, the project applicant shall monitor any erosion at the project's outfall at the Otay River and, prior to the last building permit for the project, obtain approval for and complete any reconstructive work necessary to eliminate any existing erosion and prevent future erosion from occurring, all to the satisfaction of the Development Services Director.*

Although only the outfall to the Otay River was specified for monitoring during the permit issuance and project implementation, the proposed project should include the outfalls and storm water infrastructure associated with the Lake Property for monitoring for erosion.

Appendix H: Water Quality Technical Report and Hydromodification Management Plan

Section 2.1.2 Identify Pollutants of Concern

H-13

When discussing the beneficial uses of inland surface waters, coastal waters and ground waters, the plan did not accurately identify the beneficial uses associated with Hydrologic Unit 910.20 and not Hydrologic Unit 910.31.

- Page 8: "*Based on the Water Quality Control Plan for the San Diego Basin (dated September 8, 1194 and amendments), the following section discusses the beneficial uses of coastal waters and ground waters, which are designated for Otay River.*" Beneficial uses for inland surface waters is also included, but this does not accurately depict the Hydrologic Area you are analyzing. It should be stated that the beneficial uses for both Hydrologic Unit 910.20 and 910.31 are included.

H-14

- Page 8 Inland Surface Waters section, states that these are the "*existing beneficial uses of inland surface waters for Otay River.*" Is this referring to the beneficial uses of Otay Valley Hydrologic area (unit 910.20)? Please include the beneficial uses of inland surface waters for the Savage Hydrologic Area (Unit 910.31).

H-15

- Page 9 Coastal Waters section, states that these are the "*existing beneficial uses of coastal waters for Otay River*". Is this referring to the beneficial uses of Otay Valley Hydrologic area (unit 910.20)?

H-16

The plan states that Phase IV of the project is located within the Savage Hydrologic Area within the Otay Hydrologic Unit. The corresponding number designation is 910.31. However, the beneficial uses associated with the hydrologic unit are not included.

H-12 The City of San Diego's Source Water Protection Guidelines are included as Appendix G of the Water Quality Technical Report and Hydromodification Plan, which is included as Appendix H of the Draft EIR. As noted on page 20 of Appendix H, "to protect reservoirs, the City of San Diego Water Department prepared a document titled 'Source Water Protection Guidelines for New Developments' dated January 2004, to guide future activities within the San Diego County watersheds which drain into drinking water reservoirs."

Similar to the conceptual outfall design to the Otay River, the conceptual outfall locations for the Lake Property are shown in the Water Quality Technical Report. Specifically, there are four outfall locations for the Lake Property. Reference to monitoring for Lower Otay Lake has been added to mitigation measure 5.11-1f.

H-13 The Water Quality Technical Report and Hydromodification Plan (Appendix H) includes the appropriate Hydrologic Units, including the names and numbers (Otay Valley Hydrologic Area [Unit 910.20] and Savage Hydrologic Area [Unit 910.31]) on page 8. Beneficial uses for inland water within Unit 910.20 were included in Appendix H from Table 2-2 of the Water Quality Control Plan (Plan) for the San Diego Basin; however, there may be some confusion as the Plan references Unit 910.20 as "Otay River" and not "Otay Valley Hydrologic Area."

For the beneficial uses for Unit 910.31, Table 2-2 of the Plan, Beneficial Uses of Inland Surface Waters, makes a reference to the "Table 2-4 – Reservoirs & Lakes". According to Table 2-4 (Beneficial Uses of Reservoirs and Lakes), the existing beneficial uses of inland surface waters for Unit 910.31 include: MUN, AGR, IND, PROC, REC1, REC2, WARM, COLD, and WILD. The beneficial uses of coastal water and ground waters for Unit 910.31 are not listed in the Plan.

H-14 The information on Page 8 of Appendix H refers to the beneficial uses of the Otay Valley Hydrologic Area (Unit 910.20). Beneficial uses of inland surface water for Unit 910.31 include: MUN, AGR, IND, PROC, REC1, REC2, WARM, COLD, and WILD.

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County of San Diego
April 25, 2018

Thank you for the opportunity to provide comments on the DEIR. Please contact me directly if there are any questions regarding the contents of this letter or if the County would like to meet with City staff to discuss our comments. Please feel free to contact Myra Herrmann, Senior Planner, directly via email at mherrmann@sandiego.gov or by phone at (619) 446-5372.

Sincerely,

Alyssa Muto, Deputy Director
Planning Department

MJH/mjh

cc: Reviewing Departments (via email)
Review and Comment online file

H-15 The information on page 9 of Appendix H refers to the *potential* beneficial uses of coastal water for Otay River, which should refer to the beneficial uses of the San Diego Bay and Pacific Ocean, which is where the Otay River ultimately discharges. Per Table 2-3, the existing beneficial uses for Pacific Ocean includes: IND, NAV, REC1, REC2, COMM, BIOL, WILD, RARE, MAR, AQUA, MIGR, SPWN, and SHELL. The beneficial uses for San Diego Bay includes: IND, NAV, REC1, REC2, COMM, BIOL, EST, WILD, RARE, MAR, MIGR, SPWN, and SHELL.

H-16 Table 2-2 does not specifically list the "Savage" Hydrologic Area name but does include beneficial uses for "Lower Otay Reservoir," which is identified as Hydrologic Unit 910.31. Table 2-2 of the Plan, Beneficial Uses of Inland Surface Waters, refers to "Table 2-4 – Reservoirs & Lakes" for the beneficial uses for Unit 910.31. According to Table 2-4, the existing beneficial uses for "Lower Otay Reservoir" (Unit 910.31) include: MUN, AGR, IND, PROC, REC1, REC2, WARM, COLD, and WILD. The beneficial uses of coastal water and ground waters for Unit 910.31 are not listed on Tables 2-4 and Table 2-5.

Environmental Impact Report (EIR-14-01) for the University Innovation District Sectional Planning Area Plan

Mitigation Monitoring and Reporting Program

August 2018

University Innovation District Sectional Planning Area Plan Mitigation Monitoring and Reporting Program

Introduction

This mitigation monitoring and reporting program (MMRP) was prepared by the City of Chula Vista for the UID Sectional Planning Area (SPA) Plan to comply with Public Resources Code Section 21081.6(a)(1), which requires public agencies to adopt such programs to ensure effective implementation of mitigation measures. This monitoring program is dynamic in that it will undergo changes as additional mitigation measures are identified and additional conditions of approval are placed on the Project throughout the approval process. Pursuant to Public Resources Code Section 21081.6(a)(2), the City of Chula Vista designates the Director of Development Services and the City Clerk as the custodians of the documents or their material which constitute the record of proceedings upon which its decision is based.

This monitoring program will serve a dual purpose of verifying completion of the mitigation identified in the Environmental Impact Report (EIR) and generating information on the effectiveness of the mitigation measures to guide future decisions. The program includes the following:

- Monitor qualifications
- Specific monitoring activities
- Reporting system
- Criteria for evaluating the success of the mitigation measures

The UID SPA Plan includes a mixed-use development of academic/university, commercial, retail, residential, and recreational uses. At buildout, the Project would offer a unique community that reflects a growing demand for dynamic, urban education centers. The Project takes many qualities of a traditional campus (e.g., open landscaped spaces and coherent architectural edges) and integrates them with several qualities of a contemporary town center (e.g., pedestrian-friendly streets and multi-use buildings with retail at street level). Mixed-use development would be permitted throughout the Project site and would relate and transition to the adjacent mixed-use Otay Villages 9, 10 and 11, and Millenia areas.

The Project includes a variety of transects, special districts, and sectors over about 35 blocks. Each transect features distinct but compatible floor area ratios (FARs) and design characters. To facilitate compatibility with land uses surrounding the Project site, the UID SPA Plan focuses higher densities (e.g., urban and campus development) within the center of the Main Campus Property and transitions into less dense development and open space and habitat conservation at the edges of the property near the Otay Ranch Preserve (Preserve). The Lake Property features mostly habitat conservation areas with some low-intensity satellite academic uses.

For the purposes of land use and environmental impact analysis in this EIR, the Project is evaluated using the maximum dwelling unit yield and gross square footage permitted

by the UID SPA Plan (thus providing a conservative impact analysis). The proposed maximum development area for the UID SPA is 10,066,200 square feet that would support a total of 34,000 people including a mix of students, faculty, staff, residents, and office/retail workers. The university land uses are assumed to include up to 20,000 full-time students and 6,000 university faculty and staff. Innovation uses would include a mix of office, laboratory, and retail uses to support up to 8,000 jobs. Residents on the site are anticipated to include up to 5,400 students and 6,000 non-student residents within 2,000 market-rate units. A total of 13,500 parking spaces would be provided at full build-out to support the proposed UID SPA Plan development.

The proposed Project is described in the EIR text in Chapter 3, Project Description. The EIR, incorporated herein as referenced, addressed all environmental issues listed in Appendix G of the CEQA Guidelines.

Public Resources Code section 21081.6 requires monitoring of only those impacts identified as significant or potentially significant. The monitoring program does not address impacts for issues where no mitigation is available and therefore would remain unmitigable.

Mitigation Monitoring Team

The monitoring activities would be accomplished by individuals identified in the attached MMRP table. While specific qualifications should be determined by the City, the monitoring team should possess the following capabilities:

- Interpersonal, decision-making, and management skills with demonstrated experience in working under trying field circumstances;
- Knowledge of and appreciation for the general environmental attributes and special features found in the Project area;
- Knowledge of the types of environmental impacts associated with construction of cost-effective mitigation options; and
- Excellent communication skills.

Program Procedural Guidelines

Prior to any construction activities, meetings should take place between all the parties involved to initiate the monitoring program and establish the responsibility and authority of the participants. Mitigation measures that need to be defined in greater detail will be addressed prior to any Project plan approvals in follow-up meetings designed to discuss specific monitoring effects.

An effective reporting system must be established prior to any monitoring efforts. All parties involved must have a clear understanding of the mitigation measures as adopted and these mitigations must be distributed to the participants of the monitoring effort. Those that would have a complete list of all the mitigation measures adopted by the City

of Chula Vista would include the City of Chula Vista and its Mitigation Monitor. The Mitigation Monitor would distribute to each Environmental Specialist and Environmental Monitor a specific list of mitigation measures that pertain to his or her monitoring tasks and the appropriate time frame that these mitigations are anticipated to be implemented.

In addition to the list of mitigation measures, the monitors will have mitigation monitoring report (MMR) forms, with each mitigation measure written out on the top of the form. Below the stated mitigation measure, the form will have a series of questions addressing the effectiveness of the mitigation measure. The monitors shall complete the MMR and file it with the Mitigation Monitor following the monitoring activity. The Mitigation Monitor will then include the conclusions of the MMR into an interim and final comprehensive construction report to be submitted to the City. This report will describe the major accomplishments of the monitoring program, summarize problems encountered in achieving the goals of the program, evaluate solutions developed to overcome problems, and provide a list of recommendations for future monitoring programs. In addition, and if appropriate, each Environmental Monitor or Environmental Specialist will be required to fill out and submit a daily log report to the Mitigation Monitor. The daily log report will be used to record and account for the monitoring activities of the monitor. Weekly and/or monthly status reports, as determined appropriate, will be generated from the daily logs and compliance reports and will include supplemental material (i.e., memoranda, telephone logs, and letters). This type of feedback is essential for the City to confirm the implementation and effectiveness of the mitigation measures imposed on the Project.

Actions in Case of Noncompliance

There are generally three separate categories of noncompliance associated with the adopted conditions of approval:

- Noncompliance requiring an immediate halt to a specific task or piece of equipment;

- Infraction that warrants an immediate corrective action, but does not result in work or task delay; and

- Infraction that does not warrant immediate corrective action and results in no work or task delay.

There are a number of options the City may use to enforce this program should noncompliance continue. Some methods that could be used include “stop work” orders, fines and penalties (civil), restitution, permit revocations, citations, and injunctions. It is essential that all parties involved in the program understand the authority and responsibility of the on-site monitors. Decisions regarding actions in case of noncompliance are the responsibility of the City.

Summary of Project Impacts and Mitigation Measures

The following table summarizes the potentially significant Project impacts and lists the associated mitigation measures and the monitoring efforts necessary to ensure that the measures are properly implemented. All the mitigation measures identified in the EIR are recommended as conditions of Project approval and are stated herein in language appropriate for such conditions. In addition, during various stages of implementation the City will further refine the mitigation measures.

Potential Significant Impact	Mitigation Measures	Timeframe of Mitigation and Responsible Party				Monitoring Reporting Agency	Verification Frequency Time Frame to		Date of Completion	Date of Verification
		SPA[1]	Pre Const.[2]	During Const.[3]	Post Const.[4]		Monitor	Report		
5.1 Land Use and Planning										
Impact 5.1-1: Potentially significant land use incompatibilities could occur for the issues of air quality, operational noise, biological resources, hydrology/water quality, and hazards and hazardous materials.	See Mitigation Measures 5.4-1a and 5.4-1b, 5.5-1a through 5.5-1e, 5.6-8e, 5.11-1a through 5.11-1f, and 5.13-2a and 5.13-2b.									
Impact 5.1-2: The Project would include development within the Overflight Notification Area and the Project's inconsistency with the Brown Field ALUCP would be potentially significant.	See Mitigation Measures 5.13-2a and 5.13-2b.									
Impact 5.1-3: The Project could potentially be inconsistent with the Chula Vista Growth Management Ordinance (GMO) quality of life threshold standards with respect to traffic, public services, and utilities, which would result in a significant land use impact.	See Mitigation Measures 5.3-24, 5.9.1-1a, 5.9.2-1b, 5.9.3-1, 5.9.4-1, 5.9.5-1, and 5.15.2-1.									
Impact 5.1-4: Implementation of the Project would result in potentially significant impacts related to consistency with the Chula Vista MSCP Subarea Plan.	See Mitigation Measures 5.6-1a through 5.6-11 and 5.11-1a.									
5.2 Aesthetics/Landform Modification										
Impact 5.2-1: The Project would permanently alter views from Key View Point (KVP) 3 near the High Tech K-12 School from open, rolling topography and views of Otay Mountain to urban development.	*(Incorporated from the 2005 GPU EIR and 2013 SEIR)* **5.2.5-1**: Within the East Planning Area, prior to approval of grading plans, the applicant shall prepare grading and building plans that conform to the landform grading guidelines contained in the grading ordinance, Otay Ranch GDP, and General Plan. The plans shall be prepared to the satisfaction of the Director of Development Services and the City Engineer. These plans and guidelines shall provide the following that serve to reduce the aesthetic impacts: • A landscape design that addresses streetscapes, provides landscape intensity zones, greenbelt edge treatments, and slope treatment for erosion control. • Grading concepts that ensure manufactured slopes that are contoured and blend and mimic with adjacent natural slopes. • Landscaping concepts that provide for a transition from the manicured appearance of developed areas to the natural landscape in open space areas. • Landscaping concepts that include plantings selected to frame and maintain views.	X	X	X		City of Chula Vista				
Impact 5.2-2: The Project would permanently alter the character of the Project site from open, rolling topography to urban development.	See Mitigation Measure 5.2.5-1 from the 2005 GPU EIR and 2013 SEIR.									

[1] SPA: Mitigation measures under this category are triggered during the planning stages of the project.
[2] Pre-Construction: Mitigation measures under this category are triggered prior to the final map and after the planning phase.
[3] During Construction: Mitigation measures under this category are triggered during the construction phase and prior to buildout.
[4] Post-Construction: Mitigation measures under this category are triggered after construction is complete and the project has been fully built.

Potential Significant Impact	Mitigation Measures	Timeframe of Mitigation and Responsible Party				Monitoring Reporting Agency	Verification Frequency Time Frame to		Date of Completion	Date of Verification
		SPA[1]	Pre Const.[2]	During Const.[3]	Post Const.[4]		Monitor	Report		
5.2 Aesthetics/Landform Modification (cont.)										
Impact 5.2-3: New sources of nighttime lighting may be incompatible with surrounding development and inconsistent with applicable regulations.	**5.2-3a: Lighting Plan and Photometric Analysis - Parks**. Concurrent with the preparation of site-specific plan(s) for outdoor public areas within the O-2 and O-3 sectors and prior to issuance of a building permit for any park, the applicant shall prepare, or in the case of the City being the lead on the preparation of the site-specific plan, the applicant shall fund the preparation of a lighting plan and photometric analysis. The plan shall be prepared to the satisfaction of the Development Services Director and evaluate the proposed height, location, and intensity of all exterior lighting for compliance with the City's performance standards for light, and glare (Chula Vista Municipal Code 19.66.100).	X	X			City of Chula Vista				
	5.2-3b: Lighting Plan and Photometric Analysis – New Structures. Concurrent with design review and prior to the issuance of building permits for any structures, the applicant shall prepare a lighting plan and photometric analysis. The plan shall be prepared to the satisfaction of the Development Services Director (or their designee) and evaluate the proposed height, location, and intensity of all exterior lighting for compliance with the City's performance standards for light, and glare (Chula Vista Municipal Code 9.66.100).	X	X			City of Chula Vista				
Impact 5.2-4: Potential impacts associated with light and shadow cannot be determined until the location, size, and orientation of future buildings are established.	**5.2-4: Shadow Analysis**. Prior to design review approval for any structure three stories and above, the applicant shall prepare to the satisfaction of the Development Services Director (or their designee), a shadow pattern analysis demonstrating that adjacent shadow-sensitive uses are not permanently shadowed.	X	X			City of Chula Vista				
5.3 Transportation/Traffic										
Impact 5.3-1: According to Chapter 12.24 of the City's Municipal Code, access related impacts would occur if access and frontage improvements are not provided concurrent with development. Therefore, in 2020, the Project could result in potentially significant impacts related to access and frontage.	**5.3-1a: Eastlake Parkway/Hunte Parkway Intersection**: Eastlake Parkway south of Hunte Parkway within the UID will provide primary access to the site. Corresponding improvements to the geometry (as seen in Figure 10-2 in EIR Appendix B) shall be provided by the applicant at the Eastlake Parkway/Hunte Parkway intersection prior to construction. Needed modifications to the traffic signal shall also be made to accommodate the third (south) leg at this intersection. This improvement shall be provided prior to construction of the first building within the University Campus/Innovation District, in accordance with City Ordinances.	X	X			City of Chula Vista				
	5.3-1b: Discovery Falls Road Secondary Access: A new secondary access shall be provided by the applicant from Discovery Falls Road, just south of Hunte Parkway. Corresponding improvements to the geometry, as shown in Figure 10 2 of EIR Appendix B (Intersection #57), shall be provided. A traffic signal shall be installed to the satisfaction of the City Engineer. This improvement shall be provided prior to construction of the first building within the UID, in accordance with City Ordinances.	X	X			City of Chula Vista				

[1] SPA: Mitigation measures under this category are triggered during the planning stages of the project.
[2] Pre-Construction: Mitigation measures under this category are triggered prior to the final map and after the planning phase.
[3] During Construction: Mitigation measures under this category are triggered during the construction phase and prior to buildout.
[4] Post-Construction: Mitigation measures under this category are triggered after construction is complete and the project has been fully built.

Potential Significant Impact	Mitigation Measures	Timeframe of Mitigation and Responsible Party				Monitoring Reporting Agency	Verification Frequency Time Frame to		Date of Completion	Date of Verification
		SPA[1]	Pre Const.[2]	During Const.[3]	Post Const.[4]		Monitor	Report		
5.3 Transportation/Traffic (cont.)										
	5.3-1c: Hunte Parkway/Exploration Falls Road Intersection: The applicant shall be responsible for constructing the fourth (south) leg of the Hunte Parkway/Exploration Falls Road intersection and modifying the signal as needed to accommodate the fourth leg prior to construction of the first building within the UID, in accordance with City Ordinances.	X	X			City of Chula Vista				
	5.3-1d Internal Circulation Roads: Internal circulation roads shall be constructed on-site by the applicant in conformance with City standards. Final design and siting of internal roads will be subject to the approval of the City, including the Development Services Department, Public Works Department, and Fire Department.	X	X			City of Chula Vista				
Impact 5.3-2: Impact 5.3-2: Under the Year 2020 scenario, the Project would result in a potentially significant direct impact to the following Chula Vista intersection: • Birch Road/La Media Road (AM – LOS E, PM – LOS F)	**5.3-2: Birch Road/La Media Road Intersection**: Prior to the issuance of the final map that contains the 1,360th EDU, the applicant shall secure or construct the Main Street connection between Heritage Road and Eastlake Parkway. Since this improvement includes the construction of a 6-lane road and a bridge, it is beyond the scope of a single development project. If this improvement is not in place by the issuance of the final map that contains the 1,360th EDU, the Project would be required to implement the "Anticipated 2020 Roadway Improvements."	X	X			City of Chula Vista				
Impact 5.3-3: Under the Year 2020 scenario, the Project would result in a potentially significant cumulative impact to the following Chula Vista intersections: • Impact 5.3-3a: Telegraph Canyon Road/Paseo Ranchero (AM – LOS E) • Impact 5.3-3b: Telegraph Canyon Road/Otay Lakes Road/La Media Road (PM – LOS E) • Impact 5.3-3c: East Palomar Road/Heritage Road (AM – LOS E) • Impact 5.3-3d: East Palomar Road/La Media Road (AM – LOS E, PM – LOS E) • Impact 5.3-3e: Olympic Parkway/I-805 SB Ramps (AM – LOS F, PM – LOS F) • Impact 5.3-3f: Olympic Parkway/I-805 NB Ramps (AM – LOS F, PM – LOS F) • Impact 5.3-3g: Olympic Parkway/Oleander Avenue (AM – LOS E, PM – LOS F) • Impact 5.3-3h: Olympic Parkway/Brandywine Avenue (AM – LOS F, PM – LOS F) • Impact 5.3-3i: Olympic Parkway/Heritage Road (AM – LOS F, PM – LOS F) • Impact 5.3-3j: Main Street/I-805 SB Ramps (PM – LOS F) • Impact 5.3-3k: Main Street/I-805 NB Ramps (PM – LOS F) • Impact 5.3-3l: Main Street/Brandywine Avenue (AM – LOS E, PM – LOS E)	**5.3-3**: Cumulative impacts within the City of Chula Vista will be mitigated using Transportation Development Impact Fees (TDIF). The TDIF has been accounted for in the TDIF Ordinance (for City of Chula Vista intersections) and Western TDIF Program (for City of Chula Vista/Caltrans intersections) for university-related uses and cumulative impacts within the City of Chula Vista are considered to be mitigated to a level below significance without any additional TDIF fee payments for university-related uses. Non-university related uses will be required to pay fees per the TDIF prior the issuance of building permits.	X	X			City of Chula Vista				

Potential Significant Impact	Mitigation Measures	Timeframe of Mitigation and Responsible Party				Monitoring Reporting Agency	Verification Frequency Time Frame to		Date of Completion	Date of Verification
		SPA[1]	Pre Const.[2]	During Const.[3]	Post Const.[4]		Monitor	Report		
5.3 Transportation/Traffic (cont.)										
Impact 5.3-4: Under the Year 2020 scenario, the Project would result in a potentially significant cumulative impact to the following City of San Diego/Caltrans intersections: • Impact 5.3-4a: Palm Avenue/I-805 SB Ramps (PM – LOS F) • Impact 5.3-4b: Palm Avenue/I-805 NB Ramps (AM – LOS E, PM – LOS F)	**5.3-4a: Palm Avenue/I-805 SB Ramps Intersection**. The improvement of the Palm Avenue/I-805 SB Ramps Intersection is included in the FBA in the City of San Diego. If the City of San Diego does not complete this improvement prior to the issuance of the final map that contains the Project's 1,360th DU, the City of Chula Vista or successor in interest shall coordinate with the City of San Diego to implement this improvement.	X	X			City of Chula Vista				
	5.3-4b: Palm Avenue/I-805 NB Ramps Intersection. The improvement of the Palm Avenue/I 805 NB Ramps Intersection is included in the FBA, in the City of San Diego. If the City of San Diego does not complete this Project prior to the issuance of the final map that contains the Project's 1,360th DU, the City of Chula Vista or successor in interest shall coordinate with the City of San Diego to implement this improvement.	X	X			City of Chula Vista				
Impact 5.3-5: Under the Year 2020 scenario, the Project would result in a potentially significant cumulative impact to the following City of San Diego intersection: • Avenida De Las Vistas/Heritage Road (AM – LOS F, PM – LOS F)	**5.3-5: Avenida De Las Vistas/Heritage Road Intersection**. The improvement of the Avenida De Las Vistas/Heritage Road Intersection is included in the FBA, in the City of San Diego. If the City of San Diego does not complete this Project prior to the issuance of the final map that contains the Project's 1,360th EDU, the City of Chula Vista or successor in interest shall coordinate with the City of San Diego to implement this improvement	X	X			City of Chula Vista				
Impact 5.3-6: Under the Year 2020 scenario, the Project would result in a potentially significant cumulative impact to the following Chula Vista roadway segments: • Impact 5.3-6a: Telegraph Canyon Road from Paseo Ladera to Paseo Ranchero (LOS E) • Impact 5.3-6b: Otay Lakes Road from Bonita Road to East H Street (LOS D) • Impact 5.3-6c: Otay Lakes Road from East H Street to Telegraph Canyon Road (LOS D) • Impact 5.3-6d: Main Street from Hilltop Drive to Melrose Avenue (LOS E) • Impact 5.3-6e: Main Street from Melrose Avenue to I-805 (LOS E) • Impact 5.3-6f: Eastlake Parkway from Otay Lakes Road to Olympic Parkway (LOS D)	See Mitigation Measure 5.3-3.									
Impact 5.3-7: According to Chapter 12.24 of the City's Municipal Code, access related impacts would occur if access and frontage improvements are not provided concurrent with development. Therefore, in 2025, the Project could result in potentially significant impacts related to access and frontage.	**5.3-7: Construction of Street "E" between Village 9 Street "B" and Eastlake Parkway**. Prior to the issuance of the final map that contains the 3,565th EDU, the City of Chula Vista or successor of interest shall construct Street "E" between Village 9 Street "B" and Eastlake Parkway, in accordance with City Ordinances.	X	X			City of Chula Vista				

Potential Significant Impact	Mitigation Measures	Timeframe of Mitigation and Responsible Party				Monitoring Reporting Agency	Verification Frequency Time Frame to		Date of Completion	Date of Verification
		SPA[1]	Pre Const.[2]	During Const.[3]	Post Const.[4]		Monitor	Report		
]5.3 Transportation/Traffic (cont.)										
Impact 5.3-8: Under the Year 2025 scenario, the Project would result in a potentially significant direct impact to the following Chula Vista intersections: • Impact 5.3-8a: Proctor Valley Road/San Miguel Ranch Road (PM – LOS E) • Impact 5.3-8b: Birch Road/Eastlake Parkway (AM – LOS F, PM – LOS F) • Impact 5.3-8c: Birch Road/La Media Road (AM – LOS F, PM – LOS F)	**5.3-8a: Proctor Valley Road/San Miguel Ranch Road Intersection.** Installation of a traffic signal at this intersection will fully mitigate the corresponding impact to less than significant. The City of Chula Vista or successor in interest shall coordinate with San Diego County to construct a traffic signal at this intersection, if this improvement has not been built by others, prior to the construction issuance of the final map that contains the of the project's 3,565th EDU. **5.3-8b: Birch Road/Eastlake Parkway Intersection**. Prior to the issuance of the final map that contains the 3,565th EDU, the applicant shall secure or construct the Main Street connection between Heritage Road and Eastlake Parkway. Since this improvement includes the construction of a major 6-lane road and a 6-lane bridge, it is beyond the scope of a single development project. If this improvement is not in place by the issuance of the final map that contains the 3,565th EDU, the Project would be required to implement the "Anticipated 2025 Roadway Improvements" above.	X	X			City of Chula Vista				
Impact 5.3-9: Under the Year 2025 scenario, the Project would result in a potentially significant cumulative impact to the following Chula Vista intersections: • Impact 5.3-9a: Telegraph Canyon Road/Paseo Ladera (AM – LOS E) • Impact 5.3-9b: Telegraph Canyon Road/Paseo Ranchero (AM – LOS E, PM – LOS E) • Impact 5.3-9c: Telegraph Canyon Road/Otay Lakes Road/La Media Road (AM – LOS E, PM – LOS F) • Impact 5.3-9d: East Palomar Road/Heritage Road (AM – LOS E) • Impact 5.3-9e: East Palomar Road/La Media Road (AM - LOS F, PM - LOS E) • Impact 5.3-9f: Olympic Parkway/I-805 SB Ramps (PM - LOS F) • Impact 5.3-9g: Olympic Parkway/I-805 NB Ramps (AM - LOS E, PM - LOS E) • Impact 5.3-9h: Olympic Parkway/Oleander Avenue (AM - LOS E, PM - LOS F) • Impact 5.3-9i: Olympic Parkway/Brandywine Avenue (AM - LOS F, PM - LOS F) • Impact 5.3-9j: Olympic Parkway/Heritage Road (AM - LOS F, PM - LOS F) • Impact 5.3-9k: Olympic Parkway/La Media Road (AM - LOS F, PM - LOS E) • Impact 5.3-9l: Main Street/Melrose Avenue (PM - LOS E) • Impact 5.3-9m: Main Street/I-805 SB Ramps (PM - LOS E)	See Mitigation Measure 5.3-3.								

Potential Significant Impact	Mitigation Measures	Timeframe of Mitigation and Responsible Party				Monitoring Reporting Agency	Verification Frequency Time Frame to		Date of Completion	Date of Verification
		SPA[1]	Pre Const.[2]	During Const.[3]	Post Const.[4]		Monitor	Report		
5.3 Transportation/Traffic (cont.)										
Impact 5.3-9 (cont.) • Impact 5.3-9n: Main Street/I-805 NB Ramps (PM - LOS E) • Impact 5.3-9o: Main Street/Brandywine Avenue (PM - LOS E)										
Impact 5.3-10: Under the Year 2025 scenario, the Project would result in a potentially significant direct impact to the following County of San Diego intersection: • Proctor Valley Road/San Miguel Road (PM – LOS F)	**5.3-10: Proctor Valley Road/San Miguel Road Intersection**. The City of Chula Vista or successor in interest shall coordinate with the County of San Diego to construct a traffic signal and associated improvements to this intersection prior to the issuance of the final map that contains the Project's 3,565th EDU.	X	X			City of Chula Vista				
Impact 5.3-11: Under the Year 2025 scenario, the Project would result in a potentially significant cumulative impact to the following City of San Diego/Caltrans intersections: • Impact 5.3-11a: Palm Avenue/I-805 SB Ramps (PM – LOS F) • Impact 5.3-11b: Palm Avenue/I-805 NB Ramps (AM – LOS F, PM – LOS F)	See Mitigation Measure 5.3-4a and 5.3-4b.									
Impact 5.3-12: Under the Year 2025 scenario, the Project would result in a potentially significant cumulative impact to the following City of San Diego intersections: • Impact 5.3-12a: Avenida De Las Vistas/ Heritage Road (AM – LOS F, PM – LOS F) • Impact 5.3-12b: Heritage Road/Otay Mesa Road (PM – LOS E)	**5.3-12a: Avenida De Las Vistas/Heritage Road Intersection**. The City of Chula Vista or successor in interest shall coordinate with the City of San Diego to construct a traffic signal and associated improvements to this intersection prior to the issuance of the final map that contains the Project's 3,565th EDU.	X	X			City of Chula Vista				
	5.3-12b: Heritage Road/Otay Mesa Road Intersection. The City of Chula Vista or successor in interest shall coordinate with the City of San Diego to install a WB right-turn overlap phase prior to the construction of the Project's 3,565th EDU.	X	X			City of Chula Vista				
Impact 5.3-13: Under the Year 2025 scenario, the Project would result in a potentially significant direct impact to the following Chula Vista roadway segments: • Impact 5.3-13a: Olympic Parkway from Heritage Road to Santa Venetia Street (LOS D) • Impact 5.3-13b: Olympic Parkway from East Palomar Street to SR-125 (LOS D) • Impact 5.3-13c: Birch Road from SR-125 to Eastlake Parkway (LOS D)	**5.3-13a: Olympic Parkway from Heritage Road to Santa Venetia Street**. Prior to the issuance of the final map that contains the 3,565th EDU, the applicant shall secure or construct the Main Street connection between Heritage Road and Eastlake Parkway. Since this improvement includes the construction of a major 6-lane road and a 6-lane bridge, it is beyond the scope of a single development project. If this improvement is not in place by the issuance of the final map that contains the 3,565th EDU, the Project would be required to implement the "Anticipated 2025 Roadway Improvements."	X	X			City of Chula Vista				
	5.3-13b: Olympic Parkway from E. Palomar Street to SR-125. Prior to the issuance of the final map that contains the 3,565th EDU, the applicant shall secure or construct the Main Street connection between Heritage Road and Eastlake Parkway. Since this improvement includes the construction of a major 6-lane road and a 6-lane bridge, it is beyond the scope of a single development project. If this improvement is not in place by the issuance of the final map that contains the 3,565th EDU, the Project would be required to implement the "Anticipated 2025 Roadway Improvements."	X	X			City of Chula Vista				

Potential Significant Impact	Mitigation Measures	Timeframe of Mitigation and Responsible Party				Monitoring Reporting Agency	Verification Frequency Time Frame to		Date of Completion	Date of Verification
		SPA[1]	Pre Const.[2]	During Const.[3]	Post Const.[4]		Monitor	Report		
5.3 Transportation/Traffic (cont.)										
Impact 5.3-13 (cont.)	**5.3-13c: Birch Road from SR-125 to Eastlake Parkway**. Prior to the issuance of the final map that contains the 3,565th EDU, the applicant shall secure or construct the Main Street connection between Heritage Road and Eastlake Parkway Since this improvement includes the construction of a major 6 lane road and a 6-lane bridge, it is beyond the scope of a single development project. If this improvement is not in place by the issuance of the final map that contains the 3,565th EDU, the Project would be required to implement the "Anticipated 2025 Roadway Improvements."	X	X			City of Chula Vista				
Impact 5.3-14: Under the Year 2025 scenario, the Project would result in a potentially significant cumulative impact to the following Chula Vista roadway segments: • Impact 5.3-14a: Telegraph Canyon Road from Paseo Ladera to Paseo Ranchero (LOS E) • Impact 5.3-14b: Otay Lakes Road from Bonita Road to East H Street (LOS E) • Impact 5.3-14c: Otay Lakes Road from East H Street to Telegraph Canyon Road (LOS D) • Impact 5.3-14d: Main Street from Hilltop Drive to Melrose Avenue (LOS E)	See Mitigation Measure 5.3-3.									
• Impact 5.3-14e: Main Street from Melrose Avenue to I-805 (LOS E) • Impact 5.3-14f: Main Street from Oleander Avenue to Brandywine Avenue (LOS D) • Impact 5.3-14g: Eastlake Parkway from Otay Lakes Road to Olympic Parkway (LOS D)										
Impact 5.3-15: According to Chapter 12.24 of the City's Municipal Code, access related impacts would occur if access and frontage improvements are not provided concurrent with development. Therefore, in 2030, the Project could result in potentially significant impacts related to access and frontage.	**5.3-15**: The City of Chula Vista or successor in interest shall construct Street "C" between Village 9 Street "B" and Eastlake Parkway prior to construction of the 5,164th EDU within the UID.	X	X			City of Chula Vista				
Impact 5.3-16: Under the Year 2030 scenario, the Project would result in a potentially significant direct impact to the following Chula Vista intersections: • Impact 5.3-16a: Main Street/I-805 NB Ramps (PM – LOS E) • Impact 5.3-16b: Village 9 Street "B"/Village 9 Street "C" (PM – LOS E) • Impact 5.3-16c: Proctor Valley Road/San Miguel Ranch Road (PM – LOS E)	**5.3-16a**: **Main Street/I-805 NB Ramps Avenue Intersection**. Improvements at this interchange are included in the Western TDIF program. Therefore, this impact is considered fully mitigated.	X	X			City of Chula Vista				
	5.3-16b: **Village 9 Street "B"/Village 9 Street "C" Intersection**. The City of Chula Vista or successor in interest shall construct a westbound right-turn lane on Village 9 Street "C" if this improvement is not in place prior to the construction of the final map that contains the Project's 5,164th EDU.	X	X			City of Chula Vista				

Potential Significant Impact	Mitigation Measures	Timeframe of Mitigation and Responsible Party				Monitoring Reporting Agency	Verification Frequency Time Frame to		Date of Completion	Date of Verification
		SPA[1]	Pre Const.[2]	During Const.[3]	Post Const.[4]		Monitor	Report		
5.3 Transportation/Traffic (cont.)										
Impact 5.3-17: Under the Year 2030 scenario, the Project would result in a potentially significant cumulative impact to the following Chula Vista intersections: • Impact 5.3-17a: Telegraph Canyon Road/Paseo Ranchero (AM – LOS E, PM – LOS E) • Impact 5.3-17b: Birch Road/La Media Road (AM – LOS E, PM – LOS E) • Impact 5.3-17c: Main Street/I-805 SB Ramps (PM – LOS E)	See Mitigation Measure 5.3-3.									
Impact 5.3-18: Under the Year 2030 scenario, the Project would result in a significant direct impact to the following County of San Diego intersection: • Proctor Valley Road/San Miguel Road (PM – LOS E)	See Mitigation Measure 5.3-10.									
Impact 5.3-19: Under the Year 2030 scenario, the Project would result in a potentially significant cumulative impact to the following County of San Diego intersection: • Bonita Road/San Miguel Road (PM – LOS E)	**5.3-19**: The City of Chula Vista or successor in interest shall coordinate with the County of San Diego and provide payment of the San Diego County Traffic Impact Fee (TIF) prior to the issuance of the final map that contains the Project's 5,164th EDU.	X	X			City of Chula Vista				
Impact 5.3-20: Under the Year 2030 scenario, the Project would result in a potentially significant cumulative impact to the following City of San Diego/Caltrans intersections: • Impact 5.3-20a: Palm Avenue/I-805 SB Ramps (PM – LOS F) • Impact 5.3-20b: Palm Avenue/I-805 NB Ramps (AM – LOS F, PM – LOS F)	See Mitigation Measures 5.3-4a and 5.3-4b.									
Impact 5.3-21: Under the Year 2030 scenario, the Project would result in a potentially significant cumulative impact to the following City of San Diego intersections: • Impact 5.3-21a: Avenida De Las Vistas/Heritage Road (AM – LOS F, PM – LOS F) • Impact 5.3-21b: Heritage Road/Otay Mesa Road (PM – LOS E)	**5.3-21a: Avenida De Las Vistas/Heritage Road**. The City of Chula Vista or successor in interest shall coordinate with the City of San Diego to construct a traffic signal and associated improvements to this intersection prior to the issuance of the final map that contains the Project's 5,164th EDU.	X	X			City of Chula Vista				
	5.3-21b: Heritage Road/Otay Mesa Road. The City of Chula Vista or successor in interest shall coordinate with the City of San Diego to construct a WB right-turn overlap phase prior to the issuance of the final map that contains the Project's 5,164th EDU.	X	X			City of Chula Vista				
Impact 5.3-22: Under the Year 2030 scenario, the Project would result in a potentially significant direct impact to the following Chula Vista roadway segments: • Impact 5.3-22a: Main Street from I-805 to Oleander Avenue (LOS E) • Impact 5.3-22b: Main Street from Oleander Avenue to Brandywine Avenue (LOS F)	**5.3-22a: Main Street from I-805 to Oleander Avenue**. Prior to the issuance of the final map that contains the 5,164th EDU, the applicant shall secure or construct the Main Street/SR-125 interchange. Since this improvement includes the construction of a full interchange, it is beyond the scope of a single development project. If this improvement is not in place by the issuance of the final map that contains the 5,164th EDU, Mitigation Measure 5.3 21 would apply.	X	X			City of Chula Vista				

Potential Significant Impact	Mitigation Measures	Timeframe of Mitigation and Responsible Party				Monitoring Reporting Agency	Verification Frequency Time Frame to		Date of Completion	Date of Verification
		SPA[1]	Pre Const.[2]	During Const.[3]	Post Const.[4]		Monitor	Report		
5.3 Transportation/Traffic (cont.)										
Impact 5.3-22 (cont.)	**5.3-22b: Main Street from Oleander Avenue to Brandywine Avenue**. Prior to the issuance of the final map that contains the 5,164th EDU, the applicant shall secure or construct the Main Street/SR-125 interchange. Since this improvement includes the construction of a full interchange, it is beyond the scope of a single development project. If this improvement is not in place by the issuance of the final map that contains the 5,164th EDU, Mitigation Measure 5.3-21 would apply.	X	X			City of Chula Vista				
Impact 5.3-23: Under the Year 2030 scenario, the Project would result in a potentially significant cumulative impact to the following Chula Vista roadway segments: • Impact 5.3-23a: Telegraph Canyon Road from Paseo Ladera to Paseo Ranchero (LOS E) • Impact 5.3-23b: Otay Lakes Road from East H Street to Telegraph Canyon Road (LOS D) • Impact 5.3-23c: Main Street from Hilltop Drive to Melrose Avenue (LOS E) • Impact 5.3-23d: Main Street from Melrose Avenue to I-805 (LOS E) • Impact 5.3-23e: Main Street from Brandywine Avenue to Heritage Road (LOS D) • Impact 5.3-23f: Eastlake Parkway from Otay Lakes Road to Olympic Parkway (LOS D)	See Mitigation Measure 5.3-3.									
Impact 5.3-24: Based on the conclusions in the 2001 EIR, traffic impacts from the Lake Property are assessed as potentially significant. An updated traffic analysis of the Lake Property was not included in the TIA for the UID because specific development plans are not currently available and uses assumed in the UID SPA Plan are similar or lower in density than those considered in the 2001 EIR. Therefore, a detailed traffic study would need to be prepared when development plans are available.	**5.3-24: Subsequent Traffic Analysis for Lake Property**. Prior to the approval of any detailed development plans for the Lake Property, a detailed traffic study shall be conducted by a City-approved traffic consultant. Specific mitigation measures for traffic impacts associated with the Lake Property shall be required at that time, to the satisfaction of the City Engineer, including any improvements related to any necessary roadway segments, intersections, and ingress-egress to reduce impacts to below a level of significance and to comply with the City's GMOC standards.	X	X			City of Chula Vista				
Impact 5.3-25: Construction within the UID would occur continuously until full buildout. Therefore, construction traffic would result in a temporary addition to operational traffic generated by the Project. As discussed above, operation of the Project would have the potential to generate substantial traffic during each traffic scenario (Year 2020, Year 2025, and Year 2030), and construction traffic would incrementally contribute to these impacts. Therefore, impacts from construction traffic could potentially be significant.	**5.3-25**: Prior to the commencement of construction activities at the Main Campus Property or Lake Property, a detailed traffic management plan shall be prepared by a City-approved traffic consultant. Specific measures to implement to maintain acceptable traffic conditions during construction shall be reviewed to the satisfaction of the City Engineer.	X	X			City of Chula Vista				

Potential Significant Impact	Mitigation Measures	Timeframe of Mitigation and Responsible Party				Monitoring Reporting Agency	Verification Frequency Time Frame to		Date of Completion	Date of Verification
		SPA[1]	Pre Const.[2]	During Const.[3]	Post Const.[4]		Monitor	Report		
5.3 Transportation/Traffic (cont.)										
Impact 5.3-26: The Project would have the potential to exceed the City of Chula Vista's LOS standards, as well as the City of San Diego, Caltrans, and the County of San Diego's standards under the Existing Plus Project, Year 2020, Year 2025, and Year 2030 scenarios. Therefore, the Project would contribute to regional congestion and a potentially significant impact would occur related to level of service standards.	See Mitigation Measures 5.3-1 through 5.3-25.									
5.4 Air Quality										
Impact 5.4-1: Implementation of the Project would result in potentially significant criteria pollutant emission impacts during construction.	**5.4-1a: Air Quality-Related Construction Best Management Practices**. In addition to the requirements of APCD Rule 55, the control measures listed below will be implemented during Project construction to reduce dust and VOC emissions: • A minimum of two applications of water during grading between dozer/scraper passes. • Paving, chip sealing, or chemical stabilization of internal roadways after completion of grading. • Termination of grading if winds exceed 25 mph. • Ensure that all exposed surfaces maintain a minimum soil moisture of 12 percent. • Stabilization of dirt storage piles by chemical binders, tarps, fencing, or other erosion control. • Use of "Super Compliant" architectural coatings with a VOC content of 10 grams per liter or less.	X	X	X		City of Chula Vista				
	5.4-1b: Use of Tier 4 Final Off-Road Equipment. All off-road diesel-powered construction equipment greater than 50 horsepower (HP) used during each building construction phase shall meet U.S. EPA Tier 4 off-road emissions standards. A copy of each unit's certified Tier specification shall be provided to the City of Chula Vista Development Services Department at the time of mobilization of each applicable unit of equipment.	X	X	X		City of Chula Vista				
Impact 5.4-4: Impacts related to TAC emissions would be potentially significant.	**5.4-4: Health Risk Assessment**. Prior to the issuance of building permits for any new facility that would have the potential to emit TACs, in accordance with AB 2588, an emissions inventory and HRA shall be prepared. Building permits shall only be issued for facilities that demonstrate TAC emissions below the standards listed in Table 5.4-6 (excess cancer risk of 1 in 1 million or 10 in 1 million with T-BACT and non-cancer hazard index of 1.0).	X	X			City of Chula Vista				

Potential Significant Impact	Mitigation Measures	Timeframe of Mitigation and Responsible Party				Monitoring Reporting Agency	Verification Frequency Time Frame to		Date of Completion	Date of Verification
		SPA[1]	Pre Const.[2]	During Const.[3]	Post Const.[4]		Monitor	Report		
5.5 Noise										
Impact 5.5-1: Project HVAC units may generate exterior and interior noise levels in excess of the City's noise control ordinance at nearby NSLUs within Transects T-3A, T-3B, T-6A, T-6B, T-6D, T 6E, and SD: Flex Overlay.	**5.5-1a: Site-Specific Acoustic Analysis – Multi-Family Residences**. Concurrent with Design Review and prior to the approval of building permits for multi-family areas within Transects T-3A, T-3B, T-6A, T-6B, T-6D, T-6E, and SD: Flex Overlay, where first and/or upper floor exterior noise levels exceed 60 CNEL and/or where required outdoor area (patios or balconies) noise levels exceed 65 CNEL, the City shall require: 1) an acoustical analysis demonstrating to the satisfaction of the Development Services Director (or their designee) that the proposed building plans ensure that interior noise levels due to exterior noise sources will be at or below California's Title 24 Interior Noise Standards (i.e., 45 CNEL) in any habitable room, and 2) all outdoor useable areas are not exposed to noise levels in excess of the City's noise compatibility guidelines for outdoor use areas (i.e., 65 CNEL). The analysis must also identify Sound Transmission Loss rates of each window. Design-level architectural plans will be available during design review and will permit the accurate calculation of transmission loss 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, in which case, adequate ventilation systems shall be installed. The City shall require noise attenuation features that would (1) reduce sound levels to 45 CNEL in any habitable room, and (2) that would reduce sound levels to 65 CNEL at outdoor usable areas.	X	X			City of Chula Vista				
	5.5-1b: Site-Specific Acoustic Analysis – Non-Residential NSLUs. Concurrent with Design Review and prior to the approval of building permits for any non residential NSLUs (schools, libraries, neighborhood parks) within Transects T-3A, T-3B, T-6A, T-6B, T 6D, T-6E, and SD: Flex Overlay, where exterior noise levels exceed 65 CNEL, the City shall require a site design plan and subsequent acoustical analysis demonstrating to the satisfaction of the Development Services Director (or their designee) that all outdoor useable areas are not exposed to noise levels in excess of 65 CNEL. Measures to reduce noise levels may include, but would not be limited to, setback of structures from the roadway, installing acoustic barriers, or orienting outdoor activity areas away from roadways so that surrounding structures provide noise attenuation. Wall and roof- ceiling assemblies making up the building envelope shall comply with the requirements of the 2013 CALGreen Building Code and meet a composite STC rating of at least 50 or a composite OITC rating of no less than 40, with exterior windows of a minimum STC of 40 or OITC of 30 in compliance with the CALGreen Building Code. The City shall require noise attenuation features to reduce sound levels to 65 CNEL at outdoor usable areas.	X	X			City of Chula Vista				
	5.5-1c: Site-Specific Acoustic Analysis – Office Uses. Concurrent with Design Review and prior to the approval of building permits for any office use within Transects T-3A, T-3B, T-6A, T-6B, T-6D, T-6E, and SD: Flex Overlay the City shall require a site design plan and subsequent acoustical analysis demonstrating to the satisfaction of the Development Services Director (or their designee) that exterior noise levels at the property line are at or below the City's noise compatibility guidelines for	X	X			City of Chula Vista				

Potential Significant Impact	Mitigation Measures	Timeframe of Mitigation and Responsible Party				Monitoring Reporting Agency	Verification Frequency Time Frame to		Date of Completion	Date of Verification
		SPA[1]	Pre Const.[2]	During Const.[3]	Post Const.[4]		Monitor	Report		
5.5 Noise (cont.)										
Impact 5.5-1 (cont.)	**5.5-1c: Site-Specific Acoustic Analysis – Office Uses (cont.)** office uses (i.e., 70 CNEL). Measures to reduce noise levels may include, but would not be limited to, setback of structures from the roadway, installing acoustic barriers, or, in mixed-use buildings, orienting offices away from roadways so that surrounding structures provide noise attenuation. The City shall require noise attenuation features to reduce sound levels to 70 CNEL at the property line.									
	5.5-1d: HVAC Mechanical Equipment Shielding. Concurrent with Design Review and prior to the approval of building permits for non-residential development, the City shall require a design plan for the Project demonstrating to the satisfaction of the Development Services Director (or their designee) that the noise level from operation of mechanical equipment will not cumulatively exceed the following noise level limits for a designated receiving land use category as specified in Section 19.68.030 of the City noise control ordinance. Noise control measures may include, but are not limited to, the selection of quiet equipment, equipment setbacks, silencers, and/or acoustical louvers. The City shall require noise attenuation features that would reduce sound levels to levels that are allowable under the Chula Vista noise control ordinance: • From 10 p.m. to 7 a.m. on weekdays and from 10 p.m. to 8 a.m. on weekends: o 45 dBA for residential o 50 dBA for multiple dwelling residential o 60 dBA for commercial o 70 dBA for light industry (I-R and I-L zone) o 80 dBA for heavy industry (I zone) • From 7 a.m. to 10 p.m. on weekdays and from 8 a.m. to 10 p.m. on weekends: o 55 dBA for residential o 60 dBA for multiple dwelling residential o 65 dBA for commercial o 70 dBA for light industry (I-R and I-L zone) o 80 dBA for heavy industry (I zone) Noise control measures may include, but are not limited to, the selection of quiet equipment, equipment setbacks, silencers, and/or acoustical louvers. The City shall require noise attenuation features that would reduce sound levels to levels at or below the allowable levels set forth in the Chula Vista noise control ordinance.	X	X			City of Chula Vista				

Potential Significant Impact	Mitigation Measures	Timeframe of Mitigation and Responsible Party				Monitoring Reporting Agency	Verification Frequency Time Frame to		Date of Completion	Date of Verification
		SPA[1]	Pre Const.[2]	During Const.[3]	Post Const.[4]		Monitor	Report		
5.5 Noise (cont.)										
Impact 5.5-1 (cont.)	**5.5-1e: Site Specific Analysis – Recreational Facilities**. Concurrent with the preparation of site-specific plan(s) and prior to the approval of a grading plan, the City shall require the preparation of an acoustical analysis to ensure that noise levels generated from any active uses at the recreational facilities, such as sports fields, shall not exceed the receiving land use category's exterior noise limits as identified in the City noise control ordinance. Measures to reduce noise levels may include, but would not be limited to, siting of structures or buildings either at the recreational facilities or at the receiving land use site in order to provide	X	X			City of Chula Vista				
	5.5-1e: Site Specific Analysis – Recreational Facilities (cont.) setbacks between active areas of the facilities and adjacent noise sensitive uses or construction of a wall to provide noise attenuation. Final noise attenuation design would be determined by a site-specific acoustic analysis conducted by a qualified acoustical engineer, to the satisfaction of the Development Services Director (or their designee).									
Impact 5.5-1b: Active uses at recreational facilities (e.g., parks and sport courts) may generate noise in excess of City noise control ordinance standards at nearby NSLUs.	See Mitigation Measures 5.5-1a through 5.5-1e.									
Impact 5.5-1c: Project residences and/or other Project NSLUs could be exposed to a potentially significant impact from High Tech K-12's playground and grassy play area.	See Mitigation Measures 5.5-1a through 5.5-1e.									
Impact 5.5-2: Construction vibration impacts related to ground-borne vibration would be potentially significant.	**5.5-2**: For major construction activity involving heavy earth moving equipment within 200 feet, and pile driving within 600 feet, of vibration-sensitive land uses (e.g., vibration sensitive laboratory equipment), prior to the initiation of construction activities, the City shall approve a construction vibration mitigation program developed by a qualified person experienced in the fields of environmental noise and vibration assessment to be implemented by the construction contractor. The construction vibration mitigation program shall include measures to reduce vibration resulting from construction activities to the maximum extent practicable. Notification and monitoring of construction activities shall include, but not be limited to, the following: • Vibration monitoring shall be performed during construction to establish the level of vibration produced by high impact activities. Monitoring shall be conducted when any construction would occur within 50 feet of a vibration sensitive land use. Monitoring shall be conducted using a portable vibration-monitoring instrument that provides a calibrated record of local ground movement/accelerations. If construction vibration exceeds 2.0 in/sec, alternative work methods and equipment shall be used. Baseline vibration levels at specified locations shall be established prior to construction. • Building occupants shall be notified at least two weeks prior to the start of construction that would occur within 50 feet of any vibration sensitive land use.	X	X	X		City of Chula Vista				

Potential Significant Impact	Mitigation Measures	Timeframe of Mitigation and Responsible Party				Monitoring Reporting Agency	Verification Frequency Time Frame to		Date of Completion	Date of Verification
		SPA[1]	Pre Const.[2]	During Const.[3]	Post Const.[4]		Monitor	Report		
5.5 Noise (cont.)										
Impact 5.5-3: Construction noise may exceed the 60 dBA L_{EQ} threshold for sensitive habitat in the MSCP Preserve Area and a significant temporary noise impact would occur to nesting birds in sensitive habitat. Construction of the Project, including grading activities, would not cause significant noise impacts to human receptor NSLUs.	See Mitigation Measures 5.6-4 through 5.6-8a.									
5.6 Biological Resources										
Impact 5.6-1a: Implementation of the Project would result in significant direct impacts to two sensitive plant species: Otay tarplant (Deinandra conjugens) and San Diego barrel cactus (Ferocactus viridescens).	**5.6-1a: Pre-Construction Rare Plant Surveys for Impacts Outside of Covered Projects.** Prior to issuance of any land development permits, including clearing, grubbing, and grading permits for the Lake Property and off-site impact areas, the Project applicant shall retain a City-approved biologist to conduct rare plant surveys for sensitive plant species, including, but not limited to, Otay tarplant (*Deinandra conjugens*) and San Diego barrel cactus (*Ferocactus viridescens*), which are species determined to be present or to have a high potential to occur and that require additional measures for unavoidable impacts. If plant species requiring transplantation – snake cholla (*Opuntia parryi* var. *serpentine*), San Diego barrel cactus, dot-seed plantain (*Plantago erecta)*, coast cholla (*Cylindropuntia prolifera*), Otay tarplant – are found within the impact areas, the applicant shall implement Mitigation Measure 5.6-2, which includes measures for plant salvage and relocation, and preparation and implementation of a resource salvage plan. Should narrow endemic species listed in Table 5-4 of the Chula Vista MSCP Subarea Plan be identified in the proposed off-site impact areas, the Project shall be designed so as to avoid them to the maximum extent practicable. If impacts to narrow endemics are unavoidable, they shall be limited as follows: impacts within the Lake Property shall be no more than 20 percent of the total population within the Project area; off-site impacts outside of the Preserve shall be no more than 20 percent of the total population within the Project area; and off-site impacts within the Preserve shall be no more than 5 percent of the total population within the Project area. In addition, impacts shall be mitigated at ratios of 1:1 to 3:1, depending on the sensitivity of the species. The proposed Project design, including mitigation, shall result in conservation of the species that is functionally equivalent to its status without the Project, including species numbers and area, and must ensure adequate Preserve design to protect the species in the long-term.	X	X	X		City of Chula Vista				

Potential Significant Impact	Mitigation Measures	Timeframe of Mitigation and Responsible Party				Monitoring Reporting Agency	Verification Frequency Time Frame to		Date of Completion	Date of Verification
		SPA[1]	Pre Const.[2]	During Const.[3]	Post Const.[4]		Monitor	Report		
5.6 Biological Resources (cont.)										
Impact 5.6-1b: Implementation of the Project could potentially result in significant indirect impacts to San Diego barrel cactus.	**5.6-1b: Plant Resource Salvage Plan**. Prior to issuance of land development permits, including clearing or grubbing and grading permits for the Main Campus Property, Lake Property and all off-site impact areas, the applicant shall prepare a resource salvage plan for areas with salvageable plant resources, including Otay tarplant (*Deinandra conjugens*), San Diego barrel cactus (Ferocactus viridescens), dot-seed plantain (*Plantago erecta*, Quino checkerspot butterfly larval host plant), and coast cholla and snake cholla (*Cylindropuntia prolifera* and *Opuntia parryi var. serpentine*, habitat for cactus wren). The resource salvage plan shall, at a minimum, evaluate options for plant salvage and relocation, including native plant mulching, selective soil salvaging, application of plant materials on manufactured slopes, and application/relocation of resources within the Preserve. Relocation efforts may include seed collection and/or transplantation to a suitable receptor site and will be based on the most reliable methods of successful relocation. The program shall contain a recommendation for method of salvage and relocation/application based on feasibility of implementation and likelihood of success. The program shall include, at a minimum, an implementation plan, maintenance and monitoring program, estimated completion time, and any relevant contingency measures. The resource salvage plan shall be prepared by a City-approved biologist. The applicant shall also be required to implement the resource salvage plan subject to the oversight of the Development Services Director (or their designee).	X	X	X		City of Chula Vista				
Impact 5.6-2: Implementation of the Project could potentially result in potential significant direct and indirect impacts to the San Diego fairy shrimp.	**5.6-2a: Fairy Shrimp Surveys.** Prior to issuance of any land development permits, including clearing, grubbing, and grading permits for the Lake Property and off-site impact areas, the Project applicant shall retain a qualified biologist possessing a valid ESA Section 10(a)(1)(A) Recovery Permit to survey potential habitat (i.e., road ruts) inside the proposed impact footprint in the Lake Property and off-site impact areas for presence of listed branchiopod species. The surveys shall be conducted in accordance with the most recent protocol survey guidelines established by the USFWS. If sensitive fairy shrimp species are found within the impact areas, the applicant shall implement Mitigation Measure 5.6-4, which includes measures for obtaining take authorization and preparation and implementation of a resource salvage plan.	X	X	X		City of Chula Vista				
	5.6-2b: Fairy Shrimp Take Authorization and Resource Salvage Plan. Prior to issuance of land development permits, including clearing or grubbing and grading permits for the Lake Property and off-site impact areas, if fairy shrimp surveys required by Mitigation Measure 5.6-3 show the Project would have unavoidable impacts to listed fairy shrimp species, the applicant shall consult with the City and USFWS to obtain take authorization pursuant to ESA and the Chula Vista MSCP Subarea Plan. The applicant shall provide for mitigation as required by the City and USFWS, which may include, but is not limited to, preparation of a resource salvage plan and translocation of cysts by inoculation into existing suitable habitat within approved preserve areas or into created habitat on-site or within the Preserve, or acquisition and preservation of occupied habitat off-site.	X	X	X		City of Chula Vista				

Potential Significant Impact	Mitigation Measures	Timeframe of Mitigation and Responsible Party				Monitoring Reporting Agency	Verification Frequency Time Frame to		Date of Completion	Date of Verification
		SPA[1]	Pre Const.[2]	During Const.[3]	Post Const.[4]		Monitor	Report		
5.6 Biological Resources (cont.)										
Impact 5.6-3: Implementation of the Project could potentially result in potential significant direct impacts to the Quino checkerspot butterfly.	**5.6-3: Quino Checkerspot Butterfly and Host Plant Surveys.** Prior to issuance of any land development permits, including clearing, grubbing, and grading permits for the Lake Property and off-site impact areas in the Otay River Valley, the Project applicant shall retain a qualified biologist possessing a valid ESA Section 10(a)(1)(A) Recovery Permit to perform a site assessment and presence/absence survey for the Quino checkerspot butterfly. The surveys shall be conducted in accordance with the most recent protocol survey guidelines established by the USFWS. The survey shall include an inventory and mapping of locations of Quino checkerspot and its host plant, *Plantago erecta*. For areas within Preserve Habitat-Category A as shown on Chula Vista MSCP Subarea Plan Figure 4-1, a detailed habitat assessment shall be conducted to identify patches of QCB habitat and delineate "significant QCB habitat patches" as described in the Chula Vista MSCP Subarea Plan Section 5.2.8.1 (4). Any "significant QCB habitat patches" within Preserve Habitat-Category A shall be avoided to the maximum extent practicable according to Section 5.2.8.1 (4). The applicant shall implement Mitigation Measure 5.6-2, which includes measures for preparation and implementation of a resource salvage plan for *Plantago erecta*. The Applicant shall notify the City and Wildlife Agencies if QCB are observed within 300 feet of the Preserve boundary, and shall work with the Wildlife Agencies to enable one-time only salvage by the Wildlife Agencies of larvae, butterflies and/or appropriate habitat constituents in areas identified to have QCB in accordance with section 5.2.8.2.	X	X	X		City of Chula Vista				
Impact 5.6-4: Implementation of the Project could potentially result in potential significant direct and indirect impacts the coastal California gnatcatcher.	**5.6-4: Coastal California Gnatcatcher Avoidance.** For any work proposed between February 15 and August 15, prior to issuance of any land development permits for the Main Campus Property, Lake Property, and off-site impact areas, including clearing, grubbing, grading, and construction permits within or adjacent to suitable breeding habitat for the coastal California gnatcatcher, pre-construction surveys shall be performed in order to determine the presence or absence of the species and extent of occupied habitat. The pre-construction survey area for the coastal California gnatcatcher shall encompass suitable habitat within the Project work zone, as well as a 300-foot buffer. The pre-construction survey shall be performed to the satisfaction of the Development Services Director (or their designee) by a qualified biologist familiar with the City's MSCP Subarea Plan. The results of the pre-construction survey must be submitted in a report to the Development Services Director (or their designee) for review and approval no earlier than 30 days prior to the issuance of any land development permits and prior to initiating any construction activities. If the coastal California gnatcatcher is detected, a minimum 300-foot buffer delineated by orange biological fencing shall be established around the detected species to ensure that no work shall occur within the occupied habitat from February 15 through August 15 and on-site noise reduction techniques shall be implemented to ensure that construction noise levels not exceed 60 dBA L_{EQ} (1 hour) at the location of any occupied sensitive habitat areas.	X	X	X		City of Chula Vista				

Potential Significant Impact	Mitigation Measures	Timeframe of Mitigation and Responsible Party				Monitoring Reporting Agency	Verification Frequency Time Frame to		Date of Completion	Date of Verification
		SPA[1]	Pre Const.[2]	During Const.[3]	Post Const.[4]		Monitor	Report		
5.6 Biological Resources (cont.)										
Impact 5.6-4 (cont.)	**5.6-4: Coastal California Gnatcatcher Avoidance (cont.)** The Development Services Director (or their designee) shall have the discretion to modify the buffer width depending on-site-specific conditions and in consultation with CDFW and USFWS. If the results of the pre-construction survey determine that the survey area is unoccupied, the work may commence at the discretion of the Development Services Director (or their designee) following the review and approval of the pre-construction report. The Applicant shall notify the City and Wildlife Agencies if QCB are observed within 300 feet of the Preserve boundary, and shall work with the Wildlife Agencies to enable one-time only salvage by the Wildlife Agencies of larvae, butterflies and/or appropriate habitat constituents in areas identified to have QCB in accordance with section 5.2.8.2.									
Impact 5.6-5: Implementation of the Project could potentially result in potential significant direct and indirect impacts to the least Bell's vireo.	**5.6-5: Least Bell's Vireo Avoidance**. For any work proposed at the northern edge of the Main Campus Property and off-site impact areas between March 15 and September 15, a pre construction survey for the least Bell's vireo shall be performed in order to reaffirm the presence and extent of occupied habitat. The pre-construction survey area for the species shall encompass all potentially suitable habitat within the Project work zone, as well as a 300-foot survey buffer. Habitat presumed to be occupied by least Bell's vireo is confined to southern willow scrub habitat approximately 200 feet northeast of the limit of proposed development. Buffer requirements for occupied habitat would encompass approximately 100 feet along the northeast edge of the proposed development area. The pre construction survey shall be performed to the satisfaction of the Development Services Director (or their designee) by a qualified biologist familiar with the Chula Vista MSCP Subarea Plan. The results of the pre construction survey must be submitted in a report to the Development Services Director (or their designee) for review and approval prior to the issuance of any land development permits and prior to initiating any	X	X	X		City of Chula Vista				
	5.6-5: Least Bell's Vireo Avoidance (cont.) construction activities. If least Bell's vireo is detected, a minimum 300-foot buffer delineated by orange biological fencing shall be established around the detected species to ensure that no work shall occur within occupied habitat from March 15 through September 15. On-site noise reduction techniques shall be implemented to ensure that construction noise levels not exceed 60 dBA LEQ (1 hour) at the location of any occupied sensitive habitat areas. The Development Services Director (or their designee) shall have the discretion to modify the buffer width depending on site-specific conditions. If the results of the pre-construction survey determine that the survey area is unoccupied, the work may commence at the discretion of the Development Services Director (or their designee) following the review and approval of the pre-construction report.									

Potential Significant Impact	Mitigation Measures	Timeframe of Mitigation and Responsible Party				Monitoring Reporting Agency	Verification Frequency Time Frame to		Date of Completion	Date of Verification
		SPA[1]	Pre Const.[2]	During Const.[3]	Post Const.[4]		Monitor	Report		
5.6 Biological Resources (cont.)										
Impact 5.6-6: Implementation of the Project could potentially result in potential significant direct and indirect impacts to the burrowing owl.	**5.6-6: Pre-Construction Burrowing Owl Survey**. Prior to issuance of any land development permits, including clearing, grubbing, and grading permits for the Main Campus Property and off-site impact areas south of it, the Project applicant shall retain a City-approved biologist to conduct focused pre-construction surveys for burrowing owls. The surveys shall be performed no earlier than 30 days prior to the commencement of any clearing, grubbing, or grading activities. If occupied burrows are detected, the City-approved biologist shall prepare a passive relocation mitigation plan subject to review and approval by the wildlife agencies and the City, including any subsequent burrowing owl relocation plans to avoid impacts from construction-related activities.	X	X	X		City of Chula Vista				
Impact 5.6-7: Implementation of the Project could potentially result in potential significant direct and indirect impacts to the northern harrier.	**5.6-7: Pre-Construction Northern Harrier Survey**. Prior to issuance of any land development permits, including clearing, grubbing, and grading permits for the Main Campus Property and off site impact areas south of it, the Project applicant shall retain a City-approved biologist to conduct focused surveys for northern harrier to determine the presence or absence of this species within 900 feet of the construction area. The pre-construction survey must be conducted within 10 calendar days prior to the start of construction. The results of the survey must be submitted to the City for review and approval. If active nests are detected by the City-approved biologist, a 900-foot impact avoidance buffer around active nests will be established unless a different buffer is recommended by the City-approved biologist and approved by the City, CDFW, and USFWS, and a bio-monitor shall be on site during construction to minimize construction impacts and ensure that no nests are removed or disturbed until all young have fledged.	X	X	X		City of Chula Vista				
Impacts 5.6-8a through 8c: Implementation of the Project could potentially result in potential significant direct and indirect impacts to the southern California rufous-crowned sparrow and coastal cactus wren, as well as potential impacts to raptors and breeding migratory birds.	**5.6-8a: Pre-Construction Nesting Bird Survey**. To avoid any direct impacts to raptors and/or any migratory birds protected under the Migratory Bird Treaty Act, removal of habitat that supports active nests on the proposed area of disturbance for the Main Campus Property and Lake Property and all off-site impact areas should occur outside of the breeding season for these species. The breeding season is defined as February 15 August 15 for coastal California gnatcatcher and other non-raptor birds and January 15–August 31 for raptor species. If removal of habitat on the proposed area of disturbance must occur during the breeding season, the Project applicant 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 seven calendar days prior to the start of construction, and the results must be submitted 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 are avoided, including establishing a 300-foot avoidance buffer (500 feet for raptors), unless a different buffer is recommended by the City-approved biologist and approved by the City, CDFW, and USFWS. The report or mitigation plan shall be submitted to	X	X	X		City of Chula Vista				

Potential Significant Impact	Mitigation Measures	Timeframe of Mitigation and Responsible Party				Monitoring Reporting Agency	Verification Frequency Time Frame to		Date of Completion	Date of Verification
		SPA[1]	Pre Const.[2]	During Const.[3]	Post Const.[4]		Monitor	Report		
5.6 Biological Resources (cont.)										
Impacts 5.6-8a through 8c (cont.)	**5.6-8a: Pre-Construction Nesting Bird Survey (cont.)** 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.									
	5.6-8b: Construction Fencing. Prior to issuance of land development permits, including clearing, grubbing, grading, and/or construction permits, the Project applicant shall install fencing in accordance with Chula Vista Municipal Code 17.35.030. Prominently colored, well-installed fencing and signage shall be in place wherever the limits of grading are adjacent to sensitive vegetation communities or other biological resources, as identified by the qualified monitoring biologist. Fencing shall remain in place during all construction activities. All temporary fencing shall be shown on grading plans for areas adjacent to the Preserve and for all off-site facilities constructed within the Preserve. Prior to release of grading and/or improvement bonds (as may be required by the City), a qualified biologist shall provide evidence that work was conducted as authorized under the approved land development permit and associated plans.	X	X	X		City of Chula Vista				
	5.6-8c: Construction Staging Areas. The Project applicant shall ensure proper designation of construction staging areas for Project activities such that no staging areas are located within Preserve areas or other sensitive habitat areas. Staging areas shall be identified following the advice of a qualified biologist, and with the approval of the City. Designated staging areas shall be included on construction plans and if located outside of development areas, Project plans shall include revegetation and/or mitigation for staging area impacts according to the HLIT. The construction contractor shall receive approval by the Project applicant prior to mobilizations and staging of equipment outside of the Project boundaries.	X	X	X		City of Chula Vista				
	5.6-8d: Biological Construction Monitor. Prior to issuance of land development permits, including clearing, grubbing, grading, and/or construction permits, for any areas adjacent to the Preserve and the off-site facilities located within the Preserve, the Project applicant shall provide written confirmation that a City-approved biological monitor has been retained and shall be on site during clearing, grubbing, and/or grading activities. The biological monitor shall attend all pre-construction meetings and be present during the removal of any vegetation to ensure that the approved limits of disturbance are not exceeded and provide periodic monitoring of the impact area including, but not limited to, trenches, stockpiles, storage areas, and protective fencing. Monitoring adjacent to Preserve Habitat Category A shall be consistent with the Chula Vista MSCP Subarea Plan Section 5.2.8.2. The biological monitor shall be authorized to halt all associated Project activities that	X	X			City of Chula Vista				

Potential Significant Impact	Mitigation Measures	Timeframe of Mitigation and Responsible Party				Monitoring Reporting Agency	Verification Frequency Time Frame to		Date of Completion	Date of Verification
		SPA[1]	Pre Const.[2]	During Const.[3]	Post Const.[4]		Monitor	Report		
5.6 Biological Resources (cont.)										
	5.6-8d: Biological Construction Monitor (cont.) may be in violation of the Chula Vista MSCP Subarea Plan and/or permits issued by any other agencies having jurisdictional authority over the Project. Before construction activities occur in areas containing sensitive biological resources within the off-site facilities area, all workers shall be educated by a City-approved biologist to recognize and avoid those areas that have been marked as sensitive biological resources.									
	5.6-8e: Implement Preserve Edge Plan. Prior to the issuance of grading permits, the Project applicant shall submit evidence, to the satisfaction of the Development Services Director (or their designee), showing that the following features of the Preserve Edge Plans have been incorporated into grading and landscaping plans: • Provide post and rail fencing and signage for sensitive habitat adjacent to trails. Prior to the issuance of land development permits, including clearing or grubbing and grading and/or construction permits, for the Project, the Project owner shall submit wall and fence plans depicting appropriate barriers to prevent unauthorized access to the Preserve. The wall and fence plans shall, at a minimum, illustrate the locations and cross-sections of proposed walls, fences, informational and directional signage, access controls, and/or boundary markers along the Preserve boundary and off-site pedestrian trails as conceptually described in the Edge Plans. The required wall and fence plan shall be subject to the approval of the Development Services Director (or their designee). • Install canyon subdrains to prevent erosion of drainage and wetlands within the Preserve. • Prevent release of toxins, chemicals, petroleum products, exotic plant materials, and other elements that might degrade or harm the natural environment or ecosystem within the Preserve. • Implement all necessary requirements for water quality as specified by the state and local agencies. • Do not allow the introduction of invasive, non-native plant species into areas immediately adjacent to the Preserve. All slopes immediately adjacent to the Preserve shall be planted with native species that reflect the adjacent native habitat, per the Edge Plan. Prior to the issuance of land development permits, including clearing or grubbing and grading and/or construction permits, for areas within the 100-foot Preserve edge, the Project applicant shall prepare and submit to the satisfaction of the Development Services Director (or their designee) landscape plans to ensure that the proposed plant palette is consistent with the plant list contained in the Preserve Edge Plans for each village. The landscape plan shall also incorporate a manual weeding program for areas adjacent to the Preserve. The manual weeding program shall describe, at a minimum, the entity responsible for controlling invasive species, the maintenance activities and methods	X	X	X		City of Chula Vista				

Potential Significant Impact	Mitigation Measures	Timeframe of Mitigation and Responsible Party				Monitoring Reporting Agency	Verification Frequency Time Frame to		Date of Completion	Date of Verification
		SPA[1]	Pre Const.[2]	During Const.[3]	Post Const.[4]		Monitor	Report		
5.6 Biological Resources (cont.)										
	5.6-8e: Implement Preserve Edge Plan (cont.) required to control invasive species, and a maintenance/monitoring schedule. • Incorporate all fuel modification areas into development plans and do not include any areas within the Preserve, consistent with the Fire Protection Plan (FPP). • In compliance with the Chula Vista MSCP Subarea Plan, all lighting shall be shielded and directed away from the Preserve. Prior to issuance of a building permit, a lighting plan and photometric analysis shall be prepared pursuant to Mitigation Measures 5.2-1 and 5.2-2 provided in Section 5.2, Aesthetics/Landform Alteration. • Noise impacts adjacent to the Preserve lands shall be minimized. Berms or walls shall be constructed adjacent to commercial areas and any other use that may introduce noises that could impact or interfere with wildlife utilization of the Preserve, although no such uses are currently proposed within or adjacent to the Preserve Edge. Construction activities shall include noise reduction measures or be conducted outside the breeding season of sensitive bird species, consistent with Mitigation Measure 5.5-5, provided in Section 5.5.									
Impact 5.6-9: Significant short-term indirect impacts to sensitive wildlife species would occur during construction activities and would potentially consist of noise, lighting, presence of toxic substances, degradation of water quality. In addition, significant long-term edge effects could include noise, lighting, domestic animal predation, and attraction of natural predators.	**5.6-9: Siting Criteria Analysis**. Prior to the issuance of any land development permits, including clearing, grubbing, and grading permits for all Planned and Future Facilities within 100 percent Conservation Areas including Preserve areas south of the Main Campus Property and north and west of the Lake Property, the Project applicant shall complete an updated siting criteria analysis for all proposed Planned and Future Facilities, based on biological surveys completed within one year of construction.	X	X	X	X	City of Chula Vista				
Impact 5.6-10a: Implementation of the Project would result in significant direct impacts to maritime succulent scrub, Diegan coastal sage scrub, mule fat scrub, non-native grassland, and Diegan coastal sage scrub/non-native grassland, as shown in Table 5.6-3.	**5.6-10a: Compensatory Mitigation for Impacts to Sensitive Habitat**. Impacts to sensitive habitat types from development associated with the Lake Property and off-site impact areas will be mitigated as shown in Table 5.6-6 and in accordance with Table 5-3 of the Chula Vista MSCP Subarea Plan. Impacts associated with the Main Campus Property are in the Development Area of a Covered Project or are Planned and Future Facilities within 100 percent Conservation Areas of a Covered Project, and do not require compensatory mitigation above and beyond the restoration requirements specified in the Subarea Plan. Mitigation for impacts associated with the Lake Property will be in accordance with the Chula Vista MSCP Subarea Plan and the City's HLIT Ordinance and as provided in the HLIT Findings (Appendix E of this EIR). Areas within or adjacent to the Lake Property will be given priority for compensatory mitigation. Prior to issuance of any land development permits, including clearing, grubbing, and grading permits, the Project applicant shall mitigate for direct impacts pursuant to Section 5.2.2 of the City's MSCP Subarea Plan. In compliance with the Chula Vista MSCP Subarea Plan, the applicant shall secure the appropriate MSCP Tier mitigation credits within	X	X	X		City of Chula Vista				

Potential Significant Impact	Mitigation Measures	Timeframe of Mitigation and Responsible Party				Monitoring Reporting Agency	Verification Frequency Time Frame to		Date of Completion	Date of Verification
		SPA[1]	Pre Const.[2]	During Const.[3]	Post Const.[4]		Monitor	Report		
5.6 Biological Resources (cont.)										
Impact 5.6-10a (cont.)	**5.6-10a: Compensatory Mitigation for Impacts to Sensitive Habitat (cont.)** a City- and wildlife agency-approved mitigation bank or other approved location offering mitigation credits consistent with the ratios specified in Table 5.6-6. The Project applicant shall be required to provide verification of purchase to the City prior to issuance of any land development permits. 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 MSCP Tier 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. Prior to issuance of any land development permit, and to the satisfaction and oversight of the City's Development Services Director (or their designee), the applicant shall secure the parcel(s) that will be permanently preserved for impact mitigation, prepare a long term management and monitoring plan 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 management and monitoring plan 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 management and monitoring plan. 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 ensure 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 management and monitoring plan 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.									

Potential Significant Impact	Mitigation Measures	Timeframe of Mitigation and Responsible Party				Monitoring Reporting Agency	Verification Frequency Time Frame to		Date of Completion	Date of Verification
		SPA[1]	Pre Const.[2]	During Const.[3]	Post Const.[4]		Monitor	Report		
5.6 Biological Resources (cont.)										
Impact 5.6-10b: Implementation of the Project would result in significant direct impacts to maritime succulent scrub.	**5.6-10b: Maritime Succulent Scrub Restoration Plan**. Prior to the issuance of any land development permits (including clearing and grubbing or grading permits) on the Main Campus Property, the Project applicant shall prepare a restoration plan to restore 0.31 acre of maritime succulent scrub in the temporary impact (grading) footprint within the Preserve. The maritime succulent scrub restoration shall be prepared by a City approved biologist and to the satisfaction of the Development Services Director (or their designee) pursuant to the Otay Ranch RMP restoration requirements. The restoration plan shall include, at a minimum, an implementation strategy; species salvage and relocation, appropriate seed mixtures and planting method; irrigation; quantitative and qualitative success criteria; maintenance, monitoring, and reporting program; estimated completion time; and contingency measures. The Project applicant shall also be required to implement the restoration plan subject to the oversight and approval of the Development Services Director (or their designee).	X	X			City of Chula Vista				
Impact 5.6-10c: Implementation of the Project would result in significant direct impacts to Diegan coastal sage scrub.	**5.6-10c: Salt Creek Coastal Sage Scrub Restoration Plan**. Prior to the issuance of any grading permits for the Project, the Project applicant shall prepare a restoration plan to restore 20.6 acres of disturbed habitat within Salt Creek (shown on Figure 3-2 of the Chula Vista MSCP Subarea Plan) to coastal sage scrub habitat. The restoration plan shall be prepared by a City approved biologist and to the satisfaction of the Development Services Director (or their designee) consistent with the guidelines established in the Otay Ranch Coastal Sage Scrub and Maritime Succulent Scrub Habitat Replacement Master Plan. 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. The Project applicant shall also be required to implement the restoration plan subject to the oversight and approval of the Development Services Director (or their designee).	X	X			City of Chula Vista				
Impact 5.6-10d: Implementation of the Project would result in significant direct impacts to Diegan coastal sage scrub/non-native grassland.	**5.6-10d: Coastal Sage Scrub and Non-Native Grassland Revegetation Plan**. Prior to issuance of land development permits, including clearing, grubbing, grading and construction permits for the Future and Planned Facilities associated with the Main Campus Property and the Lake Property, the Project applicant shall provide a revegetation plan for temporary impacts of Planned and Future Facilities within the Preserve, estimated at 0.66 acre of coastal sage scrub and 0.27 acre of non-native grassland. The revegetation plan must be prepared by a qualified City-approved biologist familiar with the City's MSCP Subarea Plan and must include, but not be limited to, an implementation plan; appropriate seed mixtures and planting method; irrigation method; quantitative and qualitative success criteria; maintenance, monitoring, and reporting program; estimated completion time; and contingency measures. The Project applicant shall be required to prepare and implement the revegetation plan subject to the oversight and approval of the Development Services Director (or their designee).	X	X			City of Chula Vista				

Potential Significant Impact	Mitigation Measures	Timeframe of Mitigation and Responsible Party				Monitoring Reporting Agency	Verification Frequency Time Frame to		Date of Completion	Date of Verification
		SPA[1]	Pre Const.[2]	During Const.[3]	Post Const.[4]		Monitor	Report		
5.6 Biological Resources (cont.)										
Impact 5.6-10e: Implementation of the Project would result in significant direct impacts to sensitive vegetation communities.	**5.6-10e: Annexation to Otay Ranch Preserve Community Facilities District (CFD) No. 97-2**. Prior to the approval of the First Final Map for the Project on the Main Campus Property, the Project applicant shall coordinate with the City Engineer and annex the Project area within the Otay Ranch Preserve Community Facilities District (CFD) No. 97-2.	X	X			City of Chula Vista				
	5.6-10f: Land Conveyance to Otay Ranch Preserve Owner/Manager. Prior to recordation of each Final Map, Project applicant shall convey land within the Otay Ranch Preserve to the Otay Ranch Preserve Owner/Manager (POM) or its designee at a ratio of 1.188 acres for each acre of development area (excluding "common use" areas as defined by the GDP and RMP), as defined in the RMP. Access for maintenance purposes shall also be conveyed to the satisfaction of the POM, and each tentative map shall be subject to a condition that the applicant shall execute a maintenance agreement with the POM stating that it is the responsibility of the applicant to maintain the conveyed parcel until the Preserve CFD has generated sufficient revenues to enable the POM to assume maintenance responsibilities. The applicant shall maintain and manage the offered conveyance property consistent with the RMP Phase 2 until the Preserve CFD has generated sufficient revenues to enable the POM to assume maintenance and management responsibilities.	X	X			City of Chula Vista				
	5.6-10g: Area Specific Management Directives for Conveyance Areas. Prior to the POM's formal acceptance of the conveyed land in fee title, the Project applicant shall prepare, to the satisfaction of the POM, Area Specific Management Directives (ASMDs) for the associated conveyance areas. The ASMDs shall incorporate the guidelines and specific requirements of the Otay Ranch RMP plans and programs, management requirements of Table 3-5 of the MSCP Subregional Plan and information and recommendations from any relevant special studies. Guidelines and requirements from these documents shall be evaluated in relationship to the Preserve configuration and specific habitats and species found within the associated conveyance areas and incorporated into the ASMDs to the satisfaction of the POM.	X	X			City of Chula Vista				
Impact 5.6-11: Implementation of the Project would result in significant direct impacts to USACE regulated jurisdictional waters and CDFW jurisdictional channels.	**5.6-11a: Wetland Delineation Studies**. Prior to issuance of any land development permits, including clearing, grubbing, and grading permits on the Main Campus Property and Lake Property and off-site impact areas, the Project applicant 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 in accordance with the methods 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.	X	X	X		City of Chula Vista				

Potential Significant Impact	Mitigation Measures	Timeframe of Mitigation and Responsible Party				Monitoring Reporting Agency	Verification Frequency Time Frame to		Date of Completion	Date of Verification
		SPA[1]	Pre Const.[2]	During Const.[3]	Post Const.[4]		Monitor	Report		
5.6 Biological Resources (cont.)										
Impact 5.6-11 (cont.)	**5.6-11b: Wetland Permits**. Prior to issuance of land development permits, including clearing or grubbing and grading permits for areas that impact jurisdictional waters, the Project applicant shall provide evidence that all required regulatory permits, such as those required under Section 404 of the federal CWA, Section 1600 of the California Fish and Game Code, and the Porter Cologne Water Quality Act, have been obtained from the appropriate agencies. Wetland mitigation requirements under these permits might include preparation of a Habitat Mitigation and Monitoring Plan approved by USACE, CDFW, and RWQCB.	X	X	X		City of Chula Vista				
5.7 Cultural and Paleontological Resources										
Impact 5.7-1: Pending testing for significance, two sites within the Project area have been identified as potentially culturally significant, and construction activities associated with the Project could inadvertently result in adverse impacts to presently unknown archaeological resources that may be uncovered during clearing and grading.	**5.7-1a: Archaeological Monitor**. Prior to issuance of land development permits, including clearing or grubbing and grading permits, the applicant shall provide written confirmation and incorporate into grading plans, to the satisfaction of the Development Services Director (or their designee), that a principal investigator as listed by the Secretary of the Interior (CFR Title 36, Section 61) has been retained in an oversight capacity to ensure that an archaeological monitor will be present during all cutting of previously undisturbed soil. If these cutting activities would occur in more than one location, multiple monitors shall be provided to monitor these areas, as determined necessary by the principal investigator.	X	X	X		City of Chula Vista				
	5.7-1b: Resource Discovery Procedure. During the initial grading of previously undisturbed soils within the UID Project area and any off site improvement areas, prehistoric and historic resources may be encountered. In the event that the monitor identifies a potentially significant site, the archaeological monitor shall secure the discovery site from further impacts by delineating the site with staking and flagging, and by diverting grading equipment away from the archaeological site. Following notification to the Development Services Director (or their designee), the archaeological monitor shall conduct investigations as necessary to determine if the discovery is significant under the criteria listed in CEQA and the environmental guidelines of the City of Chula Vista. If the discovery is determined to be not significant, grading operations may resume, and the archaeological monitor shall summarize the findings in a letter report to the Development Services Director (or their designee) following the completion of mass grading activities. The letter report shall describe the results of the on-site archeological monitoring, each archaeological site observed, the scope of testing conducted, results of laboratory analysis (if applicable), and conclusions. The letter report will be completed to the satisfaction of the Development Services Director (or their designee) prior to release of grading bonds. Any artifacts recovered during the evaluation shall be curated at a curation facility approved by the Development Services Director (or their designee). For those prehistoric/historic resources that are determined to be significant, the following measures shall be implemented by the applicant.			X		City of Chula Vista				

Potential Significant Impact	Mitigation Measures	Timeframe of Mitigation and Responsible Party				Monitoring Reporting Agency	Verification Frequency Time Frame to		Date of Completion	Date of Verification
		SPA[1]	Pre Const.[2]	During Const.[3]	Post Const.[4]		Monitor	Report		
5.7 Cultural and Paleontological Resources (cont.)										
	i. An alternate means of achieving mitigation shall be pursued. In general, these forms of mitigation include: (1) site avoidance by preservation of the site in a natural state in open space or in open space easements; (2) site avoidance by preservation through capping the site and placing landscaping on top of the fill; (3) data recovery through implementation of an excavation and analysis program; or (4) a combination of one or more of the above measures. Procedures for implementing the alternative forms of mitigation described herein are further detailed in the Mitigation Monitoring and Reporting Program adopted as part of the 1993 Otay Ranch General Development Plan Program EIR (EIR 90 01). ii. For those sites for which avoidance and preservation is not feasible or appropriate, the applicant shall prepare a Data Recovery Plan. The plan will, at a minimum, include the following: (1) a statement of why data recovery is appropriate as a mitigating measure; (2) a research plan that explicitly provides the research questions that can reasonably be expected to be addressed by excavation and analysis of the site; (3) a statement of the types and kinds of data that can reasonably be expected to exist at the site and how these data will be used to answer important research questions; (4) a step-by-step discussion of field and laboratory methods to be employed and (5) a statement regarding provisions for curation and storage of the artifacts, notes, and photographs. In cases involving historic resources, archival research and historical documentation shall be used to augment field-testing programs. Grading operations within the affected area may resume once the site has been fully evaluated and mitigated to the satisfaction of the Development Services Director (or their designee). All significant artifacts collected during the implementation of the Data Recovery Plan shall be curated at a facility approved by the Development Services Director (or their designee). iii. Following the completion of mass grading operations, the applicant shall prepare a plan that addresses the temporary on-site presentation and interpretation of the results of the results of the archaeological studies for the Project. This could be accomplished through exhibition within a future community center, civic building, and/or multi-purpose building. This exhibition will only be for temporary curation of those materials being actively used for interpretation and display, and that permanent curation of artifacts and data will be at a regional repository when one is established. All significant artifacts collected during the implementation of the Data Recovery Plan shall be permanently curated at a facility approved by the Development Services Director (or their designee).									

Potential Significant Impact	Mitigation Measures	Timeframe of Mitigation and Responsible Party				Monitoring Reporting Agency	Verification Frequency Time Frame to		Date of Completion	Date of Verification
		SPA[1]	Pre Const.[2]	During Const.[3]	Post Const.[4]		Monitor	Report		
5.7 Cultural and Paleontological Resources (cont.)										
Impact 5.7-2: Although it is not considered likely, construction activities (e.g., clearing and grading) during Project implementation could inadvertently uncover unknown human remains. If such remains are adversely affected, the impact would be potentially significant.	**5.7-2: Human Remains Disturbance Protocol.** If human remains are discovered during grading or site preparation activities within the UID on-site development or off-site improvement Project areas, the archaeological monitor shall secure the discovery site from any further disturbance. State Health and Safety Code Section 7050.5 requires that no further disturbance shall occur until the San Diego County Coroner has made the necessary findings as to the origin and disposition of the remains pursuant to PRC Section 5097.98. If the remains are determined to be of Native American descent, the coroner has 24 hours to notify the NAHC. The Native American Heritage Commission will then identify the person(s) thought to be the Most Likely Descendent of the deceased Native American. The Most Likely Descendent will assist the Development Services Director (or their designee) in determining what course of action shall be taken to deal with the remains. Grading operations within the affected area may resume once the site has been fully evaluated and mitigated to the satisfaction of the Development Services Director (or their designee). The Archaeological Monitor shall summarize the findings in a letter report to the Development Services Director (or their designee) following the completion of mass grading activities.			X		City of Chula Vista				
Impact 5.7-3: The Project site includes surficial deposits and underlying geologic formations with high paleontological resource sensitivity. As a result, Project-related construction activities would have potentially significant impact to these resources.	**5.7-3a: Paleontological Resource Mitigation Program.** Prior to the issuance of grading permits for the proposed on-site development or off-site improvement Project areas, the applicant shall provide written confirmation to the Development Services Director (or their designee) that a qualified paleontologist has been retained to carry out an appropriate mitigation program. A qualified paleontologist is defined as an individual with a M.S. or Ph.D. in paleontology or geology who is familiar with paleontological procedures and techniques. A pre-grade meeting shall be held between the paleontologist and the grading and excavation contractors.	X	X			City of Chula Vista				
	5.7-3b: Paleontological Monitor. A paleontological monitor shall be on-site at all times during the original cutting of previously undisturbed areas of the Otay Formation or Quaternary alluvial terrace deposits to inspect cuts for contained fossils. A paleontological monitor is defined as an individual who has experience in the collection and salvage of fossil materials. The paleontological monitor shall work under the direction of a qualified paleontologist. i. The monitor shall be on the site at least on a quarter-time basis during the original cutting of previously undisturbed sediments of low sensitivity geologic formations (Holocene alluvial deposits) to inspect cuts for contained fossils. He or she shall periodically (every several weeks) inspect original cuts in deposits with unknown resource sensitivity, if applicable (e.g., Quaternary alluvium). ii. In the event that fossils are discovered in unknown, low or high sensitivity materials, the per-day field monitoring time shall be increased. Conversely, if fossils are not discovered, the monitoring, at the discretion of the Planning Department, shall be reduced. A paleontological monitor is not needed during grading in areas with deposits exhibiting no resource sensitivity (topsoil and artificial fill).			X		City of Chula Vista				

Potential Significant Impact	Mitigation Measures	Timeframe of Mitigation and Responsible Party				Monitoring Reporting Agency	Verification Frequency Time Frame to		Date of Completion	Date of Verification
		SPA[1]	Pre Const.[2]	During Const.[3]	Post Const.[4]		Monitor	Report		
5.7 Cultural and Paleontological Resources (cont.)										
Impact 5.7-3 (cont.)	**5.7-3c: Fossil Discovery Procedure.** If fossils are discovered, the paleontologist (or paleontological monitor) shall recover them. In most cases, this fossil salvage can be completed in a short time frame, although some fossil specimens (e.g., a complete whale skeleton) may require an extended salvage time. In these instances, the paleontologist (or paleontological monitor) shall be allowed to temporarily direct, divert, or halt grading to allow recovery of fossil remains in a timely manner. Because of the potential for the recovery of small fossil remains such as isolated mammal teeth, it may be necessary in certain instances, and at the discretion of the paleontological monitor, to set up a screen-washing operation on the site.			X		City of Chula Vista				
	5.7-3d: Fossil Recording. Prepared fossils, along with copies of all pertinent field notes, photos, and maps, shall be deposited in a scientific institution with paleontological collections such as the San Diego Natural History Museum. A final summary report shall be completed, and shall include discussions of the methods used, stratigraphy exposed, fossils collected, and significance of recovered fossils.			X	X	City of Chula Vista				
5.8 Geology and Soils										
Impact 5.8-1a: The Project is subject to potential seismic-related ground shaking that could result in a significant impact. **Impact 5.8-1b:** Project grading activities could result in slope instabilities or landslides within the Project site and impacts prior to mitigation would be potentially significant.	**5.8-1a: Site-specific Geotechnical Evaluation.** Prior to the issuance of any grading permit for the UID, the applicant shall have a detailed, site-specific geotechnical evaluation conducted prior to finalization of Project plans. This evaluation will include appropriate subsurface exploration, laboratory testing and field inspection/verification to further evaluate geologic conditions and provide additional information on the engineering characteristics of earth materials and associated conditions present within the site. The site-specific geotechnical evaluation will be submitted to the City for review and approval prior to Project construction. All measures and recommendations included in the site-specific geotechnical evaluation will be incorporated into the final design plans for the Project.	X	X			City of Chula Vista				
	5.8-1b: Geotechnical Risk Reduction Measures. Prior to the issuance of any grading permit for the UID, the applicant shall verify that the applicable recommendations in the Geotechnical Evaluation prepared by Ninyo & Moore, dated May 27, 2016, have been incorporated into the final Project design and construction documents to the satisfaction of the City of Chula Vista Engineer. These recommendations address issues including soft ground, expansive soils, ground shaking, liquefaction, and shallow groundwater. Geotechnical review of grading plans shall include a review of all proposed storm drain facilities to ensure the storm water runoff would not interfere with the proposed geotechnical recommendations.	X	X			City of Chula Vista				
	5.8-1c: Slope Factor of Safety. Prior to the issuance of any grading permit for the UID, the City Engineer shall review and approve all slopes stability strategies to ensure all graded slopes have a minimum factor of safety of 1.5. Strategies to increase stability may include, but are not limited to, a stability buttress or sheer pins.		X	X		City of Chula Vista				

Potential Significant Impact	Mitigation Measures	Timeframe of Mitigation and Responsible Party				Monitoring Reporting Agency	Verification Frequency Time Frame to		Date of Completion	Date of Verification
		SPA[1]	Pre Const.[2]	During Const.[3]	Post Const.[4]		Monitor	Report		
5.8 Geology and Soils (cont.)										
Impact 5.8-2: Impacts associated with soil erosion and topsoil loss associated with Project construction and operation would be potentially significant.	See Mitigation Measures 5.11-1a through 5.11-1f.									
Impact 5.8-3a: The Otay Formation and surficial units (alluvium, undocumented fill, and topsoil) underlaying the Project site could become unstable as a result of the Project. As a result, there is the potential for landsliding, lateral spreading, and/or collapse and impacts would be potentially significant.	See Mitigation Measures 5.8-1a through 5.8-1c.									
Impact 5.8-3b: There is a potential to encounter corrosive soils during Project construction. Project impacts associated with potentially corrosive soils would be potentially significant.	See Mitigation Measures 5.8-1a through 5.8-1c.									
Impact 5.8-4: Soils documented within the Project site have a high expansion potential and development of structures on these soils could create substantial risks to life or property. As a result, impacts associated with potential soil expansion would be potentially significant.	See Mitigation Measures 5.8-1a through 5.8-1c.									
5.9 Public Services										
Fire and Emergency Medical Services										
Impact 5.9.1-1: The Project's increase in demand for fire and emergency medical services would be significant, if fully operational and appropriately equipped and staffed fire stations are not provided commensurate with the demand for fire and emergency medical services.	**5.9.1-1a: Growth Management Program's Fire and Emergency Medical Service Threshold Standard.** The City of Chula Vista shall continue to monitor the Chula Vista Fire Department responses to emergency fire and medical calls and report the results to the Growth Management Oversight Commission on an annual basis.				X	City of Chula Vista				
	5.9.1-1b: Public Facilities Development Impact Fees. Prior to the approval of each building permit, the Project applicant(s) shall pay a PFDIF in accordance with the fees in effect at the time of building permit issuance and phasing approved in the Public Facilities Finance Plan. Subject to approval of the City Council, in lieu of paying the required impact fee, the applicant(s) may satisfy that requirement through a written agreement, by which the applicant(s) agrees to either pay the fee or build the facility in question, pursuant to the terms of the agreement.	X	X			City of Chula Vista				
	5.9.1-1c: Fire Code Compliance. Prior to the approval of each building permit and to the satisfaction of the City of Chula Vista Fire Marshal, the Project shall meet the provisions of the current City-adopted California fire code. In meeting said provisions, the Project shall meet the minimum fire flow requirements based upon construction type and square footage.	X	X			City of Chula Vista and the Chula Vista Fire Department				
	5.9.1-1d: Fuel Modification Easements. Prior to approval of a Final Map requiring off-site fuel modification, as determined the City Fire Marshal, the applicant shall secure any required permits and/or access easements necessary to perform the required brush abatement activities contained in the UID Fire Protection Plan, to the satisfaction of the City's Fire Marshal and Development Services Director.	X	X	X		City of Chula Vista and the Chula Vista Fire Department				

Potential Significant Impact	Mitigation Measures	Timeframe of Mitigation and Responsible Party				Monitoring Reporting Agency	Verification Frequency Time Frame to		Date of Completion	Date of Verification
		SPA[1]	Pre Const.[2]	During Const.[3]	Post Const.[4]		Monitor	Report		
5.9 Public Services (cont.)										
Police Services										
Impact 5.9.2-1: The Project would result in an increase in service population that may adversely affect the City's police service standard if additional police officers are not provided commensurate with demand.	**5.9.2-1a: Public Facilities Development Impact Fees**. Prior to the issuance of each building permit for any residential dwelling units, the Project applicant(s) shall pay a PFDIF in accordance with the fees in effect at the time of building permit issuance and phasing approved in the Public Facilities Finance Plan, unless stated otherwise in a separate development agreement.	X	X			City of Chula Vista				
	5.9.2-1b: Growth Management Program's Police Threshold Standard. The City of Chula Vista shall continue to monitor the Chula Vista Police Department responses to emergency calls and report the results to the Growth Management Oversight Commission on an annual basis.				X	City of Chula Vista				
Schools										
Impact 5.9.3-1a: The Project's increase in elementary school students to the CVESD may potentially be significant.	**5.9.3-1: School Service Fees.** Prior to the issuance of any residential dwelling units, the Project applicant(s) shall provide evidence or certification by the CVESD and SUHSD that any fees, charges, dedications, or other requirements levied by the school districts have been complied with or that the districts have determined the fees, charges, dedications, or other requirements do not apply to the construction or that the Project applicant(s) has entered into a school mitigation agreement.	X	X			City of Chula Vista				
Impact 5.9.3-1b: The Project's increase in middle and high school students to the SUHSD may potentially be significant.	See Mitigation Measure 5.9.3-1.									
Libraries										
Impact 5.9.4-1: The Project's increase in demand to library facilities may potentially be significant.	**5.9.4-1: Public Facility Development Impact Fees.** Prior to the issuance of each building permit for any residential dwelling units, the Project applicant(s) shall pay a required PFDIF in accordance with the fees in effect at the time of building permit issuance and phasing approved in the Public Facilities Finance Plan.	X	X			City of Chula Vista				
Parks, Recreation, Open Space, and Trails										
Impact 5.9.5-1: The Project would result in a significant impact to parks if parkland is not development concurrent with market-rate housing.	**5.9.5-1:** Prior to the issuance of occupancy permits for any of the proposed 2,000 market-rate residential units, the Project applicant shall demonstrate that sufficient parkland areas are constructed within the UID SPA Plan to the satisfaction of the City's Parks Division. If the amount of constructed parkland areas does not equal or exceed the ratio of three acres per 1,000 residents, the City of Chula Vista, and its successor in interest, shall develop a plan specifying how the deficit will be eliminated. The method by which the Project's parkland obligation is met must consider, in addition to the dedication of acreage, the development of additional usable park acres, whether by payment of fees, construction of park facilities, or a combination of both, in order to meet the total UID obligation.	X	X			City of Chula Vista				

Potential Significant Impact	Mitigation Measures	Timeframe of Mitigation and Responsible Party				Monitoring Reporting Agency	Verification Frequency Time Frame to		Date of Completion	Date of Verification
		SPA[1]	Pre Const.[2]	During Const.[3]	Post Const.[4]		Monitor	Report		
5.11 Hydrology and Water Quality										
Impact 5.11-1a: Water quality impacts associated with erosion and sedimentation would be potentially significant. **Impact 5.11-1b**: Water quality impacts associated with construction-related hazardous materials would be potentially significant. **Impact 5.11-1c**: Water quality impacts related to extraction of groundwater during construction would be potentially significant. **Impact 5.11-1d**: Long-term Project-related water quality impacts would be considered significant. **Impact 5.11-1e**: Potentially significant impacts related to hydromodification requirements would occur.	**5.11-1a: Storm Water Pollution Prevention Plan (SWPPP).** Prior to the issuance of each grading permit for any land development permit, including clearing and grading, the Project applicant shall submit notice of intent and obtain coverage under the National Pollutant Discharge Elimination System permit for construction activity from the State Water Resources Control Board. Adherence to all conditions of the General Permit for Construction Activity is required. The applicant shall be required under the State Water Resources Control Board General Construction Permit to develop a SWPPP and monitoring plan that shall be submitted to the City Engineer and the Director of Public Works. The SWPPP shall be incorporated into the grading and drainage plans and shall specify both construction and post-construction structural and non-structural best management practices on the site to reduce the amount of sediments and pollutants in construction and post-construction surface runoff before it is discharged into off-site storm water facilities. Section 7 of the City's Storm Water Manual outlines construction site best management practice requirements. The SWPPP shall also address operation and maintenance of post-construction pollution prevention measures, including short-term and long-term funding sources and the party or parties that will be responsible for said measures, as well as measures to maintain the Project area free of trash and debris; employ appropriate standard spill prevention practices and clean-up materials; install and maintain sediment and erosion control measures in accordance with an approved SWPPP; maintain effective control of fugitive dust; and properly store, handle, and dispose of all toxins and pollutants including waste materials. The SWPPP shall incorporate construction and post-construction best management practices as outlined in the UID Edge Plan (Appendix D of the UID SPA Plan). The grading plans shall note the condition requiring a SWPPP and monitoring plans. Additional notes shall be included on the applicable construction plans to the satisfaction of the City Engineer and the Director of Public Works: • A qualified biologist shall be on site to monitor all vegetation clearing and periodically thereafter during construction to ensure implementation of appropriate resource protection measures. • Dewatering shall be conducted in accordance with standard regulations of the RWQCB. A permit to discharge water from dewatering activities will be required. • During construction, material stockpiles shall be placed such that they cause minimal interference with on-site drainage patterns. • Material stockpiles shall be covered when not in use. • Graded areas shall be periodically watered to minimize dust that may affect adjacent vegetation.	X	X	X	X	City of Chula Vista				

Potential Significant Impact	Mitigation Measures	Timeframe of Mitigation and Responsible Party				Monitoring Reporting Agency	Verification Frequency Time Frame to		Date of Completion	Date of Verification
		SPA[1]	Pre Const.[2]	During Const.[3]	Post Const.[4]		Monitor	Report		
5.11 Hydrology and Water Quality (cont.)										
	5.11-1a: Storm Water Pollution Prevention Plan (SWPPP) (cont.) Also, performance measures contained in the Edge Plan shall be implemented to avoid the release of toxic substances associated with urban runoff, including: • Sediment shall be retained on site by a system of sediment basins, traps, or other appropriate measures. • Storm drains shall be equipped with silt and oil traps to remove oils, debris, and other pollutants. Storm drain inlets shall be labeled "No Dumping-Drains to Ocean." Storm drains shall be regularly maintained to ensure their effectiveness. • The parking lots shall be designed to allow storm water runoff to be directed to vegetative filter strips and/or oil-water separators to control sediment, oil, and other contaminants. • Permanent energy dissipaters shall be included for drainage outlets. • The BMPs contained in the SWPPP shall include, but are not limited to, silt fences, fiber rolls, gravel bags, and soil stabilization measures such as erosion control mats and hydro-seeding.									
	5.11-1a: Storm Water Pollution Prevention Plan (SWPPP) (cont.) • The Project area drainage basins will be designed to provide effective water quality control measures, as outlined in the Project's Water Quality Technical Reports. Design and operational features of the drainage basins will include design features to provide maximum infiltration and maximum detention time for settling of fine particles; maximize the distance between basin inlets and outlets to reduce velocities; and establish maintenance schedules for periodic removal of sedimentation, excessive vegetation, and debris.									
	5.11-1b: Supplemental Water Quality Report. Prior to the issuance of each grading permit, the applicant shall submit a supplemental report to the site-specific PDP SWQMP (Rick Engineering Company 2015b; Appendix H of this EIR) that identifies which on-site storm water management measures from the PDP SWQMP have been incorporated into the Project to the satisfaction of the City Engineer. If a storm water management option is chosen by the planning area owner that is not shown in the water quality technical report, a Project-specific water quality technical report shall be prepared for the planning area, referencing the Water Quality Technical Report for the UID for information relevant to regional design concepts (e.g., downstream conditions of concern) to the satisfaction of the City Engineer.	X	X			City of Chula Vista				
	5.11-1c: Post-Construction/Permanent Best Management Practices. Prior to issuance of each grading permit, the City Engineer shall verify that applicants have incorporated and will implement post-construction BMPs in accordance with current regulations. In particular, applicants are required to comply with the requirements of Section 2c of the City of Chula Vista's Standard Urban Storm Water Management Plan, the Chula Vista Development Storm Water Manual, and the PDP SWQMP for the UID or any supplements thereto to the satisfaction of the City Engineer. Specifically, the applicant shall implement low impact development (LID) best management practices in the preparation of all site plans and				X	City of Chula Vista				

Potential Significant Impact	Mitigation Measures	Timeframe of Mitigation and Responsible Party				Monitoring Reporting Agency	Verification Frequency Time Frame to		Date of Completion	Date of Verification
		SPA[1]	Pre Const.[2]	During Const.[3]	Post Const.[4]		Monitor	Report		
5.11 Hydrology and Water Quality (cont.)										
	5.11-1c: Post-Construction/Permanent Best Management Practices (cont.) incorporate structural on-site design features into the Project design to address site design and treatment control best management practices as well as requirements of the hydromodification management plan. The applicant shall monitor and mitigate any erosion in downstream locations that may occur because of on-site development.									
	5.11-1d: Limitation of Grading. Prior to issuance of each grading permit, the Project applicant shall comply with the Chula Vista Development Storm Water Manual limitation of grading requirements, which limit disturbed soil area to 100 acres, unless expansion of a disturbed area is specifically approved by the Director of Public Works. With any phasing resulting from this limitation, if required, the Project applicant shall provide, to the satisfaction of the City Engineer, erosion and sediment control best management practices in areas that may not be completed, before grading of additional area begins.			X		City of Chula Vista				
	5.11-1e: Hydromodification Criteria. Prior to issuance of each grading permit, the Project applicant shall comply, to the satisfaction of the City Engineer, with City hydromodification criteria or the hydromodification management plan (see Appendix H), as applicable, addressed as part of the UID SPA Plan concurrent with grading and improvement plans for the Project.		X	X		City of Chula Vista				
	5.11-1f: Outfall Erosion. Prior to issuance of each grading permit, the Project applicant shall monitor any erosion at the Project's outfall at the Otay River and Lower Otay Lake and, prior to the last building permit for the Project, obtain approval for and complete any reconstructive work necessary to eliminate any existing erosion and prevent future erosion from occurring, all to the satisfaction of the Development Services Director.	X	X			City of Chula Vista				
Impact 5.11-2: Drainages serving the Project site would be susceptible to increased erosion resulting from increased peak flow rates, increased runoff volumes, and duration, which would result in a potentially significant impact.	See Mitigation Measures 5.11-1a through 5.11-1f.									
Impact 5.11-3: Drainages serving the southern basin would be susceptible to increased peak flow rates and increased runoff volumes, which would result in a potentially significant flooding impact.	See Mitigation Measures 5.11-1a through 5.11-1f.									
Impact 5.11-4: Without Project design features (also prescribed as mitigation measures), the Project could generate or contribute to flows that exceed capacity of existing or planned water systems.	See Mitigation Measures 5.11-1a through 5.11-1f.									
Impact 5.11-5: Potentially significant impacts related to degrading water quality could occur.	See Mitigation Measures 5.11-1a through 5.11-1f.									
Impact 5.11-6: Impacts related to inundation would be potentially significant.	See Mitigation Measures 5.8-1a through 5.8-1c.									

Potential Significant Impact	Mitigation Measures	Timeframe of Mitigation and Responsible Party				Monitoring Reporting Agency	Verification Frequency Time Frame to		Date of Completion	Date of Verification
		SPA[1]	Pre Const.[2]	During Const.[3]	Post Const.[4]		Monitor	Report		
5.12 Agricultural Resources										
Impact 5.12-1a: Implementation of the Project would result in a significant impact to agricultural resources, due to the on-site loss of farmland of local importance and grazing land.	**5.12-1: Agriculture Plan**. The Agriculture Plan included in the SPA Plan shall be implemented as development proceeds within the UID to ensure compatibility between university-related crop production for research and small-scale production. The following measures shall be implemented to the satisfaction of the Chula Vista Development Services Director (or their designee): i. Prior to approval of each building permit, the applicant shall ensure that a 200-foot-wide fenced buffer shall be maintained between development and any university-related agricultural operations on the UID site. ii. In those areas where pesticides are to be applied, the university shall utilize vegetation to shield adjacent urban development (within 400 feet) from agricultural activities. Use of pesticides shall comply with federal, state, and local regulations. iii. The applicant shall notify adjacent property owners of potential pesticide application through advertisements in newspapers of general circulation.	X	X	X		City of Chula Vista				
Impact 5.12-1b: Short-term land use incompatibility issues from proposed agricultural activities associated with the university, which would be located adjacent to urban land uses, would be significant.	See Mitigation Measure 5.12-1.									
5.13 Hazards and Hazardous Materials										
Impact 5.13-1a: Impacts related to the routine use and accidental release of hazardous materials have been identified for the Project and are considered to be potentially significant.	**5.13-1: Hazardous Risk Reduction Measures**. Prior to the issuance of any grading permit for the UID, the applicant shall verify that the applicable recommendations in the Hazardous Materials Technical Study prepared by Ninyo & Moore, dated September 4, 2014, have been incorporated into the final Project design and construction documents to the satisfaction of the City of Chula Vista Engineer. These requirements include the following: • A Site Safety Plan shall be prepared and implemented prior to initiation of construction activities within the boundaries of the Project area to reduce potential health and safety hazards to construction workers and the public. • A Site Safety Plan shall be prepared and implemented prior to initiation of construction activities within the boundaries of the Project area to reduce potential health and safety hazards to construction workers and the public. • Appropriate references regarding the potential to encounter contaminated soil, illegal dumping, burn sites, and USTs shall be included in construction specifications. In the event that USTs or undocumented areas of contamination (including lead-based painted [LBP] and treated wood) are encountered during construction activities, work shall be ceased 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, including a determination of whether regulatory notification is required.	X	X			City of Chula Vista				

Potential Significant Impact	Mitigation Measures	Timeframe of Mitigation and Responsible Party				Monitoring Reporting Agency	Verification Frequency Time Frame to		Date of Completion	Date of Verification
		SPA[1]	Pre Const.[2]	During Const.[3]	Post Const.[4]		Monitor	Report		
5.13 Hazards and Hazardous Materials (cont.)										
Impact 5.13-1a (cont.)	**5.13-1: Hazardous Risk Reduction Measures (cont.)** The associated remediation and removal activities shall be conducted by trained, licensed/certified personnel, and in accordance with pertinent local, state, and federal regulatory guidelines, under the oversight of the appropriate regulatory agency. • If any USTs are encountered during construction, construction activities in the immediate area of the UST shall cease until the UST can be removed under permit by the DEH and other regulatory agency, as appropriate. The soil and groundwater within the vicinity of the USTs should 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. During construction activities, it may be necessary to excavate existing soil, or to bring fill soils to the Project area from off-site locations. If soil contamination is suspected during construction, sampling shall be performed in those areas. Prior to any excavation or removal of contaminated soil not suitable for on-site reuse, it shall be properly characterized for disposal at an off-site facility. Fill soils also shall be evaluated or sampled to document that imported soil does not contain unacceptable concentrations of contamination. If potentially hazardous waste is observed in the Project area (e.g., from illegal dumping), the waste should be appropriately disposed of prior to initiating construction activities.									
Impact 5.13-1b: Impacts related to hazards to schools have been identified for the Project and are considered to be potentially significant.	See Mitigation Measure 5.9.3-1.									
Impact 5.13-1c: Impacts related to listed hazardous sites have been identified for the Project and are considered to be potentially significant.	See Mitigation Measure 5.9.3-1.									
Impact 5.13-2: Potentially significant impacts could result due to the Project's location within the Overflight Notification Area for both Brown Field and Tijuana International Airport.	**5.13-2a: Airport Overflight Agreement**. Prior to approval of the first Final Map for those areas within the Overflight Notification Area for Brown Field, the applicant shall record the Airport Overflight Agreement with the County Recorder's office and provide a signed copy of the recorded Airport Overflight Agreement to the City's Development Service Director (or their designee).	X	X			City of Chula Vista				
	5.13-2b: Notice to Potential Buyers. The Project applicant will provide notification to potential buyers of properties within the Overflight Notification Area for Brown Field and/or the Tijuana International Airport.	X	X			City of Chula Vista				

Potential Significant Impact	Mitigation Measures	Timeframe of Mitigation and Responsible Party				Monitoring Reporting Agency	Verification Frequency Time Frame to		Date of Completion	Date of Verification
		SPA[1]	Pre Const.[2]	During Const.[3]	Post Const.[4]		Monitor	Report		
5.15 Public Utilities										
Wastewater										
Impact 5.15.2-1: A significant impact would occur if adequate wastewater facilities are not provided concurrently with new demand.	**5.15.2-1: Sewer System Improvements**. Prior to the issuance of any building permits for the UID, the City Engineer shall verify that adequate on-site and off-site sewer facilities required to serve development in the UID are in place in accordance with the UID Public Facilities Finance Plan. Occupancy of buildings shall not be permitted unless it is demonstrated that on-site and off-site sewer facilities are adequate in capacity to serve the Project. If the Project will contribute to a deficiency in the capacity of the sewer system, the Project applicant shall pay its fair share of fees to increase the capacity to an adequate size.	X	X			City of Chula Vista				

1.0 EXECUTIVE SUMMARY

This Environmental Impact Report (EIR) is an informational document intended for use by the City of Chula Vista (City), other public agencies, and members of the general public in evaluating the potential environmental effects of the Chula Vista University Innovation District (UID) Sectional Planning Area (SPA) Plan (herein referred to as "Project"). The UID SPA Plan is a document that refines and implements the land use plans, goals, and objectives of the Otay Ranch General Development Plan (GDP) for the development of the UID.

CEQA Statute Section 21002 requires that an EIR identify the significant effects of a project on the environment and provide measures or alternatives that can mitigate or avoid these effects. This Draft EIR evaluates the environmental effects associated with development of the Project and discusses the manner in which the Project's significant effects can be reduced or avoided through the implementation of mitigation measures or feasible alternatives to the proposed Project. In accordance with Section 15130 of the CEQA Guidelines, this EIR also includes an examination of the effects of cumulative development.

The 2013 Chula Vista General Plan Amendment/Otay Ranch General Development Plan Amendment (GPA/GDPA) Supplemental EIR (SEIR 09-01), the 2005 Chula Vista General Plan Update Program EIR (EIR 05-01), the 1993 Otay Ranch GDP Program EIR (EIR 90-01), and the 2001 EastLake III Woods and Vistas Replanning Program Subsequent EIR (EIR 01-01) are incorporated herein by reference in accordance with CEQA Guidelines Section 15168(d). This Draft EIR addresses environmental issues associated with the Project that were not evaluated in the previously certified EIRs and updates information in those EIRs pertaining to the Project area.

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

1.1 PROJECT LOCATION AND SETTING

The UID SPA (also herein referred to as "Project site") includes a total of 383.8 acres of land in the community of Otay Ranch in the City of Chula Vista (City) known as the UID planning area, which is split between the 353.8-acre Main Campus Property to the west and the 30-acre Lake Property to the east, just west of Lower Otay Lake, which is owned and operated by the City of San Diego. The Project site is located entirely within the southeastern portion of the City. The City is located in San Diego County (County) and is approximately seven miles southeast of the downtown area of the City of San Diego and about seven miles north of the U.S.-Mexico International Border.

With the exception of the existing 10-acre High Tech K-12 School, the Project site is vacant and undeveloped. The Main Campus Property ranges in elevation from approximately 620 feet above mean sea level (AMSL) on the northwestern portion of the property near Hunte Parkway to approximately 340 feet AMSL at the southwestern end of the property near the Otay River Valley.

The Lake Property ranges from about 500 feet AMSL in its northern portion to about 560 feet AMSL in its southern portion. The Otay Valley Regional Park and the Otay River Valley are located to the south of the Project site, State Route (SR-) 125 is located about 0.5 mile to the west of the site, and the Millenia development (currently under construction) is located directly north of the site. Eastlake Parkway and Hunte Parkway, which currently terminate at the northwestern boundary of the Project site, provide access to the northern part of the site.

1.2 PROJECT BACKGROUND

The City Council approved the Otay Ranch GDP in 1993 and it was last amended in 2015. The Otay Ranch GDP is the comprehensive planning document for the approximately 23,000-acre Otay Ranch community in the City and includes a broad range of residential, commercial, retail, and industrial development interwoven with civic and community uses, such as libraries, parks, and schools, as well as an open space preserve system. The Otay Ranch GDP is implemented through individual SPA plans that specify the development standards, land plans, goals, objectives, and policies of the GDP for the individual SPAs. Each SPA plan establishes design criteria and defines precisely the type and amount of development permitted in the SPA, as well as other City standards for the SPA.

The UID SPA Plan is based on provisions for the Project site included in the Otay Ranch GDP. The 383.8-acre UID SPA was designated in the Otay Ranch GDP as a future university site with a mix of retail and residential land uses that transition to the open space areas south of the Project site along the Otay River Valley. The Project would include transit-oriented development with higher densities and mixed uses within 0.25 mile of a transit stop. It is noted that no TM is included with the UID SPA Plan, as the plan was conceptual at the time of the public review period for this EIR. Accordingly, the Project does not include specific development details for the UID SPA. A TM and a final map would be submitted to and approved by the City prior to any physical improvements within the Project site.

1.3 PROJECT DESCRIPTION

The Project would implement the UID SPA Plan, which includes a mixed-use development of academic/university, commercial, retail, residential, and recreational uses, as well as associated off-site improvements, consistent with the Otay Ranch GDP. The UID SPA Plan is incorporated by reference and is available for review at the offices of the City of Chula Vista, Development Services Department, located at 276 Fourth Avenue, Chula Vista, California 91910. The components of the Project are summarized briefly below and detailed in Chapter 3.0.

1.3.1 Development Concept

The UID SPA Plan includes a mixed-use development of academic/university, commercial, retail, residential, and recreational uses. At buildout, the Project would offer a unique community that reflects a growing demand for dynamic, urban education centers. The Project takes many qualities of a traditional campus (e.g., open landscaped spaces and coherent architectural edges) and integrates them with several qualities of a contemporary town center (e.g., pedestrian-friendly streets and multi-use buildings with retail at street level). Mixed-use development would be

permitted throughout the Project site and would relate and transition to the adjacent mixed-use Otay Villages 9, 10, and 11 and Millenia areas.

The Project includes a variety of transects, special districts, and sectors over about 35 blocks. Each transect features distinct but compatible floor area ratios (FARs) and design characters. To facilitate compatibility with land uses surrounding the Project site, the UID SPA Plan focuses higher densities (e.g., urban and campus development) within the center of the Main Campus Property and transitions into less dense development and open space and habitat conservation at the edges of the property near the Otay Ranch Preserve (Preserve). The Lake Property features mostly habitat conservation areas with some low-intensity satellite academic uses.

For the purposes of land use and environmental impact analysis in this EIR, the Project is evaluated using the maximum dwelling unit yield and gross square footage permitted by the UID SPA Plan (thus providing a conservative impact analysis). The proposed maximum development area for the UID SPA is 10,066,200 square feet that would support a total of 34,000 people including a mix of students, faculty, staff, residents, and office/retail workers. The university land uses are assumed to include up to 20,000 full-time students and 6,000 university faculty and staff. Innovation uses would include a mix of office, laboratory, and retail uses to support up to 8,000 jobs. Residents on the site are anticipated to include up to 5,400 students and 6,000 non-student residents within 2,000 market-rate units. A total of 13,500 parking spaces would be provided at full build-out to support the proposed UID SPA Plan development.

1.3.2 Off-site Improvements

Proposed off-site utility improvements include drainage improvements (including a detention basin) to the south of the Main Campus Property for storm water conveyance, and sewer improvements to serve the Lake Property. Also, the Project would include a rural trail along an existing 8-foot-wide dirt road within the Preserve as a link between the trails within the UID, Otay Village 10, and the Salt Creek Sewer Interceptor/Greenbelt Trail.

1.3.3 Mobility

The UID circulation system would provide a system of roadway and trail corridors to support both vehicular and non-vehicular modes of transportation. This system includes the extension of existing and planned roads, trails, and transit from adjacent villages, internal systems to serve the Project site and a connection to the greenbelt system. Streets in the Project site have been designed as "complete" streets, considering all modes of transportation by providing vehicular travel lanes, bike lanes or bike routes, sidewalks, and transit lanes, where appropriate.

1.3.4 Infrastructure

The UID SPA Plan includes plans to provide adequate infrastructure to the proposed development, including water distribution, recycled water distribution, sewer service, and storm water collection.

1.3.5 Project Objectives

The intent of the UID SPA Plan is to stimulate academic and business investment and development, and to bring intellectual capital and research activities to the City. The SPA Plan identifies Project objectives that would implement the UID vision as follows:

1. Provide higher education opportunities for Chula Vista residents and the broader San Diego-Tijuana region, serving the shifting demographics of the San Diego region, and the United States in general.

2. Prepare students for post-university careers that allow for lasting personal and professional growth.

3. Develop into a financially viable university entity that incorporates the newest educational delivery models.

4. Attract a wide range of educational, research, and industry partners regionally, nationally, and internationally.

5. Assist in developing creative solutions to critical environmental, social, and economic issues facing the world and the community.

6. Serve as an economic engine that contributes to the growth of the City and region, thereby enhancing the quality of life for South Bay[1] residents.

7. Provide a source of high-quality jobs and contribute to diversifying the City's economy.

8. Become an integral part of the fabric of the community, fostering arts and cultural enrichment for residents of Chula Vista and the region.

9. Develop a flexible campus that allows for ongoing growth and innovation, is physically well integrated and connected to the surrounding neighborhood and region.

10. Maximize accessibility to the campus by providing multi-modal streets, access to transit and trails, and amenities that support and encourage alternative modes.

1.3.6 Discretionary Actions

The proposed Project is a discretionary project, which is defined as "a project that requires the exercise of judgment or deliberation when the public agency or body decides to approve or disapprove a particular activity." The following discretionary actions are associated with the Project and would be considered by the Chula Vista Planning Commission and City Council.

[1] "South Bay" refers to the region in southwestern San Diego County that includes the cities of Chula Vista, Imperial Beach, National City, and Coronado, as well as the communities of Bonita and Lincoln Acres in the unincorporated County of San Diego and the community of Southeastern San Diego in the City of San Diego.

Adoption of the following documents:

- Otay Ranch and EastLake III GDP Amendments
- UID SPA Plan
- Air Quality Improvement Plan
- Agriculture Plan
- Non-Renewable Energy Conservation Plan
- Preserve Edge Plan
- Fire Protection Plan
- Water Conservation Plan
- Parks, Recreation, and Open Space Master Plan
- Emergency Disaster Plan
- Public Facilities Financing Plan
- ~~Federal Aviation Administration (FAA) Determination of No Hazard to Air Navigation~~
- Certification of a Final EIR and adoption of an MMRP

Additionally, future applicants that would be applying for permits to develop on the Project site would be required to obtain approvals, permits, licenses, certification, or other entitlements from various federal, state, and local agencies, including but not limited to the following:

- Individual/Nationwide Section 404 Permit (Clean Water Act [CWA], 22 U.S. Code [USC] Section 1344) from the U.S. Army Corps of Engineers (USACE)

- General Construction Activity Storm Water Permit State Water Resources Control Board (SWRCB) Order No. 2009-0009 DWQ from the RWQCB

- Section 401 Certification (CWA, 33 USC 1342, if the Project requires USACE 404 Permit) from the RWQCB

- Lakebed/Streambed Alteration Agreement (California Fish and Game [CFG] Code Section 1600 et seq.) from the California Department of Fish and Wildlife (CDFW)

- Right-of-way and other permits for roadway improvements outside the jurisdiction of the City of Chula Vista from the City of San Diego or the County of San Diego and future public utility agreements between the cities of Chula Vista and San Diego

1.4 AREAS OF CONTROVERSY

The Notice of Preparation (NOP) for this EIR was distributed on December 19, 2014 for a 30-day public review and comment period and a public scoping meeting was held on January 7, 2015. Public comments received on the NOP and at the scoping meeting related to several environmental

issues. The NOP and comment letters are included in this EIR as Appendix A. Comments covered a variety of topics, including concerns related to increases in traffic within Chula Vista and surrounding jurisdictions, potential hazards from Brown Field Municipal Airport, potential impacts from hazardous materials, impacts to the Otay Valley Regional Park, and impacts to biological resources. These issues are addressed in this EIR.

1.5 ISSUES TO BE RESOLVED BY THE CITY COUNCIL

The issues to be resolved by the decision-making body are whether to adopt the proposed Project and how to mitigate significant effects created by its implementation. The City will decide if benefits of the Project outweigh any significant and unavoidable impacts associated with aesthetics (Impacts 5.2-1 and 5.2-2; direct and cumulative alteration of scenic views, visual character, and cumulative loss of views of open space), air quality (Impact 5.4-2 and 5.4-3; direct violation of air quality standards for criteria pollutants related to operational and cumulative long-term emissions), cultural resources (Impact 5.7-1 and 5.7-2; cumulative impacts to unknown archaeological resources and human remains), ~~agriculture~~ agricultural resources (Impact 5.12-1a; direct and cumulative loss of agricultural resource), and public utilities (Impact 5.15.2-2; direct and cumulative impacts on wastewater).

The City will also decide if the significant impacts associated with the environmental issues of land use (land use compatibility; conflicts with land use plans, policies, and regulations; and conflicts with conservation plans), aesthetics (~~visual character or quality;~~ lighting, glare, and shadow~~; and landform modification~~); transportation/traffic (traffic and level of service standards; and congestion management~~; and air traffic patterns~~), air quality (air quality violations; and sensitive receptors), noise (excessive noise levels; excessive ground-borne vibration; and temporary increase in ambient noise levels), biological resources (sensitive plant and wildlife species; riparian habitat and other sensitive natural communities; federally protected wetlands; and consistency with local policies, ordinances, HCPs, and NCCPs), cultural resources (direct and cumulative impacts to archaeological resources; human remains; and paleontological resources), geology and soils (exposure to seismic related hazards; soil erosion or topsoil loss; ~~soil~~ slope stability; and expansive soils), public services (direct and cumulative impacts to fire and emergency medical services; police services; schools; libraries; and parks, recreation, open space, and trails), hydrology and water quality (water quality standards; erosion or siltation; degradation of water quality; and inundation), and hazards and hazardous materials (routine use and accidental release of hazardous materials; hazards to schools; existing hazardous materials sites; and airport hazards)~~, and public utilities (cumulative impacts related to wastewater)~~ have been fully mitigated below a level of significance. Lastly, the City will determine whether any alternative might meet the key objectives of the Project while reducing its environmental impact.

1.6 PROJECT ALTERNATIVES

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

would impede to some degree the attainment of the Project objectives. The EIR addresses the No Project (No Build) Alternative and the Reduced Project Alternative. Alternatives to the Project are evaluated in full in Chapter 10.0 of this EIR.

1.6.1 No Project (No Build) Alternative

The No Project (No Build) Alternative assumes that no SPA Plan would be developed for the UID and that no construction would occur within the Project area; therefore, the Project site would remain in its current condition. As a result, impacts associated with the Project would be avoided. This alternative would not attain any of the ten Project objectives because no SPA would be adopted and no development would be entitled on the Project site. Additionally, the No Project (No Build) Alternative would not meet the overall goals and objectives of the City for future growth as outlined in the City's General Plan and the GDP. The regional metropolitan planning organization, SANDAG, has projected a specific growth in population by 2050. If development is eliminated in the UID, the planned future growth would be accommodated elsewhere, potentially inducing unplanned growth in another area of the City. The City has also identified the proposed development of the UID site as necessary to support future development of a university and support BRT ridership east of SR-125.

1.6.2 Reduced Project Alternative

The Reduced Project Alternative would include half of the development intensity proposed within the UID SPA Plan but within the same overall footprint. This alternative reduces all development by approximately 50 percent. As such, a maximum of 5,033,100 square feet of development would occur under this alternative, compared to 10,066,200 square feet under the Project. The Reduced Project Alternative would reduce significant air quality, noise, and traffic impacts, compared to the Project, but impacts would still be significant without mitigation. This alternative would attain four of the ten Project objectives, and would partially attain the remaining six objectives.

1.6.3 Environmentally Superior Alternative

The No Project (No Build) Alternative would be the environmentally superior alternative, as it would entirely avoid the Project's significant and unavoidable impacts associated with aesthetics (direct loss of undeveloped character from a scenic vista, cumulative modification of visual character, and cumulative loss of views of open space), air quality (direct and cumulative conflict with air quality plans and violation of air quality standards), agricultural resources (direct and cumulative conversion of agricultural resources), cultural resources (cumulative impacts to unknown archaeological resources and human remains) and utilities (impacts related to wastewater). However, as the No Project (No Build) Alternative is determined to be environmentally superior, another environmentally superior alternative must be identified.

Therefore, the Reduced Project Alternative is identified as the environmentally superior alternative as it would reduce significant air quality, noise, and traffic impacts.

1.7 SUMMARY TABLE

Table 1-1 identifies the subject areas analyzed in this EIR, providing a summary of potential impacts, mitigation measures, and significance of impacts. Mitigation measures that refer to the applicant would be implemented by the developer applying for permits to develop on the Project site.

Table 1-1: SUMMARY OF SIGNIFICANT ENVIRONMENTAL ANALYSIS RESULTS

Environmental Issue	Result of Impact Analysis	Mitigation	Impact Level After Mitigation
5.1 Land Use and Planning			
Threshold 1: Land Use Compatibility	**Impact 5.1-1:** Potentially significant land use incompatibilities could occur for the issues of air quality, operational noise, biological resources, hydrology/water quality, and hazards and hazardous materials. No impacts would occur related to division of an existing community. In addition, Project impacts to community character would be less than significant.	Implement Mitigation Measures 5.4-1a and 5.4-1b, 5.5-1a through 5.5-1e, 5.6-8e, 5.11-1a through 5.11-1f, and 5.13-2a and 5.13-2b.	Less than significant.
Threshold 2: Conflicts with Land Use Plans, Policies, and Regulations	**Impact 5.1-2:** The Project would include development within the Overflight Notification Area and the Project's inconsistency with the Brown Field ALUCP would be potentially significant.	Implement Mitigation Measures 5.13-2a and 5.13-2b.	Less than significant.
	Impact 5.1-3: The Project could potentially be inconsistent with the Chula Vista Growth Management Ordinance (GMO) quality of life threshold standards with respect to traffic, public services, and utilities, which would result in a significant land use impact.	Implement Mitigation Measures 5.3-24, 5.9.1-1a, 5.9.2-1b, 5.9.3-1, 5.9.4-1, 5.9.5-1, and 5.15.2-1.	Less than significant.
Threshold 3: Conflicts with HCPs or NCCPs	**Impact 5.1-4:** Implementation of the Project would result in potentially significant impacts related to consistency with the Chula Vista MSCP Subarea Plan.	Implement Mitigation Measures 5.6-1a through 5.6-11 and 5.11-1a.	Less than significant.

Table 1-1 (cont.): SUMMARY OF SIGNIFICANT ENVIRONMENTAL ANALYSIS RESULTS

Environmental Issue	Result of Impact Analysis	Mitigation	Impact Level After Mitigation
5.2 Aesthetics/Landform Modification			
Threshold 1: Scenic Vistas	**Impact 5.2-1:** The Project would permanently alter views from Key View Point (KVP) 3 near the High Tech K-12 School from open, rolling topography and views of Otay Mountain to urban development.	*(Incorporated from the 2005 GPU EIR and 2013 SEIR)* **5.2.5-1:** Within the East Planning Area, prior to approval of grading plans, the applicant shall prepare grading and building plans that conform to the landform grading guidelines contained in the grading ordinance, Otay Ranch GDP, and General Plan. The plans shall be prepared to the satisfaction of the Director of Development Services and the City Engineer. These plans and guidelines shall provide the following that serve to reduce the aesthetic impacts: • A landscape design that addresses streetscapes, provides landscape intensity zones, greenbelt edge treatments, and slope treatment for erosion control. • Grading concepts that ensure manufactured slopes that are contoured and blend and mimic with adjacent natural slopes. • Landscaping concepts that provide for a transition from the manicured appearance of developed areas to the natural landscape in open space areas. • Landscaping concepts that include plantings selected to frame and maintain views.	Significant and unavoidable.
Threshold 2: Scenic Resources	Less than significant.	No mitigation measures are required.	Less than significant.
Threshold 3: Visual Character or Quality	**Impact 5.2-2:** The Project would permanently alter the character of the project site from open, rolling topography to urban development.	Implement Mitigation Measure 5.2.5-1 incorporated from the 2005 GPU EIR and 2013 SEIR.	Significant and unavoidable.

Table 1-1 (cont.): SUMMARY OF SIGNIFICANT ENVIRONMENTAL ANALYSIS RESULTS

Environmental Issue	Result of Impact Analysis	Mitigation	Impact Level After Mitigation
5.2 Aesthetics/Landform Modification (cont.)			
Threshold 4: Lighting, Glare, and Shadow	**Impact 5.2-3:** New sources of nighttime lighting may be incompatible with surrounding development and inconsistent with applicable regulations.	**5.2-3a: Lighting Plan and Photometric Analysis - Parks**. Concurrent with the preparation of site-specific plan(s) for outdoor public areas within the O-2 and O-3 sectors and prior to issuance of a building permit for any park, the applicant shall prepare, or in the case of the City being the lead on the preparation of the site-specific plan, the applicant shall fund the preparation of a lighting plan and photometric analysis. The plan shall be prepared to the satisfaction of the Development Services Director and evaluate the proposed height, location, and intensity of all exterior lighting for compliance with the City's performance standards for light, and glare (Chula Vista Municipal Code 19.66.100). **5.2-3b: Lighting Plan and Photometric Analysis – New Structures**. Concurrent with design review and prior to the issuance of building permits for any structures, the applicant shall prepare a lighting plan and photometric analysis. The plan shall be prepared to the satisfaction of the Development Services Director (or their designee) and evaluate the proposed height, location, and intensity of all exterior lighting for compliance with the City's performance standards for light, and glare (Chula Vista Municipal Code 9.66.100).	Less than significant.
	Impact 5.2-4: Potential impacts associated with light and shadow cannot be determined until the location, size, and orientation of future buildings are established.	**5.2-4: Shadow ~~Pattern~~ Analysis**. Prior to design review approval for any structure three stories and above, the applicant shall prepare to the satisfaction of the Development Services Director (or their designee), a shadow pattern analysis demonstrating that adjacent shadow-sensitive uses are not permanently shadowed.	Less than significant.
Threshold 5: Landform Alteration	Less than significant.	No mitigation measures are required.	Less than significant.

Table 1-1 (cont.): SUMMARY OF SIGNIFICANT ENVIRONMENTAL ANALYSIS RESULTS

Environmental Issue	Result of Impact Analysis	Mitigation	Impact Level After Mitigation
5.3 Transportation/Traffic			
Threshold 1: Traffic and Level of Service Standards	**Impact 5.3-1:** According to Chapter 12.24 of the City's Municipal Code, access related impacts would occur if access and frontage improvements are not provided concurrent with development. Therefore, in 2020, the Project could result in potentially significant impacts related to access and frontage.	**5.3-1a: Eastlake Parkway/Hunte Parkway Intersection:** Eastlake Parkway south of Hunte Parkway within the UID will provide primary access to the site. Corresponding improvements to the geometry (as seen in Figure 10-2 in EIR Appendix B) shall be provided by the applicant at the Eastlake Parkway/Hunte Parkway intersection prior to construction. Needed modifications to the traffic signal shall also be made to accommodate the third (south) leg at this intersection. This improvement shall be provided prior to construction of the first building within the University Campus/Innovation District, in accordance with City Ordinances. **5.3-1b: Discovery Falls Road Secondary Access:** A new secondary access shall be provided by the applicant from Discovery Falls Road, just south of Hunte Parkway. Corresponding improvements to the geometry, as shown in Figure 10-2 of EIR Appendix B (Intersection #57), shall be provided. A traffic signal shall be installed to the satisfaction of the City Engineer. This improvement shall be provided prior to construction of the first building within the UID, in accordance with City Ordinances. **5.3-1c: Hunte Parkway/Exploration Falls Road Intersection:** The applicant shall be responsible for constructing the fourth (south) leg of the Hunte Parkway/Exploration Falls Road intersection and modifying the signal as needed to accommodate the fourth leg prior to construction of the first building within the UID, in accordance with City Ordinances. **5.3-1d Internal Circulation Roads**: Internal circulation roads shall be constructed on-site by the applicant in conformance with City standards. Final design and siting of internal roads will be subject to the approval of the City, including the Development Services Department, Public Works Department, and Fire Department.	Less than significant.

Table 1-1 (cont.): SUMMARY OF SIGNIFICANT ENVIRONMENTAL ANALYSIS RESULTS			
Environmental Issue	**Result of Impact Analysis**	**Mitigation**	**Impact Level After Mitigation**
5.3 Transportation/Traffic (cont.)			
	Impact 5.3-2: Under the Year 2020 scenario, the Project would result in a potentially significant direct impact to the following Chula Vista intersection: • Birch Road/La Media Road (AM – LOS E, PM – LOS F)	**5.3-2: Birch Road/La Media Road Intersection:** Prior to the issuance of the final map that contains the 1,360th EDU, the applicant shall secure or construct the Main Street connection between Heritage Road and Eastlake Parkway. Since this improvement includes the construction of a 6-lane road and a bridge, it is beyond the scope of a single development project. If this improvement is not in place by the issuance of the final map that contains the 1,360th EDU, the Project would be required to implement the "Anticipated 2020 Roadway Improvements."	Less than significant.
	Impact 5.3-3: Under the Year 2020 scenario, the Project would result in a potentially significant cumulative impact to the following Chula Vista intersections: • Impact 5.3-3a: Telegraph Canyon Road/Paseo Ranchero (AM – LOS E) • Impact 5.3-3b: Telegraph Canyon Road/Otay Lakes Road/La Media Road (PM – LOS E) • Impact 5.3-3c: East Palomar Road/Heritage Road (AM – LOS E) • Impact 5.3-3d: East Palomar Road/La Media Road (AM – LOS E, PM – LOS E) • Impact 5.3-3e: Olympic Parkway/I-805 SB Ramps (AM – LOS F, PM – LOS F) • Impact 5.3-3f: Olympic Parkway/I-805 NB Ramps (AM – LOS F, PM – LOS F)	**5.3-3:** Cumulative impacts within the City of Chula Vista will be mitigated using Transportation Development Impact Fees (TDIF). The TDIF has been accounted for in the TDIF Ordinance (for City of Chula Vista intersections) and Western TDIF Program (for City of Chula Vista/Caltrans intersections) for university-related uses and cumulative impacts within the City of Chula Vista are considered to be mitigated to a level below significance without any additional TDIF fee payments for university-related uses. Non-university related uses will be required to pay fees per the TDIF prior the issuance of building permits.	Less than significant.

Table 1-1 (cont.): SUMMARY OF SIGNIFICANT ENVIRONMENTAL ANALYSIS RESULTS			
Environmental Issue	**Result of Impact Analysis**	**Mitigation**	**Impact Level After Mitigation**
5.3 Transportation/Traffic (cont.)			
	• Impact 5.3-3g: Olympic Parkway/Oleander Avenue (AM – LOS E, PM – LOS F) • Impact 5.3-3h: Olympic Parkway/Brandywine Avenue (AM – LOS F, PM – LOS F) • Impact 5.3-3i: Olympic Parkway/Heritage Road (AM – LOS F, PM – LOS F) • Impact 5.3-3j: Main Street/I-805 SB Ramps (PM – LOS F) • Impact 5.3-3k: Main Street/I-805 NB Ramps (PM – LOS F) • Impact 5.3-3l: Main Street/Brandywine Avenue (AM – LOS E, PM – LOS E)		
	Impact 5.3-4: Under the Year 2020 scenario, the Project would result in a potentially significant cumulative impact to the following City of San Diego/Caltrans intersections: • Impact 5.3-4a: Palm Avenue/I-805 SB Ramps (PM – LOS F) • Impact 5.3-4b: Palm Avenue/I-805 NB Ramps (AM – LOS E, PM – LOS F)	**5.3-4a: Palm Avenue/I-805 SB Ramps Intersection.** The improvement of the Palm Avenue/I-805 SB Ramps Intersection is included in the FBA in the City of San Diego. If the City of San Diego does not complete this improvement prior to the issuance of the final map that contains the Project's 1,360th DU, the City of Chula Vista or successor in interest shall coordinate with the City of San Diego to implement this improvement. **5.3-4b: Palm Avenue/I-805 NB Ramps Intersection.** The improvement of the Palm Avenue/I-805 NB Ramps Intersection is included in the FBA, in the City of San Diego. If the City of San Diego does not complete this Project prior to the issuance of the final map that contains the Project's 1,360th DU, the City of Chula Vista or successor in interest shall coordinate with the City of San Diego to implement this improvement.	Less than significant.

Table 1-1 (cont.): SUMMARY OF SIGNIFICANT ENVIRONMENTAL ANALYSIS RESULTS			
Environmental Issue	**Result of Impact Analysis**	**Mitigation**	**Impact Level After Mitigation**
5.3 Transportation/Traffic (cont.)			
	Impact 5.3-5: Under the Year 2020 scenario, the Project would result in a potentially significant cumulative impact to the following City of San Diego intersection: • Avenida De Las Vistas/Heritage Road (AM – LOS F, PM – LOS F)	**5.3-5: Avenida De Las Vistas/Heritage Road Intersection.** The improvement of the Avenida De Las Vistas/Heritage Road Intersection is included in the FBA, in the City of San Diego. If the City of San Diego does not complete this Project prior to the issuance of the final map that contains the Project's 1,360th EDU, the City of Chula Vista or successor in interest shall coordinate with the City of San Diego to implement this improvement.	Less than significant.
	Impact 5.3-6: Under the Year 2020 scenario, the Project would result in a potentially significant cumulative impact to the following Chula Vista roadway segments: • Impact 5.3-6a: Telegraph Canyon Road from Paseo Ladera to Paseo Ranchero (LOS E) • Impact 5.3-6b: Otay Lakes Road from Bonita Road to East H Street (LOS D) • Impact 5.3-6c: Otay Lakes Road from East H Street to Telegraph Canyon Road (LOS D) • Impact 5.3-6d: Main Street from Hilltop Drive to Melrose Avenue (LOS E) • Impact 5.3-6e: Main Street from Melrose Avenue to I-805 (LOS E) • Impact 5.3-6f: Eastlake Parkway from Otay Lakes Road to Olympic Parkway (LOS D)	Implement Mitigation Measure 5.3-3.	Less than significant.

Table 1-1 (cont.): SUMMARY OF SIGNIFICANT ENVIRONMENTAL ANALYSIS RESULTS

Environmental Issue	Result of Impact Analysis	Mitigation	Impact Level After Mitigation
5.3 Transportation/Traffic (cont.)			
	Impact 5.3-7: According to Chapter 12.24 of the City's Municipal Code, access related impacts would occur if access and frontage improvements are not provided concurrent with development. Therefore, in 2025, the Project could result in potentially significant impacts related to access and frontage.	**5.3-7: Construction of Street "E" between Village 9 Street "B" and Eastlake Parkway**. Prior to the issuance of the final map that contains the 3,565th EDU, the City of Chula Vista or successor of interest shall construct Street "E" between Village 9 Street "B" and Eastlake Parkway, in accordance with City Ordinances.	Less than significant.
	Impact 5.3-8: Under the Year 2025 scenario, the Project would result in a potentially significant direct impact to the following Chula Vista intersections: • Impact 5.3-8a: Proctor Valley Road/San Miguel Ranch Road (PM – LOS E) • Impact 5.3-8b: Birch Road/Eastlake Parkway (AM – LOS F, PM – LOS F) • Impact 5.3-8c: Birch Road/La Media Road (AM – LOS F, PM – LOS F)	In addition to Mitigation Measure 5.3-2 identified for 2020, which would mitigate the 2025 impact identified at Birch Road/La Media Road Intersection (Impact 5.3-8c), the following measures would be required: **5.3-8a: Proctor Valley Road/San Miguel Ranch Road Intersection.** Installation of a traffic signal at this intersection will fully mitigate the corresponding impact to less than significant. The City of Chula Vista or successor in interest shall coordinate with San Diego County to construct a traffic signal at this intersection, if this improvement has not been built by others, prior to the construction issuance of the final map that contains the of the Project's 3,565th EDU. **5.3-8b: Birch Road/Eastlake Parkway Intersection.** Prior to the issuance of the final map that contains the 3,565th EDU, the applicant shall secure or construct the Main Street connection between Heritage Road and Eastlake Parkway. Since this improvement includes the construction of a major 6-lane road and a 6-lane bridge, it is beyond the scope of a single development project. If this improvement is not in place by the issuance of the final map that contains the 3,565th EDU, the Project would be required to implement the "Anticipated 2025 Roadway Improvements" above.	Less than significant.

Table 1-1 (cont.): SUMMARY OF SIGNIFICANT ENVIRONMENTAL ANALYSIS RESULTS			
Environmental Issue	**Result of Impact Analysis**	**Mitigation**	**Impact Level After Mitigation**
5.3 Transportation/Traffic (cont.)			
	Impact 5.3-9: Under the Year 2025 scenario, the Project would result in a potentially significant cumulative impact to the following Chula Vista intersections: • Impact 5.3-9a: Telegraph Canyon Road/Paseo Ladera (AM – LOS E) • Impact 5.3-9b: Telegraph Canyon Road/Paseo Ranchero (AM – LOS E, PM – LOS E) • Impact 5.3-9c: Telegraph Canyon Road/Otay Lakes Road/La Media Road (AM – LOS E, PM – LOS F) • Impact 5.3-9d: East Palomar Road/Heritage Road (AM – LOS E) • Impact 5.3-9e: East Palomar Road/La Media Road (AM – LOS F, PM – LOS E) • Impact 5.3-9f: Olympic Parkway/I-805 SB Ramps (PM – LOS F) • Impact 5.3-9g: Olympic Parkway/I-805 NB Ramps (AM – LOS E, PM – LOS E) • Impact 5.3-9h: Olympic Parkway/Oleander Avenue (AM – LOS E, PM – LOS F) • Impact 5.3-9i: Olympic Parkway/Brandywine Avenue (AM – LOS F, PM – LOS F)	Implement Mitigation Measure 5.3-3.	Less than significant.

Table 1-1 (cont.): SUMMARY OF SIGNIFICANT ENVIRONMENTAL ANALYSIS RESULTS

Environmental Issue	Result of Impact Analysis	Mitigation	Impact Level After Mitigation
5.3 Transportation/Traffic (cont.)			
	• Impact 5.3-9j: Olympic Parkway/Heritage Road (AM – LOS F, PM – LOS F) • Impact 5.3-9k: Olympic Parkway/La Media Road (AM – LOS F, PM – LOS E) • Impact 5.3-9l: Main Street/Melrose Avenue (PM – LOS E) • Impact 5.3-9m: Main Street/I-805 SB Ramps (PM – LOS E) • Impact 5.3-9n: Main Street/I-805 NB Ramps (PM – LOS E) • Impact 5.3-9o: Main Street/Brandywine Avenue (PM – LOS E)		
	Impact 5.3-10: Under the Year 2025 scenario, the Project would result in a potentially significant direct impact to the following County of San Diego intersection: • Proctor Valley Road/San Miguel Road (PM – LOS F)	**5.3-10: Proctor Valley Road/San Miguel Road Intersection.** The City of Chula Vista or successor in interest shall coordinate with the County of San Diego to construct a traffic signal and associated improvements to this intersection prior to the issuance of the final map that contains the Project's 3,565th EDU.	Less than significant.
	Impact 5.3-11: Under the Year 2025 scenario, the Project would result in a potentially significant cumulative impact to the following City of San Diego/Caltrans intersections: • Impact 5.3-11a: Palm Avenue/I-805 SB Ramps (PM – LOS F) • Impact 5.3-11b: Palm Avenue/I-805 NB Ramps (AM – LOS F, PM – LOS F)	Implement Mitigation Measures 5.3-4a and 5.3-4b.	Less than significant.

Table 1-1 (cont.): SUMMARY OF SIGNIFICANT ENVIRONMENTAL ANALYSIS RESULTS			
Environmental Issue	**Result of Impact Analysis**	**Mitigation**	**Impact Level After Mitigation**
5.3 Transportation/Traffic (cont.)			
	Impact 5.3-12: Under the Year 2025 scenario, the Project would result in a potentially significant cumulative impact to the following City of San Diego intersections: • Impact 5.3-12a: Avenida De Las Vistas/ Heritage Road (AM – LOS F, PM – LOS F) • Impact 5.3-12b: Heritage Road/Otay Mesa Road (PM – LOS E)	**5.3-12a: Avenida De Las Vistas/Heritage Road Intersection.** The City of Chula Vista or successor in interest shall coordinate with the City of San Diego to construct a traffic signal and associated improvements to this intersection prior to the issuance of the final map that contains the Project's 3,565th EDU. **5.3-12b: Heritage Road/Otay Mesa Road Intersection.** The City of Chula Vista or successor in interest shall coordinate with the City of San Diego to install a WB right-turn overlap phase prior to the construction of the Project's 3,565th EDU.	Less than significant.
	Impact 5.3-13: Under the Year 2025 scenario, the Project would result in a potentially significant direct impact to the following Chula Vista roadway segments: • Impact 5.3-13a: Olympic Parkway from Heritage Road to Santa Venetia Street (LOS D) • Impact 5.3-13b: Olympic Parkway from East Palomar Street to SR-125 (LOS D) • Impact 5.3-13c: Birch Road from SR-125 to Eastlake Parkway (LOS D)	**5.3-13a: Olympic Parkway from Heritage Road to Santa Venetia Street.** Prior to the issuance of the final map that contains the 3,565th EDU, the applicant shall secure or construct the Main Street connection between Heritage Road and Eastlake Parkway. Since this improvement includes the construction of a major 6-lane road and a 6-lane bridge, it is beyond the scope of a single development project. If this improvement is not in place by the issuance of the final map that contains the 3,565th EDU, the Project would be required to implement the "Anticipated 2025 Roadway Improvements." **5.3-13b: Olympic Parkway from E. Palomar Street to SR-125**. Prior to the issuance of the final map that contains the 3,565th EDU, the applicant shall secure or construct the Main Street connection between Heritage Road and Eastlake Parkway. Since this improvement includes the construction of a major 6-lane road and a 6-lane bridge, it is beyond the scope of a single development project. If this improvement is not in place by the issuance of the final map that contains the 3,565th EDU, the Project would be required to implement the "Anticipated 2025 Roadway Improvements."	Less than significant.

Table 1-1 (cont.): SUMMARY OF SIGNIFICANT ENVIRONMENTAL ANALYSIS RESULTS			
Environmental Issue	**Result of Impact Analysis**	**Mitigation**	**Impact Level After Mitigation**
5.3 Transportation/Traffic (cont.)			
		5.3-13c: Birch Road from SR-125 to Eastlake Parkway. Prior to the issuance of the final map that contains the 3,565th EDU, the applicant shall secure or construct the Main Street connection between Heritage Road and Eastlake Parkway Since this improvement includes the construction of a major 6-lane road and a 6-lane bridge, it is beyond the scope of a single development project. If this improvement is not in place by the issuance of the final map that contains the 3,565th EDU, the Project would be required to implement the "Anticipated 2025 Roadway Improvements."	
	Impact 5.3-14: Under the Year 2025 scenario, the Project would result in a potentially significant cumulative impact to the following Chula Vista roadway segments: • Impact 5.3-14a: Telegraph Canyon Road from Paseo Ladera to Paseo Ranchero (LOS E) • Impact 5.3-14b: Otay Lakes Road from Bonita Road to East H Street (LOS E) • Impact 5.3-14c: Otay Lakes Road from East H Street to Telegraph Canyon Road (LOS D) • Impact 5.3-14d: Main Street from Hilltop Drive to Melrose Avenue (LOS E) • Impact 5.3-14e: Main Street from Melrose Avenue to I-805 (LOS E) • Impact 5.3-14f: Main Street from Oleander Avenue to Brandywine Avenue (LOS D) • Impact 5.3-14g: Eastlake Parkway from Otay Lakes Road to Olympic Parkway (LOS D)	Implement Mitigation Measure 5.3-3.	Less than significant.

Table 1-1 (cont.): SUMMARY OF SIGNIFICANT ENVIRONMENTAL ANALYSIS RESULTS			
Environmental Issue	**Result of Impact Analysis**	**Mitigation**	**Impact Level After Mitigation**
5.3 Transportation/Traffic (cont.)			
	Impact 5.3-15: According to Chapter 12.24 of the City's Municipal Code, access related impacts would occur if access and frontage improvements are not provided concurrent with development. Therefore, in 2030, the Project could result in potentially significant impacts related to access and frontage.	**5.3-15:** The City of Chula Vista or successor in interest shall construct Street "C" between Village 9 Street "B" and Eastlake Parkway prior to construction of the 5,164th EDU within the UID.	Less than significant.
	Impact 5.3-16: Under the Year 2030 scenario, the Project would result in a potentially significant direct impact to the following Chula Vista intersections: • Impact 5.3-16a: Main Street/I-805 NB Ramps (PM – LOS E) • Impact 5.3-16b: Village 9 Street "B"/Village 9 Street "C" (PM – LOS E) • Impact 5.3-16c: Proctor Valley Road/San Miguel Ranch Road (PM – LOS E)	In addition to Mitigation Measure 5.3-10 identified for 2025, which would mitigate the 2030 impact identified at Proctor Valley Road/San Miguel Road Intersection, implementation of Mitigation Measures 5.3-16a and 5.3-16b would reduce impacts to less than significant levels: **5.3-16a: Main Street/I-805 NB Ramps Avenue Intersection.** Improvements at this interchange are included in the Western TDIF program. Therefore, this impact is considered fully mitigated. **5.3-16b: Village 9 Street "B"/Village 9 Street "C" Intersection.** The City of Chula Vista or successor in interest shall construct a westbound right-turn lane on Village 9 Street "C" if this improvement is not in place prior to the construction of the final map that contains the Project's 5,164th EDU.	Less than significant.

Table 1-1 (cont.): SUMMARY OF SIGNIFICANT ENVIRONMENTAL ANALYSIS RESULTS			
Environmental Issue	**Result of Impact Analysis**	**Mitigation**	**Impact Level After Mitigation**
5.3 Transportation/Traffic (cont.)			
	Impact 5.3-17: Under the Year 2030 scenario, the Project would result in a potentially significant cumulative impact to the following Chula Vista intersections: • Impact 5.3-17a: Telegraph Canyon Road/Paseo Ranchero (AM – LOS E, PM – LOS E) • Impact 5.3-17b: Birch Road/La Media Road (AM – LOS E, PM – LOS E) • Impact 5.3-17c: Main Street/I-805 SB Ramps (PM – LOS E)	Implement Mitigation Measure 5.3-3.	Less than significant.
	Impact 5.3-18: Under the Year 2030 scenario, the Project would result in a significant direct impact to the following County of San Diego intersection: • Proctor Valley Road/San Miguel Road (PM – LOS E)	Implement Mitigation Measure 5.3-10.	Less than significant.
	Impact 5.3-19: Under the Year 2030 scenario, the Project would result in a potentially significant cumulative impact to the following County of San Diego intersection: Bonita Road/San Miguel Road (PM – LOS E)	**5.3-19:** The City of Chula Vista or successor in interest shall coordinate with the County of San Diego and provide payment of the San Diego County Traffic Impact Fee (TIF) prior to the issuance of the final map that contains the Project's 5,164th EDU.	Less than significant.

Table 1-1 (cont.): SUMMARY OF SIGNIFICANT ENVIRONMENTAL ANALYSIS RESULTS

Environmental Issue	Result of Impact Analysis	Mitigation	Impact Level After Mitigation
5.3 Transportation/Traffic (cont.)			
	Impact 5.3-20: Under the Year 2030 scenario, the Project would result in a potentially significant cumulative impact to the following City of San Diego/Caltrans intersections: • Impact 5.3-20a: Palm Avenue/I-805 SB Ramps (PM – LOS F) • Impact 5.3-20b: Palm Avenue/I-805 NB Ramps (AM – LOS F, PM – LOS F)	Implement Mitigation Measures 5.3-4a and 5.3-4b.	Less than significant.
	Impact 5.3-21: Under the Year 2030 scenario, the Project would result in a potentially significant cumulative impact to the following City of San Diego intersections: • Impact 5.3-21a: Avenida De Las Vistas/Heritage Road (AM – LOS F, PM – LOS F) • Impact 5.3-21b: Heritage Road/Otay Mesa Road (PM – LOS E)	**5.3-21a: Avenida De Las Vistas/Heritage Road.** The City of Chula Vista or successor in interest shall coordinate with the City of San Diego to construct a traffic signal and associated improvements to this intersection prior to the issuance of the final map that contains the Project's 5,164th EDU. **5.3-21b: Heritage Road/Otay Mesa Road.** The City of Chula Vista or successor in interest shall coordinate with the City of San Diego to construct a WB right-turn overlap phase prior to the issuance of the final map that contains the Project's 5,164th EDU.	Less than significant.
	Impact 5.3-22: Under the Year 2030 scenario, the Project would result in a potentially significant direct impact to the following Chula Vista roadway segments: • Impact 5.3-22a: Main Street from I-805 to Oleander Avenue (LOS E) • Impact 5.3-22b: Main Street from Oleander Avenue to Brandywine Avenue (LOS F)	**5.3-22a: Main Street from I-805 to Oleander Avenue.** Prior to the issuance of the final map that contains the 5,164th EDU, the applicant shall secure or construct the Main Street/SR-125 interchange. Since this improvement includes the construction of a full interchange, it is beyond the scope of a single development project. If this improvement is not in place by the issuance of the final map that contains the 5,164th EDU, Mitigation Measure 5.3-21 would apply.	Less than significant.

Table 1-1 (cont.): SUMMARY OF SIGNIFICANT ENVIRONMENTAL ANALYSIS RESULTS			
Environmental Issue	**Result of Impact Analysis**	**Mitigation**	**Impact Level After Mitigation**
5.3 Transportation/Traffic (cont.)			
		5.3-22b: Main Street from Oleander Avenue to Brandywine Avenue. Prior to the issuance of the final map that contains the 5,164th EDU, the applicant shall secure or construct the Main Street/SR-125 interchange. Since this improvement includes the construction of a full interchange, it is beyond the scope of a single development project. If this improvement is not in place by the issuance of the final map that contains the 5,164th EDU, Mitigation Measure 5.3-21 would apply.	
	Impact 5.3-23: Under the Year 2030 scenario, the Project would result in a potentially significant cumulative impact to the following Chula Vista roadway segments: • Impact 5.3-23a: Telegraph Canyon Road from Paseo Ladera to Paseo Ranchero (LOS E) • Impact 5.3-23b: Otay Lakes Road from East H Street to Telegraph Canyon Road (LOS D) • Impact 5.3-23c: Main Street from Hilltop Drive to Melrose Avenue (LOS E) • Impact 5.3-23d: Main Street from Melrose Avenue to I-805 (LOS E) • Impact 5.3-23e: Main Street from Brandywine Avenue to Heritage Road (LOS D) • Impact 5.3-23f: Eastlake Parkway from Otay Lakes Road to Olympic Parkway (LOS D)	Implement Mitigation Measure 5.3-3.	Less than significant.

Table 1-1 (cont.): SUMMARY OF SIGNIFICANT ENVIRONMENTAL ANALYSIS RESULTS

Environmental Issue	Result of Impact Analysis	Mitigation	Impact Level After Mitigation
5.3 Transportation/Traffic (cont.)			
	Impact 5.3-24: Based on the conclusions in the 2001 EIR, traffic impacts from the Lake Property are assessed as potentially significant. An updated traffic analysis of the Lake Property was not included in the TIA for the UID because specific development plans are not currently available and uses assumed in the UID SPA Plan are similar or lower in density than those considered in the 2001 EIR. Therefore, a detailed traffic study would need to be prepared when development plans are available.	**5.3-24: Subsequent Traffic Analysis for Lake Property.** Prior to the approval of any detailed development plans for the Lake Property, a detailed traffic study shall be conducted by a City-approved traffic consultant. Specific mitigation measures for traffic impacts associated with the Lake Property shall be required at that time, to the satisfaction of the City Engineer, including any improvements related to any necessary roadway segments, intersections, and ingress-egress to reduce impacts to below a level of significance and to comply with the City's GMOC standards.	Less than significant.
	Impact 5.3-25: Construction within the UID would occur continuously until full buildout. Therefore, construction traffic would result in a temporary addition to operational traffic generated by the Project. As discussed above, operation of the Project would have the potential to generate substantial traffic during each traffic scenario (Year 2020, Year 2025, and Year 2030), and construction traffic would incrementally contribute to these impacts. Therefore, impacts from construction traffic could potentially be significant.	**5.3-25:** Prior to the commencement of construction activities at the Main Campus Property or Lake Property, a detailed traffic management plan shall be prepared by a City-approved traffic consultant. Specific measures to implement to maintain acceptable traffic conditions during construction shall be reviewed to the satisfaction of the City Engineer.	Less than significant.

Table 1-1 (cont.): SUMMARY OF SIGNIFICANT ENVIRONMENTAL ANALYSIS RESULTS			
Environmental Issue	**Result of Impact Analysis**	**Mitigation**	**Impact Level After Mitigation**
5.3 Transportation/Traffic (cont.)			
Threshold 2: Congestion Management	**Impact 5.3-26:** The Project would have the potential to exceed the City of Chula Vista's LOS standards, as well as the City of San Diego, Caltrans, and the County of San Diego's standards under the Existing Plus Project, Year 2020, Year 2025, and Year 2030 scenarios. Therefore, the Project would contribute to regional congestion and a potentially significant impact would occur related to level of service standards.	Implement Mitigation Measures 5.3-1 through 5.3-25.	Less than significant.
Threshold 3: Air Traffic Patterns	Less than significant.	No mitigation measures are required.	Less than significant.
Threshold 4: Road Safety	Less than significant.	No mitigation measures are required.	Less than significant.
Threshold 5: Emergency Access	Less than significant.	No mitigation measures are required.	Less than significant.
Threshold 6: Consistency with Transportation Policies	Less than significant.	No mitigation measures are required.	Less than significant.
5.4 Air Quality			
Threshold 1: Air Quality Plan	Less than significant.	No mitigation measures are required.	Less than significant.

Table 1-1 (cont.): SUMMARY OF SIGNIFICANT ENVIRONMENTAL ANALYSIS RESULTS			
Environmental Issue	**Result of Impact Analysis**	**Mitigation**	**Impact Level After Mitigation**
5.4 Air Quality (cont.)			
Threshold 2: Air Quality Violations	**Impact 5.4-1:** Implementation of the Project would result in potentially significant criteria pollutant emission impacts during construction.	**5.4-1a: Air Quality-Related Construction Best Management Practices.** In addition to the requirements of APCD Rule 55, ~~The~~ the control measures listed below will be implemented during Project construction to reduce dust and VOC emissions: • A minimum of two applications of water during grading between dozer/scraper passes. • Paving, chip sealing, or chemical stabilization of internal roadways after completion of grading. • Termination of grading if winds exceed 25 mph. • Ensure that all exposed surfaces maintain a minimum soil moisture of 12 percent. • Stabilization of dirt storage piles by chemical binders, tarps, fencing, or other erosion control. • Use of "Super Compliant" architectural coatings with a VOC content of 10 grams per liter or less. **5.4-1b Use of Tier 4 Final Off-Road Equipment.** All off-road diesel-powered construction equipment greater than 50 horsepower (HP) used during each building construction phase shall meet U.S. EPA Tier 4 off-road emissions standards. A copy of each unit's certified Tier specification shall be provided to the City of Chula Vista Development Services Department at the time of mobilization of each applicable unit of equipment.	Less than significant.
	Impact 5.4-2: Implementation of the Project would result in significant criteria pollutant emission impacts during operation.	~~Implement Mitigation Measures 5.10-1a through 5.10-1d; however, no~~ No mitigation is available to reduce impacts to less than significant.	Significant and unavoidable.

Table 1-1 (cont.): SUMMARY OF SIGNIFICANT ENVIRONMENTAL ANALYSIS RESULTS

Environmental Issue	Result of Impact Analysis	Mitigation	Impact Level After Mitigation
5.4 Air Quality (cont.)			
Threshold 3: Cumulative Increase of Criteria Pollutants	**Impact 5.4-3:** Long-term cumulative emissions would exceed regional thresholds and, therefore, would be cumulatively significant.	~~Implement Mitigation Measures 5.10-1a through 5.10-1d; however,~~ ~~n~~No mitigation is available to reduce impacts to less than significant.	Significant and unavoidable.
Threshold 4: Sensitive Receptors	**Impact 5.4-4:** Impacts related to TAC emissions would be potentially significant.	**5.4-4: Health Risk Assessment.** Prior to the issuance of building permits for any new facility that would have the potential to emit TACs, in accordance with AB 2588, an emissions inventory and HRA shall be prepared. Building permits shall only be issued for facilities that demonstrate TAC emissions below the standards listed in Table 5.4-6 (excess cancer risk of 1 in 1 million or 10 in 1 million with T-BACT and non-cancer hazard index of 1.0).	Less than significant.
Threshold 5: Objectionable Odors	Less than significant.	No mitigation measures are required.	Less than significant.
5.5 Noise			
Threshold 1: Excessive Noise Levels	**Impact 5.5-1a:** Project HVAC units may generate exterior and interior noise levels in excess of the City's noise control ordinance at nearby NSLUs within Transects T-3A, T-3B, T-6A, T-6B, T-6D, T-6E, and SD: Flex Overlay. **Impact 5.5-1b:** Active uses at recreational facilities (e.g., parks and sport courts) may generate noise in excess of City noise control ordinance standards at nearby NSLUs.	**5.5-1a: Site-Specific Acoustic Analysis – Multi-Family Residences**. Concurrent with Design Review and prior to the approval of building permits for multi-family areas within Transects T-3A, T-3B, T-6A, T-6B, T-6D, T-6E, and SD: Flex Overlay, where first and/or upper floor exterior noise levels exceed 60 CNEL and/or where required outdoor area (patios or balconies) noise levels exceed 65 CNEL, the City shall require: 1) an acoustical analysis demonstrating to the satisfaction of the Development Services Director (or their designee) that the proposed building plans ensure that interior noise levels due to exterior noise sources will be at or below California's Title 24 Interior Noise Standards (i.e., 45 CNEL) in any habitable room, and 2) all outdoor useable areas are not exposed to noise levels in excess of the City's noise compatibility guidelines for outdoor use areas (i.e., 65 CNEL). The analysis must also identify Sound Transmission Loss rates of each window.	Less than significant.

Table 1-1 (cont.): SUMMARY OF SIGNIFICANT ENVIRONMENTAL ANALYSIS RESULTS			
Environmental Issue	**Result of Impact Analysis**	**Mitigation**	**Impact Level After Mitigation**
5.5 Noise (cont.)			
	Impact 5.5-1c: Project residences and/or other project NSLUs could be exposed to a potentially significant impact from High Tech K-12's playground and grassy play area.	Design-level architectural plans will be available during design review and will permit the accurate calculation of transmission loss 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, in which case, adequate ventilation systems shall be installed. The City shall require noise attenuation features that would (1) reduce sound levels to 45 CNEL in any habitable room, and (2) that would reduce sound levels to 65 CNEL at outdoor usable areas. **5.5-1b: Site-Specific Acoustic Analysis – Non-Residential NSLUs**. Concurrent with Design Review and prior to the approval of building permits for any non-residential NSLUs (schools, libraries, neighborhood parks) within Transects T-3A, T-3B, T-6A, T-6B, T-6D, T-6E, and SD: Flex Overlay, where exterior noise levels exceed 65 CNEL, the City shall require a site design plan and subsequent acoustical analysis demonstrating to the satisfaction of the Development Services Director (or their designee) that all outdoor useable areas are not exposed to noise levels in excess of 65 CNEL. Measures to reduce noise levels may include, but would not be limited to, setback of structures from the roadway, installing acoustic barriers, or orienting outdoor activity areas away from roadways so that surrounding structures provide noise attenuation. Wall and roof-ceiling assemblies making up the building envelope shall comply with the requirements of the 2013 CALGreen Building Code and meet a composite STC rating of at least 50 or a composite OITC rating of no less than 40, with exterior windows of a minimum STC of 40 or OITC of 30 in compliance with the CALGreen Building Code. The City shall require noise attenuation features to reduce sound levels to 65 CNEL at outdoor usable areas.	

Table 1-1 (cont.): SUMMARY OF SIGNIFICANT ENVIRONMENTAL ANALYSIS RESULTS			
Environmental Issue	**Result of Impact Analysis**	**Mitigation**	**Impact Level After Mitigation**
5.5 Noise (cont.)			
		5.5-1c: Site-Specific Acoustic Analysis – Office Uses. Concurrent with Design Review and prior to the approval of building permits for any office use within Transects T-3A, T-3B, T-6A, T-6B, T-6D, T-6E, and SD: Flex Overlay the City shall require a site design plan and subsequent acoustical analysis demonstrating to the satisfaction of the Development Services Director (or their designee) that exterior noise levels at the property line are at or below the City's noise compatibility guidelines for office uses (i.e., 70 CNEL). Measures to reduce noise levels may include, but would not be limited to, setback of structures from the roadway, installing acoustic barriers, or, in mixed-use buildings, orienting offices away from roadways so that surrounding structures provide noise attenuation. The City shall require noise attenuation features to reduce sound levels to 70 CNEL at the property line. **5.5-1d: HVAC Mechanical Equipment Shielding.** Concurrent with Design Review and prior to the approval of building permits for non-residential development, the City shall require a design plan for the project demonstrating to the satisfaction of the Development Services Director (or their designee) that the noise level from operation of mechanical equipment will not cumulatively exceed the following noise level limits for a designated receiving land use category as specified in Section 19.68.030 of the City noise control ordinance. Noise control measures may include, but are not limited to, the selection of quiet equipment, equipment setbacks, silencers, and/or acoustical louvers. The City shall require noise attenuation features that would reduce sound levels to levels that are allowable under the Chula Vista noise control ordinance:	

Table 1-1 (cont.): SUMMARY OF SIGNIFICANT ENVIRONMENTAL ANALYSIS RESULTS			
Environmental Issue	**Result of Impact Analysis**	**Mitigation**	**Impact Level After Mitigation**
5.5 Noise (cont.)			
		• From 10 p.m. to 7 a.m. on weekdays and from 10 p.m. to 8 a.m. on weekends: o 45 dBA for residential o 50 dBA for multiple dwelling residential o 60 dBA for commercial o 70 dBA for light industry (I-R and I-L zone) o 80 dBA for heavy industry (I zone) • From 7 a.m. to 10 p.m. on weekdays and from 8 a.m. to 10 p.m. on weekends: o 55 dBA for residential o 60 dBA for multiple dwelling residential o 65 dBA for commercial o 70 dBA for light industry (I-R and I-L zone) o 80 dBA for heavy industry (I zone) Noise control measures may include, but are not limited to, the selection of quiet equipment, equipment setbacks, silencers, and/or acoustical louvers. The City shall require noise attenuation features that would reduce sound levels to levels at or below the allowable levels set forth in the Chula Vista noise control ordinance. **5.5-1e: Site Specific Analysis – Recreational Facilities.** Concurrent with the preparation of site-specific plan(s) and prior to the approval of a grading plan, the City shall require the preparation of an acoustical analysis to ensure that noise levels generated from any active uses at the recreational facilities, such as sports fields, shall not exceed the receiving land use category's exterior noise limits as identified in the City noise control ordinance. Measures to reduce noise levels may include, but would not be limited to, siting of structures or buildings either at the recreational facilities or at the	

Table 1-1 (cont.): SUMMARY OF SIGNIFICANT ENVIRONMENTAL ANALYSIS RESULTS

Environmental Issue	Result of Impact Analysis	Mitigation	Impact Level After Mitigation
5.5 Noise (cont.)			
		receiving land use site in order to provide setbacks between active areas of the facilities and adjacent noise sensitive uses or construction of a wall to provide noise attenuation. Final noise attenuation design would be determined by a site-specific acoustic analysis conducted by a qualified acoustical engineer, to the satisfaction of the Development Services Director (or their designee).	
Threshold 2: Excessive Ground-Borne Vibration	**Impact 5.5-2:** Construction vibration impacts related to ground-borne vibration would be potentially significant.	**5.5-2:** For major construction activity involving heavy earth moving equipment within 200 feet, and pile driving within 600 feet, of vibration-sensitive land uses (e.g., vibration sensitive laboratory equipment), prior to the initiation of construction activities, the City shall approve a construction vibration mitigation program developed by a qualified person experienced in the fields of environmental noise and vibration assessment to be implemented by the construction contractor. The construction vibration mitigation program shall include measures to reduce vibration resulting from construction activities to the maximum extent practicable. Notification and monitoring of construction activities shall include, but not be limited to, the following: • Vibration monitoring shall be performed during construction to establish the level of vibration produced by high impact activities. Monitoring shall be conducted when any construction would occur within 50 feet of a vibration sensitive land use. Monitoring shall be conducted using a portable vibration-monitoring instrument that provides a calibrated record of local ground movement/accelerations. If construction vibration exceeds 2.0 in/sec, alternative work methods and equipment shall be used. Baseline vibration levels at specified locations shall be established prior to construction.	Less than significant.

Table 1-1 (cont.): SUMMARY OF SIGNIFICANT ENVIRONMENTAL ANALYSIS RESULTS

Environmental Issue	Result of Impact Analysis	Mitigation	Impact Level After Mitigation
5.5 Noise (cont.)			
		• Building occupants shall be notified at least two weeks prior to the start of construction that would occur within 50 feet of any vibration sensitive land use.	
Threshold 3: Permanent Increase in Ambient Noise Levels	Less than significant.	No mitigation measures are required.	Less than significant.
Threshold 4: Temporary Increase in Ambient Noise Levels	**Impact 5.5-3:** Construction noise may exceed the 60 dBA L_{EQ} threshold for sensitive habitat in the MSCP Preserve Area and a significant temporary noise impact would occur to nesting birds in sensitive habitat. Construction of the Project, including grading activities, would not cause significant noise impacts to human receptor NSLUs.	Implement Mitigation Measures 5.6-4 through 5.6-8a.	Less than significant.
Threshold 5: Aircraft Noise	Less than significant.	No mitigation measures are required.	Less than significant.
5.6 Biological Resources			
Threshold 1: Sensitive Plant and Wildlife Species	**Impact 5.6-1a:** Implementation of the Project would result in significant direct impacts to two sensitive plant species: Otay tarplant (*Deinandra conjugens*) and San Diego barrel cactus (*Ferocactus viridescens*).	**5.6-1a: Pre-Construction Rare Plant Surveys for Impacts Outside of Covered Projects.** Prior to issuance of any land development permits, including clearing, grubbing, and grading permits for the Lake Property and off-site impact areas, the Project applicant shall retain a City-approved biologist to conduct rare plant surveys for sensitive plant species, including, but not limited to, Otay tarplant (*Deinandra conjugens*) and San Diego barrel cactus (*Ferocactus viridescens*), which are species determined to be present or to have a high potential to occur and that require additional measures for unavoidable impacts.	Less than significant.

Table 1-1 (cont.): SUMMARY OF SIGNIFICANT ENVIRONMENTAL ANALYSIS RESULTS			
Environmental Issue	**Result of Impact Analysis**	**Mitigation**	**Impact Level After Mitigation**
5.6 Biological Resources (cont.)			
		If plant species requiring transplantation – snake cholla (*Opuntia parryi* var. *serpentine*), San Diego barrel cactus, dot-seed plantain (*Plantago erecta)*, coast cholla (*Cylindropuntia prolifera*), Otay tarplant – are found within the impact areas, the applicant shall implement Mitigation Measure 5.6-2, which includes measures for plant salvage and relocation, and preparation and implementation of a resource salvage plan. Should narrow endemic species listed in Table 5-4 of the Chula Vista MSCP Subarea Plan be identified in the proposed off-site impact areas, the Project shall be designed so as to avoid them to the maximum extent practicable. If impacts to narrow endemics are unavoidable, they shall be limited as follows: impacts within the Lake Property shall be no more than 20 percent of the total population within the Project area; off-site impacts outside of the Preserve shall be no more than 20 percent of the total population within the Project area; and off-site impacts within the Preserve shall be no more than 5 percent of the total population within the Project area. In addition, impacts shall be mitigated at ratios of 1:1 to 3:1, depending on the sensitivity of the species. The proposed Project design, including mitigation, shall result in conservation of the species that is functionally equivalent to its status without the Project, including species numbers and area, and must ensure adequate Preserve design to protect the species in the long-term.	
	Impact 5.6-1b: Implementation of the Project could potentially result in significant indirect impacts to San Diego barrel cactus.	**5.6-1b: Plant Resource Salvage Plan.** Prior to issuance of land development permits, including clearing or grubbing and grading permits for the Main Campus Property, Lake Property and all off-site impact areas, the applicant shall prepare a resource salvage plan for	

Table 1-1 (cont.): SUMMARY OF SIGNIFICANT ENVIRONMENTAL ANALYSIS RESULTS

Environmental Issue	Result of Impact Analysis	Mitigation	Impact Level After Mitigation
5.6 Biological Resources (cont.)			
		areas with salvageable plant resources, including Otay tarplant (*Deinandra conjugens*), San Diego barrel cactus (*Ferocactus viridescens*), dot-seed plantain (*Plantago erecta*, Quino checkerspot butterfly larval host plant), and coast cholla and snake cholla (*Cylindropuntia prolifera* and *Opuntia parryi* var. *serpentine*, habitat for cactus wren). The resource salvage plan shall, at a minimum, evaluate options for plant salvage and relocation, including native plant mulching, selective soil salvaging, application of plant materials on manufactured slopes, and application/relocation of resources within the Preserve. Relocation efforts may include seed collection and/or transplantation to a suitable receptor site and will be based on the most reliable methods of successful relocation. The program shall contain a recommendation for method of salvage and relocation/application based on feasibility of implementation and likelihood of success. The program shall include, at a minimum, an implementation plan, maintenance and monitoring program, estimated completion time, and any relevant contingency measures. The resource salvage plan shall be prepared by a City-approved biologist. The applicant shall also be required to implement the resource salvage plan subject to the oversight of the Development Services Director (or their designee).	
	Impact 5.6-2: Implementation of the Project could potentially result in potential significant direct and indirect impacts to the San Diego fairy shrimp.	**5.6-2a: Fairy Shrimp Surveys.** Prior to issuance of any land development permits, including clearing, grubbing, and grading permits for the Lake Property and off-site impact areas, the Project applicant shall retain a qualified biologist possessing a valid ESA Section 10(a)(1)(A) Recovery Permit to survey potential habitat (i.e., road ruts) inside the proposed impact footprint in the Lake Property and off-site impact areas for presence of listed branchiopod species. The surveys shall be conducted in accordance with the most	Less than significant.

Table 1-1 (cont.): SUMMARY OF SIGNIFICANT ENVIRONMENTAL ANALYSIS RESULTS

Environmental Issue	Result of Impact Analysis	Mitigation	Impact Level After Mitigation
5.6 Biological Resources (cont.)			
		recent protocol survey guidelines established by the USFWS. If sensitive fairy shrimp species are found within the impact areas, the applicant shall implement Mitigation Measure 5.6-4, which includes measures for obtaining take authorization and preparation and implementation of a resource salvage plan. **5.6-2b: Fairy Shrimp Take Authorization and Resource Salvage Plan.** Prior to issuance of land development permits, including clearing or grubbing and grading permits for the Lake Property and off-site impact areas, if fairy shrimp surveys required by Mitigation Measure 5.6-3 show the Project would have unavoidable impacts to listed fairy shrimp species, the applicant shall consult with the City and USFWS to obtain take authorization pursuant to ESA and the Chula Vista MSCP Subarea Plan. The applicant shall provide for mitigation as required by the City and USFWS, which may include, but is not limited to, preparation of a resource salvage plan and translocation of cysts by inoculation into existing suitable habitat within approved preserve areas or into created habitat on-site or within the Preserve, or acquisition and preservation of occupied habitat off-site.	
	Impact 5.6-3: Implementation of the Project could potentially result in potential significant direct impacts to the Quino checkerspot butterfly.	**5.6-3: Quino Checkerspot Butterfly and Host Plant Surveys.** Prior to issuance of any land development permits, including clearing, grubbing, and grading permits for the Lake Property and off-site impact areas in the Otay River Valley, the Project applicant shall retain a qualified biologist possessing a valid ESA Section 10(a)(1)(A) Recovery Permit to perform a site assessment and presence/absence survey for the Quino checkerspot butterfly. The surveys shall be conducted in accordance with the most recent protocol survey guidelines established by the USFWS. The survey shall include an inventory and mapping of locations of Quino checkerspot and its host plant, *Plantago erecta*.	Less than significant.

Table 1-1 (cont.): SUMMARY OF SIGNIFICANT ENVIRONMENTAL ANALYSIS RESULTS

Environmental Issue	Result of Impact Analysis	Mitigation	Impact Level After Mitigation
5.6 Biological Resources (cont.)			
		For areas within Preserve Habitat-Category A as shown on Chula Vista MSCP Subarea Plan Figure 4-1, a detailed habitat assessment shall be conducted to identify patches of QCB habitat and delineate "significant QCB habitat patches" as described in the Chula Vista MSCP Subarea Plan Section 5.2.8.1 (4). Any "significant QCB habitat patches" within Preserve Habitat-Category A shall be avoided to the maximum extent practicable according to Section 5.2.8.1 (4). The applicant shall implement Mitigation Measure 5.6-2, which includes measures for preparation and implementation of a resource salvage plan for *Plantago erecta*. The Applicant shall notify the City and Wildlife Agencies if QCB are observed within 300 feet of the Preserve boundary, and shall work with the Wildlife Agencies to enable one-time only salvage by the Wildlife Agencies of larvae, butterflies and/or appropriate habitat constituents in areas identified to have QCB in accordance with section 5.2.8.2.	
	Impact 5.6-4: Implementation of the Project could potentially result in potential significant direct and indirect impacts the coastal California gnatcatcher.	**5.6-4: Coastal California Gnatcatcher Avoidance.** For any work proposed between February 15 and August 15, prior to issuance of any land development permits for the Main Campus Property, Lake Property, and off-site impact areas, including clearing, grubbing, grading, and construction permits within or adjacent to suitable breeding habitat for the coastal California gnatcatcher, pre-construction surveys shall be performed in order to determine the presence or absence of the species and extent of occupied habitat. The pre-construction survey area for the coastal California gnatcatcher shall encompass suitable habitat within the Project work zone, as well as a 300-foot buffer.	Less than significant.

Table 1-1 (cont.): SUMMARY OF SIGNIFICANT ENVIRONMENTAL ANALYSIS RESULTS

Environmental Issue	Result of Impact Analysis	Mitigation	Impact Level After Mitigation
5.6 Biological Resources (cont.)			
		The pre-construction survey shall be performed to the satisfaction of the Development Services Director (or their designee) by a qualified biologist familiar with the City's MSCP Subarea Plan. The results of the pre-construction survey must be submitted in a report to the Development Services Director (or their designee) for review and approval no earlier than 30 days prior to the issuance of any land development permits and prior to initiating any construction activities. If the coastal California gnatcatcher is detected, a minimum 300-foot buffer delineated by orange biological fencing shall be established around the detected species to ensure that no work shall occur within the occupied habitat from February 15 through August 15 and on-site noise reduction techniques shall be implemented to ensure that construction noise levels not exceed 60 dBA L_{EQ} (1 hour) at the location of any occupied sensitive habitat areas. The Development Services Director (or their designee) shall have the discretion to modify the buffer width depending on-site-specific conditions and in consultation with CDFW and USFWS. If the results of the pre-construction survey determine that the survey area is unoccupied, the work may commence at the discretion of the Development Services Director (or their designee) following the review and approval of the pre-construction report. The Applicant shall notify the City and Wildlife Agencies if QCB are observed within 300 feet of the Preserve boundary, and shall work with the Wildlife Agencies to enable one-time only salvage by the Wildlife Agencies of larvae, butterflies and/or appropriate habitat constituents in areas identified to have QCB in accordance with section 5.2.8.2.	

Table 1-1 (cont.): SUMMARY OF SIGNIFICANT ENVIRONMENTAL ANALYSIS RESULTS

Environmental Issue	Result of Impact Analysis	Mitigation	Impact Level After Mitigation
5.6 Biological Resources (cont.)			
	Impact 5.6-5: Implementation of the Project could potentially result in potential significant direct and indirect impacts to the least Bell's vireo.	**5.6-5: Least Bell's Vireo Avoidance.** For any work proposed at the northern edge of the Main Campus Property and off-site impact areas between March 15 and September 15, a pre-construction survey for the least Bell's vireo shall be performed in order to reaffirm the presence and extent of occupied habitat. The pre-construction survey area for the species shall encompass all potentially suitable habitat within the Project work zone, as well as a 300-foot survey buffer. Habitat presumed to be occupied by least Bell's vireo is confined to southern willow scrub habitat approximately 200 feet northeast of the limit of proposed development. Buffer requirements for occupied habitat would encompass approximately 100 feet along the northeast edge of the proposed development area. The pre-construction survey shall be performed to the satisfaction of the Development Services Director (or their designee) by a qualified biologist familiar with the Chula Vista MSCP Subarea Plan. The results of the pre-construction survey must be submitted in a report to the Development Services Director (or their designee) for review and approval prior to the issuance of any land development permits and prior to initiating any construction activities. If least Bell's vireo is detected, a minimum 300-foot buffer delineated by orange biological fencing shall be established around the detected species to ensure that no work shall occur within occupied habitat from March 15 through September 15. On-site noise reduction techniques shall be implemented to ensure that construction noise levels not exceed 60 dBA L_{EQ} (1 hour) at the location of any occupied sensitive habitat areas. The Development Services Director (or their designee) shall have the discretion to modify the buffer width depending on site-specific conditions. If the results of the pre-construction survey determine that the survey area is unoccupied, the work may	Less than significant.

Table 1-1 (cont.): SUMMARY OF SIGNIFICANT ENVIRONMENTAL ANALYSIS RESULTS

Environmental Issue	Result of Impact Analysis	Mitigation	Impact Level After Mitigation
5.6 Biological Resources (cont.)			
		5.6-5: Least Bell's Vireo Avoidance (cont.) commence at the discretion of the Development Services Director (or their designee) following the review and approval of the pre-construction report.	
	Impact 5.6-6: Implementation of the Project could potentially result in potential significant direct and indirect impacts to the burrowing owl.	**5.6-6: Pre-Construction Burrowing Owl Survey.** Prior to issuance of any land development permits, including clearing, grubbing, and grading permits for the Main Campus Property and off-site impact areas south of it, the Project applicant shall retain a City-approved biologist to conduct focused pre-construction surveys for burrowing owls. The surveys shall be performed no earlier than 30 days prior to the commencement of any clearing, grubbing, or grading activities. If occupied burrows are detected, the City-approved biologist shall prepare a passive relocation mitigation plan subject to review and approval by the wildlife agencies and the City, including any subsequent burrowing owl relocation plans to avoid impacts from construction-related activities.	Less than significant.
	Impact 5.6-7: Implementation of the Project could potentially result in potential significant direct and indirect impacts to the northern harrier.	**5.6-7: Pre-Construction Northern Harrier Survey.** Prior to issuance of any land development permits, including clearing, grubbing, and grading permits for the Main Campus Property and off-site impact areas south of it, the Project applicant shall retain a City-approved biologist to conduct focused surveys for northern harrier to determine the presence or absence of this species within 900 feet of the construction area. The pre-construction survey must be conducted within 10 calendar days prior to the start of construction. The results of the survey must be submitted to the City for review and approval. If active nests are detected by the City-approved biologist, a 900-foot impact avoidance buffer around active nests will be established unless a different buffer is recommended by the City-approved biologist and approved by the City, CDFW, and USFWS, and a bio-monitor shall be on site during construction to minimize	Less than significant.

Table 1-1 (cont.): SUMMARY OF SIGNIFICANT ENVIRONMENTAL ANALYSIS RESULTS			
Environmental Issue	**Result of Impact Analysis**	**Mitigation**	**Impact Level After Mitigation**
5.6 Biological Resources (cont.)			
		5.6-7: Pre-Construction Northern Harrier Survey (cont.) construction impacts and ensure that no nests are removed or disturbed until all young have fledged.	
	Impacts 5.6-8a through ~~8e~~8e: Implementation of the Project could potentially result in potential significant direct and indirect impacts to the southern California rufous-crowned sparrow and coastal cactus wren, as well as potential impacts to raptors and breeding migratory birds.	**5.6-8a: Pre-Construction Nesting Bird Survey.** To avoid any direct impacts to raptors and/or any migratory birds protected under the Migratory Bird Treaty Act, removal of habitat that supports active nests on the proposed area of disturbance for the Main Campus Property and Lake Property and all off-site impact areas should occur outside of the breeding season for these species. The breeding season is defined as February 15-August 15 for coastal California gnatcatcher and other non-raptor birds and January 15–August 31 for raptor species. If removal of habitat on the proposed area of disturbance must occur during the breeding season, the Project applicant 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~~ seven calendar days prior to the start of construction, and the results must be submitted 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 are avoided, including establishing a 300-foot avoidance buffer (500 feet for raptors), unless a different buffer is recommended by the City-approved biologist and approved by the City, CDFW, and USFWS. 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	Less than significant.

Table 1-1 (cont.): SUMMARY OF SIGNIFICANT ENVIRONMENTAL ANALYSIS RESULTS

Environmental Issue	Result of Impact Analysis	Mitigation	Impact Level After Mitigation
5.6 Biological Resources (cont.)			
		monitor shall verify and approve that all measures identified in the report or mitigation plan are in place prior to and/or during construction. **5.6-8b: Construction Fencing.** Prior to issuance of land development permits, including clearing, grubbing, grading, and/or construction permits, the Project applicant shall install fencing in accordance with Chula Vista Municipal Code 17.35.030. Prominently colored, well-installed fencing and signage shall be in place wherever the limits of grading are adjacent to sensitive vegetation communities or other biological resources, as identified by the qualified monitoring biologist. Fencing shall remain in place during all construction activities. All temporary fencing shall be shown on grading plans for areas adjacent to the Preserve and for all off-site facilities constructed within the Preserve. Prior to release of grading and/or improvement bonds (as may be required by the City), a qualified biologist shall provide evidence that work was conducted as authorized under the approved land development permit and associated plans. **5.6-8c: Construction Staging Areas.** The Project applicant shall ensure proper designation of construction staging areas for Project activities such that no staging areas are located within Preserve areas or other sensitive habitat areas. Staging areas shall be identified following the advice of a qualified biologist, and with the approval of the City. Designated staging areas shall be included on construction plans and if located outside of development areas, Project plans shall include revegetation and/or mitigation for staging area impacts according to the HLIT. The construction contractor shall receive approval by the Project applicant prior to mobilizations and staging of equipment outside of the Project boundaries.	

Table 1-1 (cont.): SUMMARY OF SIGNIFICANT ENVIRONMENTAL ANALYSIS RESULTS

Environmental Issue	Result of Impact Analysis	Mitigation	Impact Level After Mitigation
5.6 Biological Resources (cont.)			
		5.6-8d: Biological Construction Monitor. Prior to issuance of land development permits, including clearing, grubbing, grading, and/or construction permits, for any areas adjacent to the Preserve and the off-site facilities located within the Preserve, the Project applicant shall provide written confirmation that a City-approved biological monitor has been retained and shall be on site during clearing, grubbing, and/or grading activities. The biological monitor shall attend all pre-construction meetings and be present during the removal of any vegetation to ensure that the approved limits of disturbance are not exceeded and provide periodic monitoring of the impact area including, but not limited to, trenches, stockpiles, storage areas, and protective fencing. Monitoring adjacent to Preserve Habitat Category A shall be consistent with the Chula Vista MSCP Subarea Plan Section 5.2.8.2. The biological monitor shall be authorized to halt all associated Project activities that may be in violation of the Chula Vista MSCP Subarea Plan and/or permits issued by any other agencies having jurisdictional authority over the Project. Before construction activities occur in areas containing sensitive biological resources within the off-site facilities area, all workers shall be educated by a City-approved biologist to recognize and avoid those areas that have been marked as sensitive biological resources. **5.6-8e: Implement Preserve Edge Plan.** Prior to the issuance of grading permits, the Project applicant shall submit evidence, to the satisfaction of the Development Services Director (or their designee), showing that the following features of the Preserve Edge Plans have been incorporated into grading and landscaping plans:	

Table 1-1 (cont.): SUMMARY OF SIGNIFICANT ENVIRONMENTAL ANALYSIS RESULTS

Environmental Issue	Result of Impact Analysis	Mitigation	Impact Level After Mitigation
5.6 Biological Resources (cont.)			
		5.6-8e: Implement Preserve Edge Plan (cont.) • Provide post and rail fencing and signage for sensitive habitat adjacent to trails. Prior to the issuance of land development permits, including clearing or grubbing and grading and/or construction permits, for the Project, the Project owner shall submit wall and fence plans depicting appropriate barriers to prevent unauthorized access to the Preserve. The wall and fence plans shall, at a minimum, illustrate the locations and cross-sections of proposed walls, fences, informational and directional signage, access controls, and/or boundary markers along the Preserve boundary and off-site pedestrian trails as conceptually described in the Edge Plans. The required wall and fence plan shall be subject to the approval of the Development Services Director (or their designee). • Install canyon subdrains to prevent erosion of drainage and wetlands within the Preserve. • Prevent release of toxins, chemicals, petroleum products, exotic plant materials, and other elements that might degrade or harm the natural environment or ecosystem within the Preserve. • Implement all necessary requirements for water quality as specified by the state and local agencies. • Do not allow the introduction of invasive, non-native plant species into areas immediately adjacent to the Preserve. All slopes immediately adjacent to the Preserve shall be planted with native species that reflect the adjacent native habitat, per the Edge Plan. Prior to the issuance of land development permits, including clearing or grubbing and grading and/or construction permits, for areas within the 100-foot Preserve edge, the Project applicant shall	

Table 1-1 (cont.): SUMMARY OF SIGNIFICANT ENVIRONMENTAL ANALYSIS RESULTS

Environmental Issue	Result of Impact Analysis	Mitigation	Impact Level After Mitigation
5.6 Biological Resources (cont.)			
		5.6-8e: Implement Preserve Edge Plan (cont.) prepare and submit to the satisfaction of the Development Services Director (or their designee) landscape plans to ensure that the proposed plant palette is consistent with the plant list contained in the Preserve Edge Plans for each village. The landscape plan shall also incorporate a manual weeding program for areas adjacent to the Preserve. The manual weeding program shall describe, at a minimum, the entity responsible for controlling invasive species, the maintenance activities and methods required to control invasive species, and a maintenance/monitoring schedule. • Incorporate all fuel modification areas into development plans and do not include any areas within the Preserve, consistent with the Fire Protection Plan (FPP). • In compliance with the Chula Vista MSCP Subarea Plan, all lighting shall be shielded and directed away from the Preserve. Prior to issuance of a building permit, a lighting plan and photometric analysis shall be prepared pursuant to Mitigation Measures 5.2-1 and 5.2-2 provided in Section 5.2, *Aesthetics/ Landform Alteration*. • Noise impacts adjacent to the Preserve lands shall be minimized. Berms or walls shall be constructed adjacent to commercial areas and any other use that may introduce noises that could impact or interfere with wildlife utilization of the Preserve, although no such uses are currently proposed within or adjacent to the Preserve Edge. Construction activities shall include noise reduction measures or be conducted outside the breeding season of sensitive bird species, consistent with Mitigation Measure 5.5-5, provided in Section 5.5.	

Table 1-1 (cont.): SUMMARY OF SIGNIFICANT ENVIRONMENTAL ANALYSIS RESULTS

Environmental Issue	Result of Impact Analysis	Mitigation	Impact Level After Mitigation
5.6 Biological Resources (cont.)			
	Impact 5.6-9: Significant short-term indirect impacts to sensitive wildlife species would occur during construction activities and would potentially consist of noise, lighting, presence of toxic substances, degradation of water quality. In addition, significant long-term edge effects could include noise, lighting, domestic animal predation, and attraction of natural predators.	**5.6-9: Siting Criteria Analysis.** Prior to the issuance of any land development permits, including clearing, grubbing, and grading permits for all Planned and Future Facilities within 100 percent Conservation Areas including Preserve areas south of the Main Campus Property and north and west of the Lake Property, the Project applicant shall complete an updated siting criteria analysis for all proposed Planned and Future Facilities, based on biological surveys completed within one year of construction.	Less than significant.
Threshold 2: Riparian Habitat and Other Sensitive Natural Communities	**Impact 5.6-10a:** Implementation of the Project would result in significant direct impacts to maritime succulent scrub, Diegan coastal sage scrub, mule fat scrub, non-native grassland, and Diegan coastal sage scrub/non-native grassland, as shown in Table 5.6-3.	**5.6-10a: Compensatory Mitigation for Impacts to Sensitive Habitat.** Impacts to sensitive habitat types from development associated with the Lake Property and off-site impact areas will be mitigated as shown in Table 5.6-6 and in accordance with Table 5-3 of the Chula Vista MSCP Subarea Plan. Impacts associated with the Main Campus Property are in the Development Area of a Covered Project or are Planned and Future Facilities within 100 percent Conservation Areas of a Covered Project, and do not require compensatory mitigation above and beyond the restoration requirements specified in the Subarea Plan. Mitigation for impacts associated with the Lake Property will be in accordance with the Chula Vista MSCP Subarea Plan and the City's HLIT Ordinance and as provided in the HLIT Findings (Appendix E of this EIR). Areas within or adjacent to the Lake Property will be given priority for compensatory mitigation. Prior to issuance of any land development permits, including clearing, grubbing, and grading permits, the Project applicant shall mitigate for direct impacts pursuant to Section 5.2.2 of the City's MSCP Subarea Plan. In compliance with the Chula Vista MSCP Subarea Plan, the applicant shall secure the appropriate MSCP Tier mitigation credits	Less than significant.

Table 1-1 (cont.): SUMMARY OF SIGNIFICANT ENVIRONMENTAL ANALYSIS RESULTS			
Environmental Issue	**Result of Impact Analysis**	**Mitigation**	**Impact Level After Mitigation**
5.6 Biological Resources (cont.)			
		5.6-10a: Compensatory Mitigation for Impacts to Sensitive Habitat (cont.) within a City- and wildlife agency-approved mitigation bank or other approved location offering mitigation credits consistent with the ratios specified in Table 5.6-6. The Project applicant shall be required to provide verification of purchase to the City prior to issuance of any land development permits. 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 MSCP Tier 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. Prior to issuance of any land development permit, and to the satisfaction and oversight of the City's Development Services Director (or their designee), the applicant shall secure the parcel(s) that will be permanently preserved for impact mitigation, prepare a long-term management and monitoring plan 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.	

Table 1-1 (cont.): SUMMARY OF SIGNIFICANT ENVIRONMENTAL ANALYSIS RESULTS

Environmental Issue	Result of Impact Analysis	Mitigation	Impact Level After Mitigation
5.6 Biological Resources (cont.)			
		5.6-10a: Compensatory Mitigation for Impacts to Sensitive Habitat (cont.) The long-term management and monitoring plan 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 management and monitoring plan. 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 ensure 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 management and monitoring plan 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.	
	Impact 5.6-10b: Implementation of the Project would result in significant direct impacts to maritime succulent scrub.	**5.6-10b: Maritime Succulent Scrub Restoration Plan.** Prior to the issuance of any land development permits (including clearing and grubbing or grading permits) on the Main Campus Property, the Project applicant shall prepare a restoration plan to restore 0.31 acre of maritime succulent scrub in the temporary impact (grading) footprint within the Preserve. The maritime succulent scrub restoration shall be prepared by a City approved biologist and to the satisfaction of the Development Services Director (or their designee) pursuant to the Otay Ranch RMP restoration requirements. The restoration plan shall include, at a minimum, an implementation	Less than significant.

Table 1-1 (cont.): SUMMARY OF SIGNIFICANT ENVIRONMENTAL ANALYSIS RESULTS

Environmental Issue	Result of Impact Analysis	Mitigation	Impact Level After Mitigation
5.6 Biological Resources (cont.)			
		5.6-10b: Maritime Succulent Scrub Restoration Plan (cont.) strategy; species salvage and relocation, appropriate seed mixtures and planting method; irrigation; quantitative and qualitative success criteria; maintenance, monitoring, and reporting program; estimated completion time; and contingency measures. The Project applicant shall also be required to implement the restoration plan subject to the oversight and approval of the Development Services Director (or their designee).	
	Impact 5.6-10c: Implementation of the Project would result in significant direct impacts to Diegan coastal sage scrub.	**5.6-10c: Salt Creek Coastal Sage Scrub Restoration Plan.** Prior to the issuance of any grading permits for the Project, the Project applicant shall prepare a restoration plan to restore 20.6 acres of disturbed habitat within Salt Creek (shown on Figure 3-2 of the Chula Vista MSCP Subarea Plan) to coastal sage scrub habitat. The restoration plan shall be prepared by a City approved biologist and to the satisfaction of the Development Services Director (or their designee) consistent with the guidelines established in the Otay Ranch Coastal Sage Scrub and Maritime Succulent Scrub Habitat Replacement Master Plan. 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. The Project applicant shall also be required to implement the restoration plan subject to the oversight and approval of the Development Services Director (or their designee).	Less than significant.
	Impact 5.6-10d: Implementation of the Project would result in significant direct impacts to Diegan coastal sage scrub/non-native grassland.	**5.6-10d: Coastal Sage Scrub and Non-Native Grassland Revegetation Plan.** Prior to issuance of land development permits, including clearing, grubbing, grading and construction permits for the Future and Planned Facilities associated with the Main Campus Property and the Lake Property, the Project applicant shall provide a	Less than significant.

Table 1-1 (cont.): SUMMARY OF SIGNIFICANT ENVIRONMENTAL ANALYSIS RESULTS			
Environmental Issue	**Result of Impact Analysis**	**Mitigation**	**Impact Level After Mitigation**
5.6 Biological Resources (cont.)			
		5.6-10d: Coastal Sage Scrub and Non-Native Grassland Revegetation Plan (cont.) revegetation plan for temporary impacts of Planned and Future Facilities within the Preserve, estimated at 0.66 acre of coastal sage scrub and 0.27 acre of non-native grassland. The revegetation plan must be prepared by a qualified City-approved biologist familiar with the City's MSCP Subarea Plan and must include, but not be limited to, an implementation plan; appropriate seed mixtures and planting method; irrigation method; quantitative and qualitative success criteria; maintenance, monitoring, and reporting program; estimated completion time; and contingency measures. The Project applicant shall be required to prepare and implement the revegetation plan subject to the oversight and approval of the Development Services Director (or their designee).	
	Impact 5.6-10e: Implementation of the Project would result in significant direct impacts to sensitive vegetation communities.	**5.6-10e: Annexation to Otay Ranch Preserve Community Facilities District (CFD) No. 97-2.** Prior to the approval of the First Final Map for the Project on the Main Campus Property, the Project applicant shall coordinate with the City Engineer and annex the Project area within the Otay Ranch Preserve Community Facilities District (CFD) No. 97-2. **5.6-10f: Land Conveyance to Otay Ranch Preserve Owner/Manager.** Prior to recordation of each Final Map, Project applicant shall convey land within the Otay Ranch Preserve to the Otay Ranch Preserve Owner/Manager (POM) or its designee at a ratio of 1.188 acres for each acre of development area (excluding "common use" areas as defined by the GDP and RMP), as defined in the RMP. Access for maintenance purposes shall also be conveyed to the satisfaction of the POM, and each tentative map shall be subject	Less than significant.

Table 1-1 (cont.): SUMMARY OF SIGNIFICANT ENVIRONMENTAL ANALYSIS RESULTS			
Environmental Issue	**Result of Impact Analysis**	**Mitigation**	**Impact Level After Mitigation**
5.6 Biological Resources (cont.)			
		5.6-10f: Land Conveyance to Otay Ranch Preserve Owner/Manager (cont.) to a condition that the applicant shall execute a maintenance agreement with the POM stating that it is the responsibility of the applicant to maintain the conveyed parcel until the Preserve CFD has generated sufficient revenues to enable the POM to assume maintenance responsibilities. The applicant shall maintain and manage the offered conveyance property consistent with the RMP Phase 2 until the Preserve CFD has generated sufficient revenues to enable the POM to assume maintenance and management responsibilities. **5.6-10g: Area Specific Management Directives for Conveyance Areas.** Prior to the POM's formal acceptance of the conveyed land in fee title, the Project applicant shall prepare, to the satisfaction of the POM, Area Specific Management Directives (ASMDs) for the associated conveyance areas. The ASMDs shall incorporate the guidelines and specific requirements of the Otay Ranch RMP plans and programs, management requirements of Table 3-5 of the MSCP Subregional Plan and information and recommendations from any relevant special studies. Guidelines and requirements from these documents shall be evaluated in relationship to the Preserve configuration and specific habitats and species found within the associated conveyance areas and incorporated into the ASMDs to the satisfaction of the POM.	

Table 1-1 (cont.): SUMMARY OF SIGNIFICANT ENVIRONMENTAL ANALYSIS RESULTS			
Environmental Issue	**Result of Impact Analysis**	**Mitigation**	**Impact Level After Mitigation**
5.6 Biological Resources (cont.)			
Threshold 3: Federally Protected Wetlands	**Impact 5.6-11:** Implementation of the Project would result in significant direct impacts to USACE regulated jurisdictional waters and CDFW jurisdictional channels.	**5.6-11a: Wetland Delineation Studies.** Prior to issuance of any land development permits, including clearing, grubbing, and grading permits on the Main Campus Property and Lake Property and off-site impact areas, the Project applicant 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 in accordance with the methods 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. **5.6-11b: Wetland Permits.** Prior to issuance of land development permits, including clearing or grubbing and grading permits for areas that impact jurisdictional waters, the Project applicant shall provide evidence that all required regulatory permits, such as those required under Section 404 of the federal CWA, Section 1600 of the California Fish and Game Code, and the Porter Cologne Water Quality Act, have been obtained from the appropriate agencies. Wetland mitigation requirements under these permits might include preparation of a Habitat Mitigation and Monitoring Plan approved by USACE, CDFW, and RWQCB.	Less than significant.
Threshold 4: Wildlife Movement Corridors and Nursery Sites	Less than significant.	No mitigation measures are required.	Less than significant.

Table 1-1 (cont.): SUMMARY OF SIGNIFICANT ENVIRONMENTAL ANALYSIS RESULTS

Environmental Issue	Result of Impact Analysis	Mitigation	Impact Level After Mitigation
5.6 Biological Resources (cont.)			
Threshold 5: Consistency with Local Policies, Ordinances, HCP, and NCCP	**Impact 5.6-12:** Implementation of the Project would result in potentially significant impacts related to consistency with local plans related to biological resources.	Implementation of all mitigation measures in this section (Mitigation Measures 5.6-1a through 5.6-11), as well as Mitigation Measure 5.11-1a (development and implementation of a SWPPP and monitoring plan), would reduce impacts due to inconsistencies with applicable biology-related policies, ordinances, and HCPs/NCCPs to less than significant levels.	Less than significant.
5.7 Cultural and Paleontological Resources			
Threshold 1: Historic Resources	Less than significant.	No mitigation measures are required.	Less than significant.
Threshold 2: Archaeological Resources	**Impact 5.7-1:** Pending testing for significance, two sites within the Project area have been identified as potentially culturally significant, and construction activities associated with the Project could inadvertently result in adverse impacts to presently unknown archaeological resources that may be uncovered during clearing and grading.	**5.7-1a: Archaeological Monitor.** Prior to issuance of land development permits, including clearing or grubbing and grading permits, the applicant shall provide written confirmation and incorporate into grading plans, to the satisfaction of the Development Services Director (or their designee), that a principal investigator as listed by the Secretary of the Interior (CFR Title 36, Section 61) has been retained in an oversight capacity to ensure that an archaeological monitor will be present during all cutting of previously undisturbed soil. If these cutting activities would occur in more than one location, multiple monitors shall be provided to monitor these areas, as determined necessary by the principal investigator. **5.7-1b: Resource Discovery Procedure.** During the initial grading of previously undisturbed soils within the UID Project area and any off-site improvement areas, prehistoric and historic resources may be encountered. In the event that the monitor identifies a potentially significant site, the archaeological monitor shall secure the discovery site from further impacts by delineating the site with staking and flagging, and by diverting grading equipment away from the archaeological site.	Less than significant.

Table 1-1 (cont.): SUMMARY OF SIGNIFICANT ENVIRONMENTAL ANALYSIS RESULTS			
Environmental Issue	**Result of Impact Analysis**	**Mitigation**	**Impact Level After Mitigation**
5.7 Cultural and Paleontological Resources (cont.)			
		5.7-1b: Resource Discovery Procedure (cont.) Following notification to the Development Services Director (or their designee), the archaeological monitor shall conduct investigations as necessary to determine if the discovery is significant under the criteria listed in CEQA and the environmental guidelines of the City of Chula Vista. If the discovery is determined to be not significant, grading operations may resume, and the archaeological monitor shall summarize the findings in a letter report to the Development Services Director (or their designee) following the completion of mass grading activities. The letter report shall describe the results of the on-site archeological monitoring, each archaeological site observed, the scope of testing conducted, results of laboratory analysis (if applicable), and conclusions. The letter report will be completed to the satisfaction of the Development Services Director (or their designee) prior to release of grading bonds. Any artifacts recovered during the evaluation shall be curated at a curation facility approved by the Development Services Director (or their designee). For those prehistoric/historic resources that are determined to be significant, the following measures shall be implemented by the applicant: i. An alternate means of achieving mitigation shall be pursued. In general, these forms of mitigation include: (1) site avoidance by preservation of the site in a natural state in open space or in open space easements; (2) site avoidance by preservation through capping the site and placing landscaping on top of the fill; (3) data recovery through implementation of an excavation and analysis program; or (4) a combination of one or more of the above measures. Procedures for implementing the alternative	

Table 1-1 (cont.): SUMMARY OF SIGNIFICANT ENVIRONMENTAL ANALYSIS RESULTS			
Environmental Issue	**Result of Impact Analysis**	**Mitigation**	**Impact Level After Mitigation**
5.7 Cultural and Paleontological Resources (cont.)			
		5.7-1b: Resource Discovery Procedure (cont.) forms of mitigation described herein are further detailed in the Mitigation Monitoring and Reporting Program adopted as part of the 1993 Otay Ranch General Development Plan Program EIR (EIR 90-01). ii. For those sites for which avoidance and preservation is not feasible or appropriate, the applicant shall prepare a Data Recovery Plan. The plan will, at a minimum, include the following: (1) a statement of why data recovery is appropriate as a mitigating measure; (2) a research plan that explicitly provides the research questions that can reasonably be expected to be addressed by excavation and analysis of the site; (3) a statement of the types and kinds of data that can reasonably be expected to exist at the site and how these data will be used to answer important research questions; (4) a step-by-step discussion of field and laboratory methods to be employed and (5) a statement regarding provisions for curation and storage of the artifacts, notes, and photographs. In cases involving historic resources, archival research and historical documentation shall be used to augment field-testing programs. Grading operations within the affected area may resume once the site has been fully evaluated and mitigated to the satisfaction of the Development Services Director (or their designee). All significant artifacts collected during the implementation of the Data Recovery Plan shall be curated at a facility approved by the Development Services Director (or their designee).	

Table 1-1 (cont.): SUMMARY OF SIGNIFICANT ENVIRONMENTAL ANALYSIS RESULTS			
Environmental Issue	**Result of Impact Analysis**	**Mitigation**	**Impact Level After Mitigation**
5.7 Cultural and Paleontological Resources (cont.)			
		5.7-1b: Resource Discovery Procedure (cont.) iii. Following the completion of mass grading operations, the applicant shall prepare a plan that addresses the temporary on-site presentation and interpretation of the results of the results of the archaeological studies for the Project. This could be accomplished through exhibition within a future community center, civic building, and/or multi-purpose building. This exhibition will only be for temporary curation of those materials being actively used for interpretation and display, and that permanent curation of artifacts and data will be at a regional repository when one is established. All significant artifacts collected during the implementation of the Data Recovery Plan shall be permanently curated at a facility approved by the Development Services Director (or their designee).	
Threshold 3: Human Remains	**Impact 5.7-2:** Although it is not considered likely, construction activities (e.g., clearing and grading) during Project implementation could inadvertently uncover unknown human remains. If such remains are adversely affected, the impact would be potentially significant.	**5.7-2: Human Remains Disturbance Protocol.** If human remains are discovered during grading or site preparation activities within the UID on-site development or off-site improvement Project areas, the archaeological monitor shall secure the discovery site from any further disturbance. State Health and Safety Code Section 7050.5 requires that no further disturbance shall occur until the San Diego County Coroner has made the necessary findings as to the origin and disposition of the remains pursuant to PRC Section 5097.98. If the remains are determined to be of Native American descent, the coroner has 24 hours to notify the NAHC. The Native American Heritage Commission will then identify the person(s) thought to be the Most Likely Descendent of the deceased Native American. The Most Likely Descendent will assist the Development Services Director (or their designee) in determining what course of action shall be taken to deal with the remains. Grading operations within the affected area may resume once the site has been fully evaluated and mitigated to	Less than significant.

Table 1-1 (cont.): SUMMARY OF SIGNIFICANT ENVIRONMENTAL ANALYSIS RESULTS			
Environmental Issue	**Result of Impact Analysis**	**Mitigation**	**Impact Level After Mitigation**
5.7 Cultural and Paleontological Resources (cont.)			
		5.7-2: Human Remains Disturbance Protocol (cont.) the satisfaction of the Development Services Director (or their designee). The Archaeological Monitor shall summarize the findings in a letter report to the Development Services Director (or their designee) following the completion of mass grading activities.	
Threshold 4: Paleontological Resources	**Impact 5.7-3:** The Project site includes surficial deposits and underlying geologic formations with high paleontological resource sensitivity. As a result, Project-related construction activities would have potentially significant impact to these resources.	**5.7-3a: Paleontological Resource Mitigation Program.** Prior to the issuance of grading permits for the proposed on-site development or off-site improvement Project areas, the applicant shall provide written confirmation to the Development Services Director (or their designee) that a qualified paleontologist has been retained to carry out an appropriate mitigation program. A qualified paleontologist is defined as an individual with a M.S. or Ph.D. in paleontology or geology who is familiar with paleontological procedures and techniques. A pre-grade meeting shall be held between the paleontologist and the grading and excavation contractors. **5.7-3b: Paleontological Monitor.** A paleontological monitor shall be on-site at all times during the original cutting of previously undisturbed areas of the Otay Formation or Quaternary alluvial terrace deposits to inspect cuts for contained fossils. A paleontological monitor is defined as an individual who has experience in the collection and salvage of fossil materials. The paleontological monitor shall work under the direction of a qualified paleontologist. i. The monitor shall be on the site at least on a quarter-time basis during the original cutting of previously undisturbed sediments of low sensitivity geologic formations (Holocene alluvial deposits) to inspect cuts for contained fossils. He or she shall periodically	Less than significant.

Table 1-1 (cont.): SUMMARY OF SIGNIFICANT ENVIRONMENTAL ANALYSIS RESULTS

Environmental Issue	Result of Impact Analysis	Mitigation	Impact Level After Mitigation
5.7 Cultural and Paleontological Resources (cont.)			
		5.7-3b: Paleontological Monitor (cont.) (every several weeks) inspect original cuts in deposits with unknown resource sensitivity, if applicable (e.g., Quaternary alluvium). ii. In the event that fossils are discovered in unknown, low or high sensitivity materials, the per-day field monitoring time shall be increased. Conversely, if fossils are not discovered, the monitoring, at the discretion of the Planning Department, shall be reduced. A paleontological monitor is not needed during grading in areas with deposits exhibiting no resource sensitivity (topsoil and artificial fill). **5.7-3c: Fossil Discovery Procedure.** If fossils are discovered, the paleontologist (or paleontological monitor) shall recover them. In most cases, this fossil salvage can be completed in a short time frame, although some fossil specimens (e.g., a complete whale skeleton) may require an extended salvage time. In these instances, the paleontologist (or paleontological monitor) shall be allowed to temporarily direct, divert, or halt grading to allow recovery of fossil remains in a timely manner. Because of the potential for the recovery of small fossil remains such as isolated mammal teeth, it may be necessary in certain instances, and at the discretion of the paleontological monitor, to set up a screen-washing operation on the site.	

Table 1-1 (cont.): SUMMARY OF SIGNIFICANT ENVIRONMENTAL ANALYSIS RESULTS

Environmental Issue	Result of Impact Analysis	Mitigation	Impact Level After Mitigation
5.7 Cultural and Paleontological Resources (cont.)			
		5.7-3d: Fossil Recording. Prepared fossils, along with copies of all pertinent field notes, photos, and maps, shall be deposited in a scientific institution with paleontological collections such as the San Diego Natural History Museum. A final summary report shall be completed, and shall include discussions of the methods used, stratigraphy exposed, fossils collected, and significance of recovered fossils.	
5.8 Geology and Soils			
Threshold 1: Exposure to Seismic Related Hazards	**Impact 5.8-1a:** The Project is subject to potential seismic-related ground shaking that could result in a significant impact. **Impact 5.8-1b:** Project grading activities could result in slope instabilities or landslides within the Project site and impacts prior to mitigation would be potentially significant.	**5.8-1a: Site-specific Geotechnical Evaluation.** Prior to the issuance of any grading permit for the UID, the applicant shall have a detailed, site-specific geotechnical evaluation conducted prior to finalization of Project plans. This evaluation will include appropriate subsurface exploration, laboratory testing and field inspection/verification to further evaluate geologic conditions and provide additional information on the engineering characteristics of earth materials and associated conditions present within the site. The site-specific geotechnical evaluation will be submitted to the City for review and approval prior to Project construction. All measures and recommendations included in the site-specific geotechnical evaluation will be incorporated into the final design plans for the Project. **5.8-1b: Geotechnical Risk Reduction Measures**. Prior to the issuance of any grading permit for the UID, the applicant shall verify that the applicable recommendations in the Geotechnical Evaluation prepared by Ninyo & Moore, dated May 27, 2016, have been incorporated into the final Project design and construction documents to the satisfaction of the City of Chula Vista Engineer. These recommendations address issues including soft ground, expansive soils, ground shaking, liquefaction, and shallow groundwater. Geotechnical review of grading plans shall include a review of all	Less than significant.

Table 1-1 (cont.): SUMMARY OF SIGNIFICANT ENVIRONMENTAL ANALYSIS RESULTS

Environmental Issue	Result of Impact Analysis	Mitigation	Impact Level After Mitigation
5.8 Geology and Soils (cont.)			
		5.8-1b: Geotechnical Risk Reduction Measures (cont.) proposed storm drain facilities to ensure the storm water runoff would not interfere with the proposed geotechnical recommendations. **5.8-1c: Slope Factor of Safety**. Prior to the issuance of any grading permit for the UID, the City Engineer shall review and approve all slopes stability strategies to ensure all graded slopes have a minimum factor of safety of 1.5. Strategies to increase stability may include, but are not limited to, a stability buttress or sheer pins.	
Threshold 2: Soil Erosion or Topsoil Loss	**Impact 5.8-2:** Impacts associated with soil erosion and topsoil loss associated with Project construction and operation would be potentially significant.	Implement Mitigation Measures 5.11-1a through 5.11-1f.	Less than significant.
Threshold 3: Slope Stability	**Impact 5.8-3a:** The Otay Formation and surficial units (alluvium, undocumented fill, and topsoil) underlaying the Project site could become unstable as a result of the Project. As a result, there is the potential for landsliding, lateral spreading, and/or collapse and impacts would be potentially significant. **Impact 5.8-3b:** There is a potential to encounter corrosive soils during Project construction. Project impacts associated with potentially corrosive soils would be potentially significant.	Implement Mitigation Measures 5.8-1a through 5.8-1c.	Less than significant.

Table 1-1 (cont.): SUMMARY OF SIGNIFICANT ENVIRONMENTAL ANALYSIS RESULTS

Environmental Issue	Result of Impact Analysis	Mitigation	Impact Level After Mitigation
5.8 Geology and Soils (cont.)			
Threshold 4: Expansive Soils	**Impact 5.8-4:** Soils documented within the Project site have a high expansion potential and development of structures on these soils could create substantial risks to life or property. As a result, impacts associated with potential soil expansion would be potentially significant.	Implement Mitigation Measures 5.8-1a and 5.8-1b.	Less than significant.
Threshold 5: Septic Tank/Wastewater Disposal Systems	Less than significant.	No mitigation measures are required.	Less than significant.
5.9 Public Services			
Fire and Emergency Medical Services			
Threshold 1: Impacts from New/Altered Facilities	Less than significant.	No mitigation measures are required.	Less than significant.
Threshold 2: Reduce Ability to Respond to Calls	**Impact 5.9.1-1:** The Project's increase in demand for fire and emergency medical services would be significant, if fully operational and appropriately equipped and staffed fire stations are not provided commensurate with the demand for fire and emergency medical services.	**5.9.1-1a: Growth Management Program's Fire and Emergency Medical Service Threshold Standard.** The City of Chula Vista shall continue to monitor the Chula Vista Fire Department responses to emergency fire and medical calls and report the results to the Growth Management Oversight Commission on an annual basis. **5.9.1-1b: Public Facilities Development Impact Fees**. Prior to the approval of each building permit, the Project applicant(s) shall pay a PFDIF in accordance with the fees in effect at the time of building permit issuance and phasing approved in the Public Facilities Finance Plan. Subject to approval of the City Council, in lieu of paying the required impact fee, the applicant(s) may satisfy that requirement through a written agreement, by which the applicant(s) agrees to	Less than significant.

Table 1-1 (cont.): SUMMARY OF SIGNIFICANT ENVIRONMENTAL ANALYSIS RESULTS			
Environmental Issue	**Result of Impact Analysis**	**Mitigation**	**Impact Level After Mitigation**
5.9 Public Services (cont.)			
Fire and Emergency Medical Services (cont.)			
		5.9.1-1b: Public Facilities Development Impact Fees (cont.) either pay the fee or build the facility in question, pursuant to the terms of the agreement. **5.9.1-1c: Fire Code Compliance.** Prior to the approval of each building permit and to the satisfaction of the City of Chula Vista Fire Marshal, the Project shall meet the provisions of the current City-adopted California fire code. In meeting said provisions, the Project shall meet the minimum fire flow requirements based upon construction type and square footage. **5.9.1-1d: Fuel Modification Easements.** Prior to approval of a Final Map requiring off-site fuel modification, as determined the City Fire Marshal, the applicant shall secure any required permits and/or access easements necessary to perform the required brush abatement activities contained in the UID Fire Protection Plan, to the satisfaction of the City's Fire Marshal and Development Services Director.	
Police Services			
Threshold 1: Impacts from New/Altered Facilities	Less than significant.	No mitigation measures are required.	Less than significant.
Threshold 2: Reduce Ability to Respond to Calls	**Impact 5.9.2-1:** The Project would result in an increase in service population that may adversely affect the City's police service standard if additional police officers are not provided commensurate with demand.	**5.9.2-1a: Public Facilities Development Impact Fees**. Prior to the issuance of each building permit for any residential dwelling units, the Project applicant(s) shall pay a PFDIF in accordance with the fees in effect at the time of building permit issuance and phasing approved in the Public Facilities Finance Plan, unless stated otherwise in a separate development agreement.	Less than significant.

Table 1-1 (cont.): SUMMARY OF SIGNIFICANT ENVIRONMENTAL ANALYSIS RESULTS			
Environmental Issue	**Result of Impact Analysis**	**Mitigation**	**Impact Level After Mitigation**
5.9 Public Services (cont.)			
Police Services			
		5.9.2-1b: Growth Management Program's Police Threshold Standard. The City of Chula Vista shall continue to monitor the Chula Vista Police Department responses to emergency calls and report the results to the Growth Management Oversight Commission on an annual basis.	
Schools			
Threshold 1: Impacts from New/Altered Facilities	**Impact 5.9.3-1a:** The Project's increase in elementary school students to the CVESD may potentially be significant. **Impact 5.9.3-1b:** The Project's increase in middle and high school students to the SUHSD may potentially be significant.	**5.9.3-1: School Service Fees.** Prior to the issuance of any residential dwelling units, the Project applicant(s) shall provide evidence or certification by the CVESD and SUHSD that any fees, charges, dedications, or other requirements levied by the school districts have been complied with or that the districts have determined the fees, charges, dedications, or other requirements do not apply to the construction or that the Project applicant(s) has entered into a school mitigation agreement.	Less than significant.
Threshold 2: Schools on Hazardous Sites	Less than significant.	No mitigation measures are required.	Less than significant.
Libraries			
Threshold 1: Impacts from New/Altered Facilities	Less than significant.	No mitigation measures are required.	Less than significant.
Threshold 2: Required Library Space	**Impact 5.9.4-1:** The Project's increase in demand to library facilities may potentially be significant.	**5.9.4-1: Public Facility Development Impact Fees.** Prior to the issuance of each building permit for any residential dwelling units, the Project applicant(s) shall pay a required PFDIF in accordance with the fees in effect at the time of building permit issuance and phasing approved in the Public Facilities Finance Plan.	Less than significant.

Table 1-1 (cont.): SUMMARY OF SIGNIFICANT ENVIRONMENTAL ANALYSIS RESULTS			
Environmental Issue	**Result of Impact Analysis**	**Mitigation**	**Impact Level After Mitigation**
5.9 Public Services (cont.)			
Parks, Recreation, Open Space, and Trails			
Threshold 1: Increased Use of Parks	Less than significant.	No mitigation measures are required.	Less than significant.
Threshold 2: Construction of Parks	Less than significant.	No mitigation measures are required.	Less than significant.
Threshold 3: Exceed Parkland Requirements	**Impact 5.9.5-1:** The Project would result in a significant impact to parks if parkland is not development concurrent with market-rate housing.	**5.9.5-1:** Prior to the issuance of occupancy permits for any of the proposed 2,000 market-rate residential units, the Project applicant shall demonstrate that sufficient parkland areas are constructed within the UID SPA Plan to the satisfaction of the City's Parks Division. If the amount of constructed parkland areas does not equal or exceed the ratio of three acres per 1,000 residents, the City of Chula Vista, and its successor in interest, shall develop a plan specifying how the deficit will be eliminated. The method by which the Project's parkland obligation is met must consider, in addition to the dedication of acreage, the development of additional usable park acres, whether by payment of fees, construction of park facilities, or a combination of both, in order to meet the total UID obligation.	Less than significant.
5.10 Global Climate Change			
Threshold 1: GHG Emissions	Less than significant.	No mitigation measures are required.	Less than significant.
Threshold 2: Plan Consistency	Implementation of the Project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. This would represent a less than significant impact.	No mitigation measures are required.	Less than significant.

Table 1-1 (cont.): SUMMARY OF SIGNIFICANT ENVIRONMENTAL ANALYSIS RESULTS			
Environmental Issue	**Result of Impact Analysis**	**Mitigation**	**Impact Level After Mitigation**
5.11 Hydrology and Water Quality			
Threshold 1: Water Quality Standards	**Impact 5.11-1a:** Water quality impacts associated with erosion and sedimentation would be potentially significant. **Impact 5.11-1b:** Water quality impacts associated with construction-related hazardous materials would be potentially significant. **Impact 5.11-1c:** Water quality impacts related to extraction of groundwater during construction would be potentially significant. **Impact 5.11-1d:** Long-term Project-related water quality impacts would be considered significant. **Impact 5.11-1e:** Potentially significant impacts related to hydromodification requirements would occur.	**5.11-1a: Storm Water Pollution Prevention Plan (SWPPP).** Prior to the issuance of each grading permit for any land development permit, including clearing and grading, the Project applicant shall submit notice of intent and obtain coverage under the National Pollutant Discharge Elimination System permit for construction activity from the State Water Resources Control Board. Adherence to all conditions of the General Permit for Construction Activity is required. The applicant shall be required under the State Water Resources Control Board General Construction Permit to develop a SWPPP and monitoring plan that shall be submitted to the City Engineer and the Director of Public Works. The SWPPP shall be incorporated into the grading and drainage plans and shall specify both construction and post-construction structural and non-structural best management practices on the site to reduce the amount of sediments and pollutants in construction and post-construction surface runoff before it is discharged into off-site storm water facilities. Section 7 of the City's Storm Water Manual outlines construction site best management practice requirements. The SWPPP shall also address operation and maintenance of post-construction pollution prevention measures, including short-term and long-term funding sources and the party or parties that will be responsible for said measures, as well as measures to maintain the Project area free of trash and debris; employ appropriate standard spill prevention practices and clean-up materials; install and maintain sediment and erosion control measures in accordance with an approved SWPPP, maintain effective control of fugitive dust; and properly store, handle, and dispose of all toxins and pollutants including waste materials. The SWPPP shall incorporate construction and post-construction best management practices as outlined in the UID Edge Plan (Appendix D of the UID SPA Plan).	Less than significant.

Table 1-1 (cont.): SUMMARY OF SIGNIFICANT ENVIRONMENTAL ANALYSIS RESULTS			
Environmental Issue	**Result of Impact Analysis**	**Mitigation**	**Impact Level After Mitigation**
5.11 Hydrology and Water Quality (cont.)			
		5.11-1a: Storm Water Pollution Prevention Plan (SWPPP) (cont.) The grading plans shall note the condition requiring a SWPPP and monitoring plans. Additional notes shall be included on the applicable construction plans to the satisfaction of the City Engineer and the Director of Public Works: • A qualified biologist shall be on site to monitor all vegetation clearing and periodically thereafter during construction to ensure implementation of appropriate resource protection measures. • Dewatering shall be conducted in accordance with standard regulations of the RWQCB. A permit to discharge water from dewatering activities will be required. • During construction, material stockpiles shall be placed such that they cause minimal interference with on-site drainage patterns. • Material stockpiles shall be covered when not in use. • Graded areas shall be periodically watered to minimize dust that may affect adjacent vegetation. Also, performance measures contained in the Edge Plan shall be implemented to avoid the release of toxic substances associated with urban runoff, including: • Sediment shall be retained on site by a system of sediment basins, traps, or other appropriate measures. • Storm drains shall be equipped with silt and oil traps to remove oils, debris, and other pollutants. Storm drain inlets shall be labeled "No Dumping-Drains to Ocean." Storm drains shall be regularly maintained to ensure their effectiveness. • The parking lots shall be designed to allow storm water runoff to be directed to vegetative filter strips and/or oil-water separators to control sediment, oil, and other contaminants.	

Table 1-1 (cont.): SUMMARY OF SIGNIFICANT ENVIRONMENTAL ANALYSIS RESULTS			
Environmental Issue	**Result of Impact Analysis**	**Mitigation**	**Impact Level After Mitigation**
5.11 Hydrology and Water Quality (cont.)			
		5.11-1a: Storm Water Pollution Prevention Plan (SWPPP) (cont.) • Permanent energy dissipaters shall be included for drainage outlets. • The BMPs contained in the SWPPP shall include, but are not limited to, silt fences, fiber rolls, gravel bags, and soil stabilization measures such as erosion control mats and hydro-seeding. • The Project area drainage basins will be designed to provide effective water quality control measures, as outlined in the Project's Water Quality Technical Report. Design and operational features of the drainage basins will include design features to provide maximum infiltration and maximum detention time for settling of fine particles; maximize the distance between basin inlets and outlets to reduce velocities; and establish maintenance schedules for periodic removal of sedimentation, excessive vegetation, and debris. **5.11-1b: Supplemental Water Quality Report**. Prior to the issuance of each grading permit, the applicant shall submit a supplemental report to the site-specific PDP SWQMP (Rick Engineering Company 2015b; Appendix H of this EIR) that identifies which on-site storm water management measures from the PDP SWQMP have been incorporated into the Project to the satisfaction of the City Engineer. If a storm water management option is chosen by the planning area owner that is not shown in the water quality technical report, a Project-specific water quality technical report shall be prepared for the planning area, referencing the Water Quality Technical Report for the UID for information relevant to regional design concepts (e.g., downstream conditions of concern) to the satisfaction of the City Engineer.	

Table 1-1 (cont.): SUMMARY OF SIGNIFICANT ENVIRONMENTAL ANALYSIS RESULTS			
Environmental Issue	**Result of Impact Analysis**	**Mitigation**	**Impact Level After Mitigation**
5.11 Hydrology and Water Quality (cont.)			
		5.11-1c: Post-Construction/Permanent Best Management Practices. Prior to issuance of each grading permit, the City Engineer shall verify that applicants have incorporated and will implement post-construction BMPs in accordance with current regulations. In particular, applicants are required to comply with the requirements of Section 2c of the City of Chula Vista's Standard Urban Storm Water Management Plan, the Chula Vista Development Storm Water Manual, and the PDP SWQMP for the UID or any supplements thereto to the satisfaction of the City Engineer. Specifically, the applicant shall implement low impact development (LID) best management practices in the preparation of all site plans and incorporate structural on-site design features into the Project design to address site design and treatment control best management practices as well as requirements of the hydromodification management plan. The applicant shall monitor and mitigate any erosion in downstream locations that may occur because of on-site development. **5.11-1d: Limitation of Grading**. Prior to issuance of each grading permit, the Project applicant shall comply with the Chula Vista Development Storm Water Manual limitation of grading requirements, which limit disturbed soil area to 100 acres, unless expansion of a disturbed area is specifically approved by the Director of Public Works. With any phasing resulting from this limitation, if required, the Project applicant shall provide, to the satisfaction of the City Engineer, erosion and sediment control best management practices in areas that may not be completed, before grading of additional area begins.	

Table 1-1 (cont.): SUMMARY OF SIGNIFICANT ENVIRONMENTAL ANALYSIS RESULTS

Environmental Issue	Result of Impact Analysis	Mitigation	Impact Level After Mitigation
5.11 Hydrology and Water Quality (cont.)			
		5.11-1e: Hydromodification Criteria. Prior to issuance of each grading permit, the Project applicant shall comply, to the satisfaction of the City Engineer, with City hydromodification criteria or the hydromodification management plan (see Appendix H), as applicable, addressed as part of the UID SPA Plan concurrent with grading and improvement plans for the Project. **5.11-1f: Outfall Erosion.** Prior to issuance of each grading permit, the Project applicant shall monitor any erosion at the Project's outfall at the Otay River and Lower Otay Lake and, prior to the last building permit for the Project, obtain approval for and complete any reconstructive work necessary to eliminate any existing erosion and prevent future erosion from occurring, all to the satisfaction of the Development Services Director.	
Threshold 2: Groundwater Supplies and Recharge	Less than significant.	No mitigation measures are required.	Less than significant.
Threshold 3: Erosion or Siltation	**Impact 5.11-2:** Drainages serving the Project site would be susceptible to increased erosion resulting from increased peak flow rates, increased runoff volumes, and duration, which would result in a potentially significant impact.	Implement Mitigation Measures 5.11-1a through 5.11-1f.	Less than significant.
Threshold 4: Surface Runoff	**Impact 5.11-3:** Drainages serving the southern basin would be susceptible to increased peak flow rates and increased runoff volumes, which would result in a potentially significant flooding impact.	Implement Mitigation Measures 5.11-1a through 5.11-1f.	Less than significant.
Threshold 5: Exceed Drainage Capacity	**Impact 5.11-4:** The Project could generate or contribute to flows that exceed capacity of existing or planned water systems.	Implement Mitigation Measures 5.11-1a through 5.11-1f.	Less than significant.

Table 1-1 (cont.): SUMMARY OF SIGNIFICANT ENVIRONMENTAL ANALYSIS RESULTS

Environmental Issue	Result of Impact Analysis	Mitigation	Impact Level After Mitigation
5.11 Hydrology and Water Quality (cont.)			
Threshold 6: Degradation of Water Quality	**Impact 5.11-5:** Potentially significant impacts related to degrading water quality could occur.	Implement Mitigation Measures 5.11-1a through 5.11-1f.	Less than significant.
Threshold 7: 100-Year Flood Hazards	Less than significant.	No mitigation measures are required.	Less than significant.
Threshold 8: Flooding	Less than significant.	No mitigation measures are required.	Less than significant.
Threshold 9: Inundation	**Impact 5.11-6:** Impacts related to inundation would be potentially significant.	Implement Mitigation Measures 5.8-1a through 5.8-1c.	Less than significant.
5.12 Agricultural Resources			
Threshold 1: Direct Conversion of Agricultural Resources	**Impact 5.12-1a:** Implementation of the Project would result in a significant impact to agricultural resources, due to the on-site loss of farmland of local importance and grazing land.	**5.12-1: Agriculture Plan**. The Agriculture Plan included in the SPA Plan shall be implemented as development proceeds within the UID to ensure compatibility between university-related crop production for research and small-scale production. The following measures shall be implemented to the satisfaction of the Chula Vista Development Services Director (or their designee): i. Prior to approval of each building permit, the applicant shall ensure that a 200-foot-wide fenced buffer shall be maintained between development and any university-related agricultural operations on the UID site. ii. In those areas where pesticides are to be applied, the university shall utilize vegetation to shield adjacent urban development (within 400 feet) from agricultural activities. Use of pesticides shall comply with federal, state, and local regulations. iii. The applicant shall notify adjacent property owners of potential pesticide application through advertisements in newspapers of general circulation.	Significant and unavoidable (long-term).

Table 1-1 (cont.): SUMMARY OF SIGNIFICANT ENVIRONMENTAL ANALYSIS RESULTS			
Environmental Issue	**Result of Impact Analysis**	**Mitigation**	**Impact Level After Mitigation**
5.12 Agricultural Resources (cont.)			
	Impact 5.12-1b: Short-term land use incompatibility issues from proposed agricultural activities associated with the university, which would be located adjacent to urban land uses, would be significant.	Implement Mitigation Measure 5.12-1.	Less than significant.
Threshold 2: Zoning and Williamson Act Conflicts	Less than significant.	No mitigation measures are required.	Less than significant.
5.13 Hazards and Hazardous Materials			
Threshold 1: Routine Transport of Hazardous Materials	Less than significant.	No mitigation measures are required.	Less than significant.
Threshold 2: Accidental Release of Hazardous Materials	**Impact 5.13-1a:** Impacts related to the routine use and accidental release of hazardous materials have been identified for the Project and are considered to be potentially significant.	**5.13-1: Hazardous Risk Reduction Measures**. Prior to the issuance of any grading permit for the UID, the applicant shall verify that the applicable recommendations in the Hazardous Materials Technical Study prepared by Ninyo & Moore, dated September 4, 2014, have been incorporated into the final Project design and construction documents to the satisfaction of the City of Chula Vista Engineer. These requirements include the following: • A Site Safety Plan shall be prepared and implemented prior to initiation of construction activities within the boundaries of the Project area to reduce potential health and safety hazards to construction workers and the public. • A Site Safety Plan shall be prepared and implemented prior to initiation of construction activities within the boundaries of the Project area to reduce potential health and safety hazards to construction workers and the public.	Less than significant.

Table 1-1 (cont.): SUMMARY OF SIGNIFICANT ENVIRONMENTAL ANALYSIS RESULTS

Environmental Issue	Result of Impact Analysis	Mitigation	Impact Level After Mitigation
5.13 Hazards and Hazardous Materials (cont.)			
		5.13-1: Hazardous Risk Reduction Measures (cont.) • Appropriate references regarding the potential to encounter contaminated soil, illegal dumping, burn sites, and USTs shall be included in construction specifications. In the event that USTs or undocumented areas of contamination (including lead-based painted [LBP] and treated wood) are encountered during construction activities, work shall be ceased 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, including a determination of whether regulatory notification is required. The associated remediation and removal activities shall be conducted by trained, licensed/certified personnel, and in accordance with pertinent local, state, and federal regulatory guidelines, under the oversight of the appropriate regulatory agency. • If any USTs are encountered during construction, construction activities in the immediate area of the UST shall cease until the UST can be removed under permit by the DEH and other regulatory agency, as appropriate. The soil and groundwater within the vicinity of the USTs should 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.	

Table 1-1 (cont.): SUMMARY OF SIGNIFICANT ENVIRONMENTAL ANALYSIS RESULTS

Environmental Issue	Result of Impact Analysis	Mitigation	Impact Level After Mitigation
5.13 Hazards and Hazardous Materials (cont.)			
		5.13-1: Hazardous Risk Reduction Measures (cont.) • During construction activities, it may be necessary to excavate existing soil, or to bring fill soils to the Project area from off-site locations. If soil contamination is suspected during construction, sampling shall be performed in those areas. Prior to any excavation or removal of contaminated soil not suitable for on-site reuse, it shall be properly characterized for disposal at an off-site facility. Fill soils also shall be evaluated or sampled to document that imported soil does not contain unacceptable concentrations of contamination. If potentially hazardous waste is observed in the Project area (e.g., from illegal dumping), the waste should be appropriately disposed of prior to initiating construction activities.	
Threshold 3: Hazards to Schools	**Impact 5.13-1b:** Impacts related to hazards to schools have been identified for the Project and are considered to be potentially significant.	Implement Mitigation Measure 5.13-1.	Less than significant.
Threshold 4: Existing Hazardous Materials Sites	**Impact 5.13-1c:** Impacts related to listed hazardous sites have been identified for the Project and are considered to be potentially significant.	Implement Mitigation Measure 5.13-1.	Less than significant.
Threshold 5: Airport Hazards	**Impact 5.13-2:** Potentially significant impacts could result due to the Project's location within the Overflight Notification Area for both Brown Field and Tijuana International Airport.	**5.13-2a: Airport Overflight Agreement**. Prior to approval of the first Final Map for those areas within the Overflight Notification Area for Brown Field, the applicant shall record the Airport Overflight Agreement with the County Recorder's office and provide a signed copy of the recorded Airport Overflight Agreement to the City's Development Service Director (or their designee). **5.13-2b: Notice to Potential Buyers**. The Project applicant will provide notification to potential buyers of properties within the Overflight Notification Area for Brown Field and/or the Tijuana International Airport.	Less than significant.

Table 1-1 (cont.): SUMMARY OF SIGNIFICANT ENVIRONMENTAL ANALYSIS RESULTS

Environmental Issue	Result of Impact Analysis	Mitigation	Impact Level After Mitigation
5.13 Hazards and Hazardous Materials (cont.)			
Threshold 6: Emergency Response and Evacuation Plans	Less than significant.	No mitigation measures are required.	Less than significant.
Threshold 7: Wildland Fires	Less than significant.	No mitigation measures are required.	Less than significant.
5.14 Housing and Population			
Threshold 1: Displace Households or People	Less than significant.	No mitigation measures are required.	No Impact.
5.15 Public Utilities			
Water			
Threshold 1: Sufficient Water Supplies	Less than significant.	No mitigation measures are required.	Less than significant.
Wastewater			
Threshold 1: Adequate Wastewater Facilities	**Impact 5.15.2-1:** A significant impact would occur if adequate wastewater facilities are not provided concurrently with new demand.	**5.15.2-1: Sewer System Improvements.** Prior to the issuance of any building permits for the UID, the City Engineer shall verify that adequate on-site and off-site sewer facilities required to serve development in the UID are in place in accordance with the UID Public Facilities Finance Plan. Occupancy of buildings shall not be permitted unless it is demonstrated that on-site and off-site sewer facilities are adequate in capacity to serve the Project. If the Project will contribute to a deficiency in the capacity of the sewer system, the Project applicant shall pay its fair share of fees to increase the capacity to an adequate size.	Less than significant.

Table 1-1 (cont.): SUMMARY OF SIGNIFICANT ENVIRONMENTAL ANALYSIS RESULTS			
Environmental Issue	**Result of Impact Analysis**	**Mitigation**	**Impact Level After Mitigation**
5.15 Public Utilities (cont.)			
Wastewater (cont.)			
Threshold 2: New Wastewater Treatment Facilities	**Impact 5.15.2-2:** The Project would require sewage treatment beyond the City's existing wastewater treatment capacity rights and allocated additional treatment capacity. Therefore, additional capacity would need to be acquired from San Diego Metropolitan Sewer Authority or other sources. The means by which additional treatment capacity would be acquired is unknown and the development of additional capacity may require construction of new treatment facilities. As the location and scope of construction for any newly developed treatment facilities is unknown, the development of treatment capacity beyond the City's existing and allocated capacity may result in a potentially significant environmental impact, even understanding that such projects would likely be subject to additional project-level environmental review.	No mitigation is available.	Significant and unavoidable.
Threshold 3: Consistency with City Engineering Standards	Less than significant.	No mitigation measures are required.	Less than significant.
Solid Waste			
Threshold 1: Landfill Capacity	Less than significant.	No mitigation measures are required.	Less than significant.
Threshold 2: Federal, State, and Local Regulations	Less than significant.	No mitigation measures are required.	Less than significant.

Table 1-1 (cont.): SUMMARY OF SIGNIFICANT ENVIRONMENTAL ANALYSIS RESULTS			
Environmental Issue	**Result of Impact Analysis**	**Mitigation**	**Impact Level After Mitigation**
5.15 Public Utilities (cont.)			
Recycled Water			
Threshold 1: Construction of Recycled Water Facilities	Less than significant.	No mitigation measures are required.	Less than significant.
Energy			
Threshold 1: Increased Demand of Energy Resources	Less than significant.	No mitigation measures are required.	No impact.
Threshold 2: Wasteful Use of Energy	Less than significant.	No mitigation measures are required.	No impact.

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2.0 INTRODUCTION

2.1 PROJECT BACKGROUND

The Chula Vista University Innovation District (UID) Sectional Planning Area (SPA) Plan (herein referred to as "Project") would include development of approximately 383.8 acres in the Otay Ranch community in the City of Chula Vista (City) as a university site with a mix of retail and residential land uses that transition to open space areas south of the Project site towards the Otay River Valley. The UID SPA (also herein referred to as "Project site") is comprised of two properties: the Main Campus Property (approximately 353.8 acres) and the Lake Property (approximately 30 acres).

Otay Ranch is a master-planned community in the City that provides a broad range of residential, commercial, retail, and industrial development interwoven with civic and community uses, such as libraries, parks, and schools. The community is approximately 23,000 acres in size and includes an open space preserve system designed to ultimately include approximately 13,000 acres. The UID is one of the designated planning areas within the Otay Ranch General Development Plan (GDP), which requires that a SPA Plan be prepared for each designated planning area to further implement the overall GDP[1]. The Otay Ranch GDP planning documents that encompass the Main Campus Property or the Lake Property are summarized and further described in Table 2-1, *Past and Present Planning Documents that Apply to the Project Site*.

Table 2-1 PAST AND PRESENT PLANNING DOCUMENTS THAT APPLY TO THE PROJECT SITE

Planning Document	Associated Environmental Impact Report
Main Campus Property	
1993 Otay Ranch General Development Plan/ Subregional Plan[1]	1993 Otay Ranch General Development Plan Program Environmental Impact Report ([EIR] 90-01) (SCH #89010154)
2005 Chula Vista General Plan Update (GPU)	2005 Chula Vista General Plan Update Final Program EIR (EIR 05-01) (SCH #2004081066)
2005 Otay Ranch General Development Plan Update	
2013 Chula Vista General Plan Amendment/ Otay Ranch General Development Plan Amendment (GPA/GDPA)	2013 Chula Vista General Plan Amendment/ Otay Ranch General Development Plan Amendment Supplemental EIR (SEIR 09-01) (SCH #2004081066)
2014 Otay Ranch Village 9 Sectional Planning Area (SPA) Plan and Tentative Map (TM)	2014 Otay Ranch Village 9 SPA Plan and TM EIR (EIR 10-04) (SCH #2010061090)
2014 Otay Ranch University Villages (SPA Plans for Village 3 North and a portion of Village 4, Village 8 East, and Village 10)	2014 Otay Ranch University Villages Project EIR (EIR 13-01) (SCH #2013071077)

[1] For the purposes of future streamlined review pursuant to Government Code Section 65457 and Public Resources Code Section 21155.4, the proposed SPA Plan is a specific plan and from a legal perspective, the terms "SPA Plan" and "Specific Plan" are used interchangeably throughout this EIR. As a result, future residential and employment centers or mixed-use projects within a transit priority area consistent with the SPA Plan may not require future additional CEQA review.

Table 2-1 (cont.) PAST AND PRESENT PLANNING DOCUMENTS THAT APPLY TO THE PROJECT SITE

Planning Document	Associated Environmental Impact Report
Main Campus Property (cont.)	
2017 University Innovation District SPA Plan (the proposed Project)	2017 University Innovation District SPA Draft EIR (EIR 14-01) (SCH #2014121097) (this EIR)
Lake Property	
1989 and 2001 Chula Vista General Plan Amendment/EastLake III General Development Plan	1989 EastLake III EIR (EIR 89-09) 2001 EastLake III Woods and Vistas Replanning Program Subsequent EIR (EIR 01-01) (SCH #2000071019)

[1.] The GDP was amended in 2001 but the analysis for the amendment is not incorporated into this EIR.

2.1.1 Otay Ranch General Development Plan/Subregional Plan and Program EIR (1993)

The Otay Ranch GDP/Subregional Plan was originally adopted by the Chula Vista City Council and the San Diego County Board of Supervisors on October 28, 1993 and was accompanied by a Program EIR (EIR 90-01; SCH #89010154; Chula Vista 1992). In addition to establishing community-wide land use policies, the Otay Ranch GDP includes an Overall Design Plan, which presents a design context for Otay Ranch that serves as a basis for individual SPA Plans. The Otay Ranch GDP groups residential areas into "Villages." Village cores are strategically located, mixed-use areas designed to contain essential facilities and services.

The proposed Project would implement land uses (although at a different intensity), a circulation network, and village design policies that were analyzed in the Otay Ranch GDP. The analysis within this EIR tiers from the 1993 Otay Ranch GDP Program EIR because the certified Program EIR assessed the significant environmental effects associated with development of the entire Otay Ranch area at a programmatic level, including the proposed Project site. Therefore, the analysis herein is "tiered" from the certified 1993 Program EIR in accordance with Public Resources Code (PRC) Section 21093(a) and California Environmental Quality Act (CEQA) Guidelines Section 15168(c). PRC Section 21093 encourages lead agencies to tier from previously certified program EIRs, whenever feasible.

The 1993 Otay Ranch GDP was amended in 1996 as part of the approval of the first SPA plan in Otay Ranch (SPA One) and again in conjunction with the General Plan Update process in 2005 and was last amended in 2015.

2.1.2 Chula Vista General Plan Update/Otay Ranch General Development Plan Amendment and Program EIR (2005)

In 2005, the City of Chula Vista completed a comprehensive update of its General Plan, which included an amendment to the Otay Ranch GDP (Chula Vista 2005a). California law requires that each county and city adopt a general plan "for the physical development of the county or city, and of any land outside its boundaries which…bears relation to its planning" (Government Code Section 65300). The Chula Vista General Plan outlines goals, policies, and objectives for land uses within Chula Vista in response to the community's vision for the City. The Land Use and

Transportation Element of the General Plan includes specific requirements for master planned communities and resource management plans for water, air quality, recycling, solid waste management, and energy. Specific policies for the central district of the Otay Ranch area, including the UID, were included in the 2005 General Plan Update. The 2005 GDP Amendment (GDPA) revised regional information, added a discussion of the San Diego Multiple Species Conservation Program (MSCP), clarified plans and policies for several villages, and introduced the town center concept. Although the 2005 General Plan Update included land use designations for the entire city, the City Council did not take action on the proposed land use designations and policies in the "Deferral Area," an area comprised of several village sites, including the UID.

The City Council certified the 2005 General Plan Update Final Program EIR (EIR 05-01; SCH #2004081066) on December 13, 2005 (herein referred to as the "2005 GPU EIR" [EIR 05-01; Chula Vista 2005b]). The EIR assessed the environmental impacts of growth and development in the city associated with the General Plan Update and associated actions. While no action was taken by the City Council on the land uses within the Deferral Area, the certified EIR analyzed the impacts of the proposed amendments within the Deferral Area as part of the 2005 GPU Preferred Alternative.

2.1.3 City of Chula Vista General Plan Amendment/Otay Ranch General Development Plan Amendment and SEIR (2013)

In 2013, the City Council approved a General Plan Amendment and General Development Plan Amendment (GPA/GDPA) that established land use designations for the "Deferral Area," and redesignated land uses in the surrounding area (Chula Vista 2013). The GPA/GDPA land use change area includes Village 8 West, Village 9, and the University/Regional Technology Park (RTP), the latter of which is part of the site for the UID SPA Plan (i.e., the Project site). The GPA/GDPA includes policy revisions to the 2005 General Plan Update and 2005 GDPA, revisions to the General Plan Circulation Plan, reconfiguration of village boundaries, and land use designation amendments. As amended and approved in 2013, the General Plan and GDP are the applicable land use documents for the Project site. Unless otherwise stated, all references to the "General Plan" and "GDP" in this EIR refer to these documents as amended in 2013.

In 2013, the City Council certified an SEIR (SEIR 09-01) for the GPA/GDPA in accordance with CEQA and the guidelines of the City of Chula Vista. As a supplement, SEIR 09-01 only included an analysis of environmental topics that resulted in new or additional impacts compared to the land use assumptions made for the Project area in the 2005 GPU EIR (EIR 05-01). The topics included in the SEIR were land use, landform alteration/visual quality, energy resources, transportation, air quality, noise, public services, public utilities, housing and population, and global climate change. The environmental topics that did not require supplemental analysis were biological resources, cultural resources, geology and soils, paleontological resources, agriculture, hydrology and water quality, hazards, and mineral resources because the proposed land use designations would not change the resource information or conclusions in the 2005 GPU EIR for these issue areas.

2.1.4 Otay Ranch Village 9 SPA Plan, TM, and EIR (2014)

In 2014, the City Council approved a SPA Plan and TM to entitle development on approximately 323 acres in Otay Ranch as an Urban Village with a mixed-use urban center and town center, as

well as residential development of low to medium density. The EIR tiered off of SEIR 09-01 and included a portion of the UID Project site referred to as Planning Area JJ that encompassed 50 acres for a future University/RTP site at the eastern edge of the Village 9 SPA Plan and TM (EIR 10-04; SCH #2010061090; (Chula Vista 2014a). The University/RTP portion is not subject to the associated development standards within the Village 9 SPA Plan; however, because environmental resources on a 50-acre portion of the Village 9 SPA Plan were assumed to be developed per the proposed Project, and potential impacts are included in the associated environmental analysis in this EIR. Off-site construction associated with Village 9 includes a 10-foot-wide storm drain corridor to direct drainage to the Otay River that would also serve the Project. As such, potential off-site impacts associated with drainage improvements that would serve the Project's Main Campus Property have been incorporated and updated by the analysis within this EIR. The environmental topics further addressed in the Village 9 SPA Plan and TM EIR (herein also referred to as the Village 9 EIR) included land use, landform alteration/visual quality, transportation, air quality, noise, biological resources, cultural resources, geology and soils, public services, greenhouse gas (GHG) emissions, hydrology and water quality, housing and population, and utilities.

2.1.5 University Villages SPA Plan Amendments and EIR (2014)

In 2014, the City amended existing SPA Plans, including Village Three North and a portion of Village Four, Village Eight East, and Village Ten. The amendments to these SPA Plans were defined as a single project and analyzed in the 2014 Otay Ranch University Villages Project EIR (EIR 13-01; SCH #2013071077; Chula Vista 2014b). The University Villages project included off-site improvements within the proposed UID SPA Plan site associated with a borrow site to be used during grading for Village Ten. The EIR also included a detention basin south of Village Ten within the Otay Ranch Preserve (Preserve) area and associated storm drain lines and access roads that would be included as part of the proposed UID SPA Plan and would connect to Village 9. As a result, potential impacts identified within the off-site borrow pit and the associated drainage improvements have been incorporated and updated by the analysis within this EIR. The University Village SPA Plan Amendments and EIR analyzed land use, landform alteration/aesthetics, transportation, air quality, noise, cultural resources, paleontological resources, biological resources, agriculture, water quality and hydrology, geology and soils, public services, utilities, climate change, hazards, housing and population, and mineral resources.

2.1.6 City of Chula Vista General Plan Amendment/EastLake III General Development Plan Amendment and SEIR (1990 and 2001)

In 1990, the City Council approved a GPA/GDP to entitle development of the Olympic Training Center, located north of the Lake Property, and to establish the EastLake III General Development Plan. This GPA/GDP identified the Lake Property as a future neighborhood park to serve the EastLake III Planned Community and environmental impacts were included in a project EIR (EIR 89-09; Chula Vista 1989).

In 2001, the City Council approved a GPA/GDPA to establish four neighborhoods within the EastLake III planning area, which included the Lake Property (previously referred to as the "Panhandle Parcel"). The Lake Property was analyzed at a conceptual level and did not include a SPA Plan. The location of the Lake Property (approximately one mile from the rest of the

EastLake III development area), along with the steep topography and irregular shape, made the property impractical for use as a recreation or park area. As such, the GPA/GDPA redesignated the Lake Property for "Public/Quasi-Public" uses, such as a school, agriculture, church, park, or other public service use such as a library, museum, or public works facility, with a secondary use of "Low Density Residential" if the site was deemed infeasible for Public/Quasi-Public use. The accompanying SEIR assumed up to 90 single-family residential dwelling units could be entitled and identified programmatic mitigation measures for the Lake Property (EIR 01-01; SCH #2000071019; Chula Vista 2001a). Environmental impacts addressed in the SEIR included land use, transportation/traffic, biological resources, hydrology/drainage, landform alteration/visual quality, geology, noise, air quality, cultural and paleontological resources, and public facilities.

2.2 UNIVERSITY INNOVATION DISTRICT SPA PLAN

The Otay Ranch GDP is implemented through individual SPA plans that specify the development standards, land plans, goals, objectives, and policies of the GDP for each particular SPA. The SPA plans establish design criteria and define precisely the type and amount of development permitted. The plans also establish City standards, including open space provisions and major improvements to be constructed by each project applicant. The UID SPA Plan is based on the provisions for this area included in the Otay Ranch GDP, as amended in 2015. The GDP designates the UID SPA area as a future university site with a mix of retail and residential land uses that transition to the open space areas south of the Project site along the Otay River Valley. The proposed Project is planned for transit-oriented development with higher densities and mixed uses within 0.25 mile of a transit stop. The proposed SPA Plan for the UID includes the following components:

- UID SPA Plan
- Hybrid Form-Based Code (combined Planned Community District Regulations and Design Plan)
- Public Facilities Finance Plan (PFFP) and Fiscal Impact Analysis (FIA)
- Air Quality Improvement Plan (AQIP)
- Non-Renewable Energy Conservation Plan
- Preserve Edge Plan
- Park, Recreation, Open Space, and Trails Plan
- Agriculture Plan
- Fire Protection Plan (FPP)
- Water Conservation Plan (WCP)
- Parks, Recreation, and Open Space Master Plan (which is included as Chapter 5 of the UID SPA Plan)
- Community Purpose Facility Master Plan

A TM is not included with the UID SPA Plan; however, a TM and a final map would be submitted to the City for approval prior to any physical improvements within the Project site.

2.3 SUBDIVISIONS AND BUILDING PERMITS

Upon approval of SPA plans, properties may be subdivided in accordance with the California Subdivision Map Act and applicable subdivision ordinances. Thereafter, building permits may be issued. As stated above, the proposed Project does not include a TM for development of the site. The action to which this EIR applies is the approval of the SPA Plan. The City will determine whether additional environmental review is required for subsequent tentative maps, final maps, and development permits for Project implementation.

2.4 PURPOSE AND LEGAL AUTHORITY

This document is a second-tier EIR that addresses the environmental effects of the proposed UID SPA Plan (i.e., the Project) of the Otay Ranch GDP. The Project requires the discretionary approval from the Chula Vista City Council. As such, the Project is subject to the requirements of CEQA.

This EIR has been prepared in accordance with CEQA (PRC Section 21000 et seq.) and the City's environmental review procedures. Pursuant to Section 21067 of CEQA and Section 15367 and Sections 15050 through 15053 of the CEQA Guidelines, the City of Chula Vista is the Lead Agency under whose authority this EIR has been prepared. As such, the analysis and findings in this document reflect the independent judgment of the City. In accordance with Section 15121 of the CEQA Guidelines, the purpose of the EIR is to serve as an informational document that "will inform public agency decision makers and the public generally of the significant environmental effect of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to the project." This EIR provides decision-makers, public agencies, and the public with detailed information about the potential for significant adverse environmental impacts to occur from implementation of the Project.

Pursuant to CEQA Statute Section 21093, the analysis in this EIR tiers from the following EIRs: the 1993 Otay Ranch GDP Program EIR (EIR 90-01; SCH #89010154); the Supplemental EIR (SEIR 09-01) to the 2005 GPU/GDPA Program EIR (EIR 05-01; SCH #2004081066); the 2014 Otay Ranch Village 9 SPA Plan (EIR 10-04; SCH# 2010061090); the 2014 Otay Ranch University Village Project EIR (EIR 13-01; SCH# 2013071077); and the 2001 EastLake III Woods and Vistas Replanning Program Subsequent EIR (EIR 01-01; SCH #2000071019), which was a supplemental document for the programmatic 1989 EastLake EIR (EIR 89-09); collectively, these EIRs are herein referred to as the "Previous Environmental Review Documents." As stated in Section 15152(a) of the CEQA Guidelines, the term tiering refers to "using analysis of general matters contained in a broader EIR (such as a previous EIR prepared for a general plan or policy document) with later EIRs and negative declarations on narrower projects incorporating by reference the general discussions from the broader EIR; and concentrating the later EIR or negative declaration solely on the issues specific to the later project."

Due to the size and complexity of the Otay Ranch development, both the planning and environmental documentation for the specific planning areas or villages within Otay Ranch have been tiered. As a second-tier document, this EIR relies upon previously certified EIRs to determine if the Project is consistent with previously approved policies and ordinances. The SEIR 09-01 was a supplemental analysis that updated the 2005 GPU EIR (EIR 05-01) and only included an environmental analysis of those issues that were affected by the updated policies and land use

designations in the 2013 GPA/GDPA. Other environmental issues that were adequately addressed in the 2005 GPU EIR were not included in the 2013 SEIR analysis. Information that is not covered by either the 2005 GPU EIR or the 2013 SEIR is tiered from EIR 90-01, the original EIR prepared for the GDP in 1993.

Impacts associated with the Lake Property within this EIR also rely upon the previously certified SEIR for EastLake (EIR 01-01), which previously evaluated potential development and related impacts on land use, transportation, biology, hydrology, aesthetics, geology, noise, air quality, cultural resources, and public facilities. In addition, shared off-site drainage impacts analyzed as part of the second-tier project-level EIRs for Village 9 (EIR 10-04; SCH #2010061090) and the University Villages EIR (EIR 13-01; SCH #2013071077), including the detention basin and associated impacts, are relied upon where appropriate. Table 2-2, *Tiered Analysis by Environmental Issue,* lists the environmental topics included in this EIR and the programmatic environmental document(s) from which the analysis was tiered.

Table 2-2 TIERED ANALYSIS BY ENVIRONMENTAL ISSUE

Environmental Issue	Programmatic Documents Utilized in Tiered Analysis
Land Use and Planning	2013 GPA/GDPA SEIR (09-01) 2001 EastLake SEIR (01-01)
Landform Alteration/Aesthetics	2013 GPA/GDPA SEIR (09-01) 2001 EastLake SEIR (01-01)
Transportation/Traffic	2013 GPA/GDPA SEIR (09-01) 2001 EastLake SEIR (01-01)
Air Quality	2013 GPA/GDPA SEIR (09-01) 2001 EastLake SEIR (01-01)
Noise	2013 GPA/GDPA SEIR (09-01) 2001 EastLake SEIR (01-01)
Biological Resources	1993 GDP Program EIR (EIR 90-01) 2005 GPU EIR (EIR 05-01) 2001 EastLake SEIR (01-01)
Cultural Resources	1993 GDP Program EIR (EIR 90-01) 2005 GPU EIR (EIR 05-01) 2001 EastLake SEIR (01-01)
Geology and Soils	1993 GDP Program EIR (EIR 90-01) 2001 EastLake SEIR (01-01)
Public Services	2013 GPA/GDPA SEIR (09-01)
Global Climate Change	2013 GPA/GDPA SEIR (09-01)
Hydrology and Water Quality	1993 GDP Program EIR (EIR 90-01) 2001 EastLake SEIR (01-01)
Agricultural Resources	1993 GDP Program EIR (EIR 90-01) 2005 GPU EIR (EIR 05-01)
Hazards and Hazardous Materials	1993 GDP Program EIR (EIR 90-01) 2005 GPU EIR (EIR 05-01)
Housing and Population	2013 GPA/GDPA SEIR (09-01)
Public Utilities	2013 GPA/GDPA SEIR (09-01) 2001 EastLake SEIR (01-01)

In accordance with CEQA Section 21094, those effects which the Lead Agency determined were either mitigated or avoided pursuant to the findings of these previous EIRs or examined in sufficient detail to enable those effects to be mitigated or avoided through implementation of mitigation measures or standard conditions, do not need to be addressed in this second tier EIR. Rather, this EIR focuses on the environmental effects associated with development of the proposed UID SPA Plan that were not evaluated at a project level in the 2013 SEIR 09-01 for the Main Campus Property or the 2001 EIR 01-01 for the Lake Property. Where appropriate, this EIR also updates information in the 1993 Otay Ranch GDP EIR 90-01, the 2005 GPU EIR 05-01, and the 2001 EIR 01-01. Each of these previously certified EIRs are herein incorporated by reference. This EIR incorporates mitigation measures from the Previous Environmental Review Documents, as applicable. There are, however, several mitigation measures from the Previous Environmental Review Documents that were not incorporated into this EIR because the measures are outdated or not applicable due to updated existing conditions of the Project site. In such cases, this EIR includes measures that are equivalent to, or more efficient than, prior measures to address impacts. All documents referenced in this EIR are available for review at the City of Chula Vista, Development Services Department, located at 276 Fourth Avenue, Chula Vista, California 91910.

Pursuant to CEQA Guidelines Section 15161, this document has been prepared as a "Project EIR" and is "focused primarily on the changes in the environment that would result from the development" (i.e., the Project). Where environmental impacts have been determined to be potentially significant, this EIR presents mitigation measures directed at reducing those adverse environmental effects. The development of mitigation measures provides the Lead Agency with ways to substantially lessen or avoid the significant effects of the Project on the environment, to the extent feasible. Alternatives to the Project are evaluated that could minimize or avoid significant impacts associated with the Project.

2.5 ENVIRONMENTAL REVIEW PROCESS

This Draft EIR was prepared following input from responsible and trustee agencies and the public through the EIR scoping process. In accordance with Section 15082 of the CEQA Guidelines, the City prepared and distributed a Notice of Preparation (NOP) to responsible and trustee agencies and other interested parties on December 19, 2014. Per Section 15381 of the CEQA Guidelines, the term "responsible agency" includes "all public agencies other than the Lead Agency which have discretionary approval power over the project," such as the Regional Water Quality Control Board (RWQCB) for storm water permits and the California Department of Fish and Wildlife (CDFW) for biological resources permits. A "trustee agency" is identified in Section 15386 of the CEQA Guidelines as "a state agency having jurisdiction by law over natural resources affected by a project which are held in trust for the people of the State of California."

The NOP is a document that is required to be submitted to the State Clearinghouse to officially solicit participation in determining the scope of the EIR. The State Clearinghouse distributed the UID SPA Plan Project EIR NOP to state agencies, including Department of Forestry and Fire Protection (Cal Fire), Air Resources Board, Department of Conservation, CDFW, Department of Water Resources, Energy Commission, Department of Resources Recycling, and Recovery (CalRecycle), Caltrans District 11, Office of Historic Preservation, and RWQCB. The City also sent the NOP directly to potentially affected federal, county, and local agencies, as well as to other groups/persons of interest (refer to Appendix A of this EIR for the specific recipients of the NOP).

In addition, the City posted the NOP at the office of the San Diego County Clerk for 30 days. The City held a public scoping meeting on January 7, 2015 to further solicit public input.

Eight letters were received in response to the NOP. The NOP and comment letters are included in Appendix A of this EIR. Comments covered a variety of topics, including concerns related to increases in traffic within Chula Vista and surrounding jurisdictions, potential hazards from Brown Field Municipal Airport, potential impacts from hazardous materials, potential impacts to the Otay Valley Regional Park, and potential impacts to biological resources. These issues are addressed in this EIR under the applicable environmental topic in Chapter 5.0, *Environmental Impact Analysis*.

This Draft EIR is being circulated for 45 days for public review and comment in accordance with Section 15087 of the CEQA Guidelines. Interested parties may provide comments on the Draft EIR in written form. The EIR and all related technical appendices are available for review at the offices of the City of Chula Vista, Development Services Department, located at 276 Fourth Avenue, Chula Vista, California 91910, and the Chula Vista Public Library, located at 365 F Street, Chula Vista, California 91910.

Upon completion of the public comment period, a Final EIR will be prepared that will provide written responses to the written comments received during the public review period of the Draft EIR. Responses to written comments received from any public agencies will be made available to those agencies at least 10 days prior to the public hearing, during which the certification of the Final EIR will be considered. All written comments and their responses will be included in the Final EIR for consideration by the Chula Vista City Council.

Prior to approval of the Project, the City of Chula Vista, as the Lead Agency and decision-making entity, is required to certify that the EIR has been completed in compliance with CEQA, that the Project has been reviewed and the information in this EIR has been considered, and that this EIR reflects the independent judgment of the City. As defined by PRC Section 21081, CEQA also requires the City to adopt "findings" with respect to each significant environmental effect identified in the EIR. For each significant effect, CEQA requires the approving agency to make one or more of the following findings:

- Changes or alterations have been required in, or incorporated into, the project which avoid or substantially lessen the significant environmental effect as identified in the final EIR;

- Such changes or alterations are within the responsibility and jurisdiction of another public agency and not the agency making the finding; such changes have been adopted by such other agency or can and should be adopted by such other agency; and/or

- Specific economic, legal, social, technological, or other considerations, including provision of employment opportunities for highly trained workers, make infeasible the mitigation measures or project alternatives identified in the Final EIR.

In addition, when approving a project, public agencies must adopt a Mitigation Monitoring and Reporting Program (MMRP) that describes the changes that were incorporated into the project or made a condition of project approval in order to mitigate or avoid significant effects on the environment in compliance with PRC Section 21081.6. The MMRP is adopted at the time of

project approval and is designed to ensure compliance with the EIR mitigation measures during project implementation. Upon approval of the Project, the City would be responsible for the implementation of the Project's MMRP.

It is noted that environmental impacts may not always be mitigated to a less-than-significant level. When this occurs, impacts are considered significant and unavoidable. If the City concludes that the Project would result in significant and unavoidable impacts, as identified in this EIR, the City must adopt a "statement of overriding considerations" prior to approval of the Project in compliance with PRC Section 21081. Such statements are intended under CEQA to provide a written means by which the Lead Agency justifies the significant and unavoidable environmental impacts by stating the overall benefits of the project to the public and/or the environment. Where the Lead Agency concludes that the economic, legal, social, technological, or other benefits outweigh the unavoidable environmental impacts, the Lead Agency may find such impacts "acceptable" and approve the Project.

2.6 CONTENT AND SCOPE OF THIS EIR

2.6.1 EIR Content

This EIR addresses the potential physical environmental impacts that could result from implementation of the UID SPA Plan. Based on the review of past environmental documents, the analysis of the Project by City staff, and the comments received in response to the NOP, the following issues were determined to result in potentially significant impacts and are analyzed in detail in Chapter 5.0 of this EIR:

- Land Use
- Aesthetics/Landform Alteration
- Transportation/Traffic
- Air Quality
- Noise
- Biological Resources
- Cultural and Paleontological Resources
- Geology and Soils
- Public Services
- Global Climate Change
- Hydrology and Water Quality
- Agricultural Resources
- Hazards and Hazardous Materials
- Housing and Population
- Public Utilities

The content and format of this EIR are designed to meet the current requirements of CEQA and the CEQA Guidelines. The EIR is organized into the following chapters:

Chapter 1.0, Executive Summary: Presents a summary of the Project and alternatives, potential impacts, mitigation measures, and impact conclusions regarding significant and unavoidable impacts, significant and mitigable impacts, and effects not found to be significant.

Chapter 2.0, Introduction: Provides a brief description of the Project's background, describes the purpose and use of the EIR, provides a brief overview of the environmental review process, and outlines the organization of the EIR.

Chapter 3.0, Project Description: Includes a discussion of the Project location, the objectives of the Project, details of the Project, and a listing of the discretionary actions and approvals required to implement the Project.

Chapter 4.0, Environmental Setting: Describes the physical setting and the existing conditions for the Project site at the time of the distribution of the NOP.

Chapter 5.0, Environmental Impact Analysis: Includes an analysis of each of the environmental topics outlined above and consists of a description of the existing conditions or setting for each issue area (prior to Project implementation), methods and assumptions used in the impact analysis, thresholds for determining the significance of impacts, impacts that would result from the Project prior to mitigation, applicable mitigation measures that would eliminate or reduce significant impacts, and the level of significance after implementation of mitigation measures. This EIR utilizes the following categories to describe the level of significance of environmental impacts:

- Less than Significant. This term is used to refer to: (1) impacts resulting from implementation of the Project that are not likely to exceed the defined standards of significance, or (2) potentially significant impacts that are reduced to a level that does not exceed the defined standards of significance after implementation of mitigation measures.

- Significant. This term is used to refer to impacts resulting from implementation of the Project that exceed the defined standards of significance before identification of mitigation measures. A "significant effect" is defined by Section 15382 of the CEQA Guidelines as "a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the Project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance. An economic or social change by itself shall not be considered a significant effect on the environment [but] may be considered in determining whether the physical change is significant."

- Significant and Unavoidable. This term is used to refer to significant impacts resulting from implementation of the Project that cannot be eliminated or reduced to below standards of significance through implementation of feasible mitigation measures.

Chapter 6.0, Cumulative Impacts: Discusses the potentially significant cumulative impacts that may result from the Project when taking into account the related or cumulative impacts resulting from past, present, and reasonably foreseeable future projects within and surrounding the Otay Ranch area.

Chapter 7.0, Growth-Inducement: Discusses the potential growth-inducing impacts of the Project, including the potential for the Project to foster economic or population growth or the construction of additional housing, either directly or indirectly, in the surrounding areas.

Chapter 8.0, Significant Unavoidable Environmental Effects/Irreversible Changes: Provides a discussion of the irreversible environmental changes to the natural environment resulting from the implementation of the Project. Also summarizes the significant unavoidable impacts that would result from Project implementation.

Chapter 9.0, Effects Found Not to Be Significant: Contains a summary of the issue areas that were determined to result in less than significant environmental impacts.

Chapter 10.0, Alternatives: Evaluates the environmental effects of feasible Project alternatives, including the No Project Alternative, and also identifies the environmentally superior alternative.

Chapter 11.0, References: Identifies the documents (printed references) and individuals (personal communications) consulted in preparing this EIR.

Chapter 12.0, EIR Preparation: Lists the individuals involved in preparation of this EIR.

Chapter 13.0, Persons and Organizations Contacted: Identifies the organizations and persons consulted to ascertain supporting information to support the impact analyses in this EIR.

Appendices: Presents data supporting the impact analyses or contents within this EIR. This EIR include the following appendices:

- Appendix A: Notice of Preparation
- Appendix B: Traffic Impact Analysis
- Appendix C: Air Quality and Greenhouse Gas Emissions Technical Report
- Appendix D: Acoustical Analysis Report
- Appendix E: Biological Technical Report
- Appendix F: Cultural Resource Survey
- Appendix G: Geotechnical Investigation
- Appendix H: Water Quality Technical Report and Hydromodification Management Plan
- Appendix I: Drainage Study
- Appendix J: Hazardous Materials Technical Study
- Appendix K: Water Supply Assessment
- Appendix L: Sewer Study

2.6.2 Scope for UID SPA Plan

As discussed in Section 2.4, this EIR addresses the environmental impacts of the UID SPA Plan at a project-specific level pursuant to CEQA Guidelines Section 15161; however, additional environmental analysis may be required when specific development plans (e.g., TMs) are submitted for approval to implement the UID SPA Plan. A detailed description of the analyzed Project components is provided in Chapter 3.0, *Project Description*.

3.0 PROJECT DESCRIPTION

The City Council approved the Otay Ranch GDP in 1993 as a comprehensive planning document for the approximately 23,000-acre Otay Ranch community in the City that includes a broad range of residential, commercial, retail, and industrial development interwoven with civic and community uses, such as libraries, parks, and schools, as well as an open space preserve system. The Eastlake III GDP was approved in 1990 and is a planning document that applies to approximately 942 acres at the eastern edge of the City intended to implement the Eastern Territories Planning Area identified in the Chula Vista General Plan. The Otay Ranch and Eastlake III GDPs are implemented through individual SPA plans that specify the development standards, land plans, goals, objectives, and policies of the GDP for the individual SPAs. Each SPA plan establishes design criteria and defines precisely the type and amount of development permitted in the SPA, as well as other City standards for the SPA.

The proposed Project would include implementation of the Chula Vista UID SPA Plan, which is based on provisions for the Project site included in the Otay Ranch GDP for the Main Campus Property and the Eastlake III GDP for the Lake Property. The approximately 383.8-acre UID SPA is designated as a future university site with a mix of retail and residential land uses that transition to the open space areas south of the Project site along the Otay River Valley. The Project would include transit-oriented development with higher densities and mixed uses within 0.25 mile of a transit stop. The UID SPA Plan considered is conceptual at the time of the public review period for this EIR. Accordingly, the Project does not include specific development details for the UID SPA, as would be included for a TM or final map. Prior to any physical improvements within the Project site, a TM and a final map would need to be submitted to and approved by the City, and a determination made about whether additional environmental review is required.

3.1 PROJECT LOCATION

The Project site includes a total of approximately 383.8 acres of land in the communities of Otay Ranch and Eastlake III in the City known as the UID planning area, which is split between the 353.8-acre Main Campus Property to the west and the 30-acre Lake Property to the east, just west of Lower Otay Lake. The Project site is located entirely within the southeastern portion of City of Chula Vista (City), California. The City is located in San Diego County (County) and is approximately seven miles southeast of the downtown area of the City of San Diego and about seven miles north of the U.S.-Mexico International Border.

Figure 3-1, *Regional Location*, and Figure 3-2, *Project Vicinity*, show the Project location and surrounding areas. Within the exception of the 10-acre High Tech K-12 School, the Project site is vacant and undeveloped. The Main Campus Property ranges in elevation from approximately 620 feet above mean sea level (AMSL) on the northwestern portion of the property near Hunte Parkway to approximately 340 feet AMSL at the southwestern end of the property near the Otay River Valley. The Lake Property ranges from about 500 feet AMSL in its northern portion to about 560 feet AMSL in its southern portion. The Otay Valley Regional Park and the Otay River Valley are located to the south of the Project site, State Route (SR-) 125 is located about 0.5 mile to the west of the Main Campus Property and two miles west of the Lake Property, and the Millenia development (currently under construction) is located immediately north of the Main Campus Property and 1.5 miles west of the Lake Property. Eastlake Parkway and Hunte Parkway, which

currently terminate at the northwestern boundary of the Main Campus Property, provide access to the northern part of the Main Campus Property. Wueste Road provides access to the Lake Property.

3.2 STATEMENT OF PROJECT OBJECTIVES

The intent of the UID SPA Plan is to stimulate academic and business investment and development, and to bring intellectual capital and research activities to the City. Section 15124(b) of the CEQA Guidelines requires an EIR to include a statement of objectives for the Project. The Project objectives frame the overall purpose of the Project and assist the development of Project alternatives. The SPA Plan identifies Project objectives that would implement the UID vision as follows:

1. Provide higher education opportunities for Chula Vista residents and the broader San Diego-Tijuana region, serving the shifting demographics of the San Diego region, and the United States in general.

2. Prepare students for post-university careers that allow for lasting personal and professional growth.

3. Develop into a financially viable university entity that incorporates the newest educational delivery models.

4. Attract a wide range of educational, research, and industry partners regionally, nationally, and internationally.

5. Assist in developing creative solutions to critical environmental, social, and economic issues facing the world and the community.

6. Serve as an economic engine that contributes to the growth of the City and region, thereby enhancing the quality of life for South Bay[1] residents.

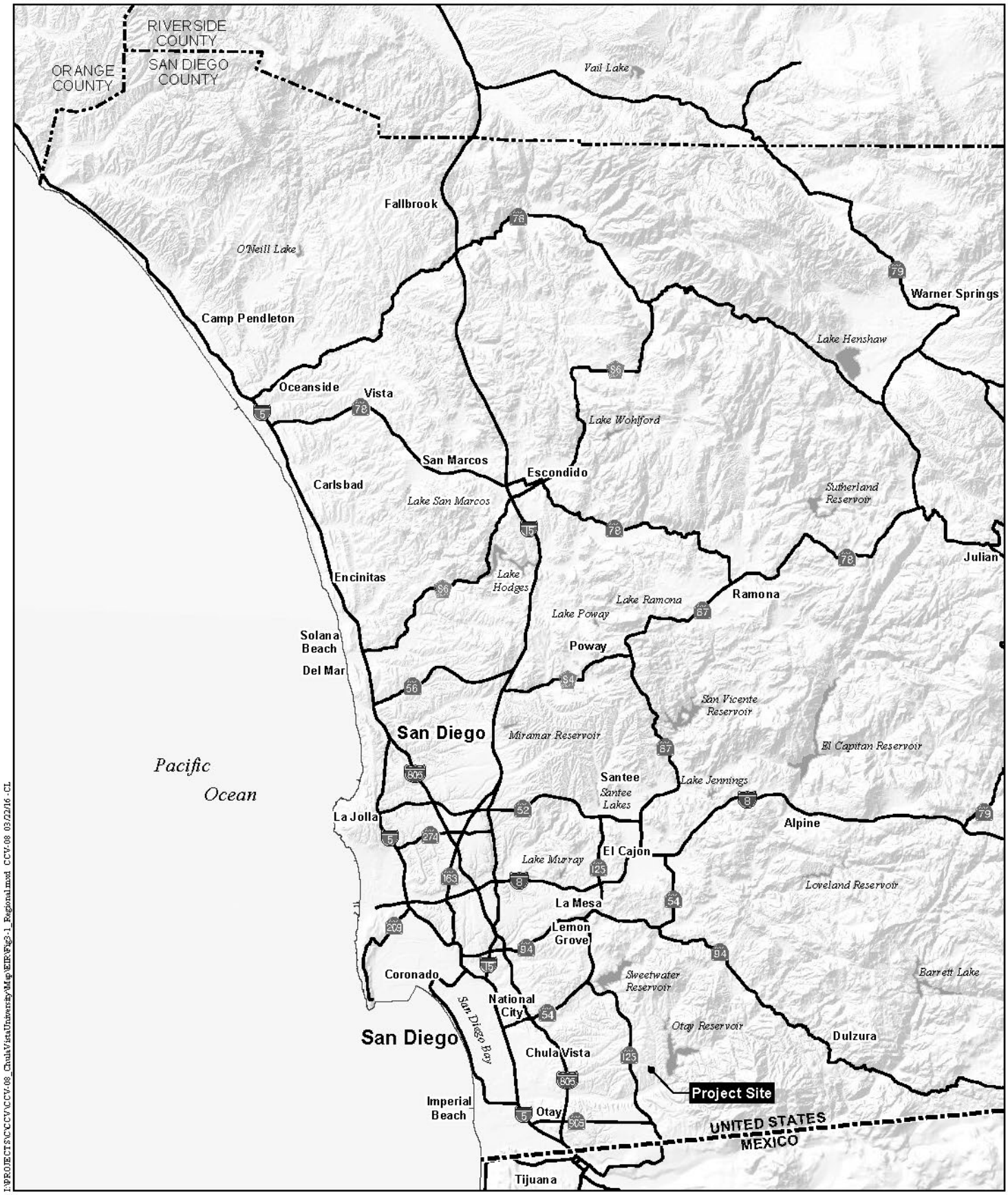
7. Provide a source of high-quality jobs and contribute to diversifying the City's economy.

8. Become an integral part of the fabric of the community, fostering arts and cultural enrichment for residents of Chula Vista and the region.

9. Develop a flexible campus that allows for ongoing growth and innovation, is physically well integrated and connected to the surrounding neighborhood and region.

10. Maximize accessibility to the campus by providing multi-modal streets, access to transit and trails, and amenities that support and encourage alternative modes.

[1] "South Bay" refers generally to the region in southwestern San Diego County that includes the cities of Chula Vista, Imperial Beach, National City, and Coronado, as well as the communities of Bonita and Lincoln Acres in the unincorporated County of San Diego and the community of Southeastern San Diego in the City of San Diego.



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Regional Location

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N

0 8 Miles

Figure 3-1



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Project Vicinity

UNIVERSITY INNOVATION DISTRICT EIR

HELIX Environmental Planning

N

0 2,000 Feet

Figure 3-2

3.3 UID SPA PLAN COMPONENTS

The Project would implement the UID SPA Plan, which includes a mixed-use development of academic/university, commercial, retail, residential, and recreational uses. At buildout, the Project would offer a unique community that reflects a growing demand for dynamic, urban education centers. The Project takes many qualities of a traditional campus (e.g., open landscaped spaces and coherent architectural edges) and integrates them with several qualities of a contemporary town center (e.g., pedestrian-friendly streets and multi-use buildings with retail at street level).

The UID SPA Plan would (1) implement the objectives and policies included in the Chula Vista General Plan regarding future development of a university and a Regional Technology Park (RTP) in the Otay Ranch area and (2) meet specific university and RTP land uses, characteristics, and policies (including strategic framework policies) in the Otay Ranch GDP. Therefore, this UID SPA Plan is consistent with the Chula Vista General Plan and the Otay Ranch GDP, as amended. The SPA Plan refines and implements the Village concept, goals, objectives, and policies of the Otay Ranch GDP (as amended). The SPA Plan was prepared as required by the GDP and pursuant to Title 19, Zoning, of the Chula Vista Municipal Code (CVMC).

Implementation of the UID SPA Plan would stimulate academic and business investment and bring intellectual capital and research activities to the City. The SPA Plan defines detailed development parameters for the UID SPA, including the development framework, land use and development intensity, key character nodes, mobility, design criteria, and phasing appropriate for long-term buildout of a high-quality academic innovation center. The development concept in the UID SPA Plan promotes coordinated development with Villages 9 and 10, efficient public transit and viable walkability, and a strong emphasis on the urban built form to foster a vibrant mixed-use innovation hub supportive of the Project objectives.

The UID SPA Plan utilizes a classic urban grid on the Main Campus Property, which is divided into about 35 mostly rectangular city blocks. The UID SPA Plan includes three distinct, gridded "clusters." The boundaries of the clusters were determined using the existing canyons and key thoroughfares such as Hunte Parkway and Orion Avenue. The three clusters are comprised of six "transects." The UID SPA Plan utilizes "transect-" (or form-) based planning that focuses on the form of development rather than land use and seeks to provide a gradual transition from intense urban development to open space areas. Transect-based planning allows for different urban functions and intensities throughout a development area. The UID SPA Plan would implement form-based regulations and standards that focus on compatibility between buildings, streets, and public spaces. Form-based codes approach the development of land by regulating the form, character, and street presence of a building focusing attention on the public presentation of buildings and creating a public realm with compatible land uses that is comfortable for pedestrians. Land use types are still controlled but play a secondary role to the creation of communities and streetscapes that are pedestrian friendly as a result of compatible development. A key objective of transect-based planning is the creation of integrated and coherent land uses.

In addition to six transects, the UID SPA Plan includes two special districts and three open space sectors. While the transects and special districts consist of areas identified for urban development, the sectors include areas identified as pedestrian walkways, common space, and habitat conservation

areas. The use of transects, special districts, and open space sectors allow for the facilitation of development by form and intensity rather than by land use.

The components of the UID SPA Plan are described below and summarized in Table 3-1, *Overview of Proposed Transects, Special Districts, and Sectors*, which includes a summary of the Project as it relates to each transect, special district, and sector within the UID SPA. Mixed-use development would be permitted throughout the Project site and would relate and transition to the adjacent mixed-use Villages 9, 10, and 11 and Millenia areas. The planned development included in the UID SPA Plan is the focus of this EIR. The UID SPA Plan is available for review at the offices of the City of Chula Vista, Development Services Department, located at 276 Fourth Avenue, Chula Vista, California 91910.

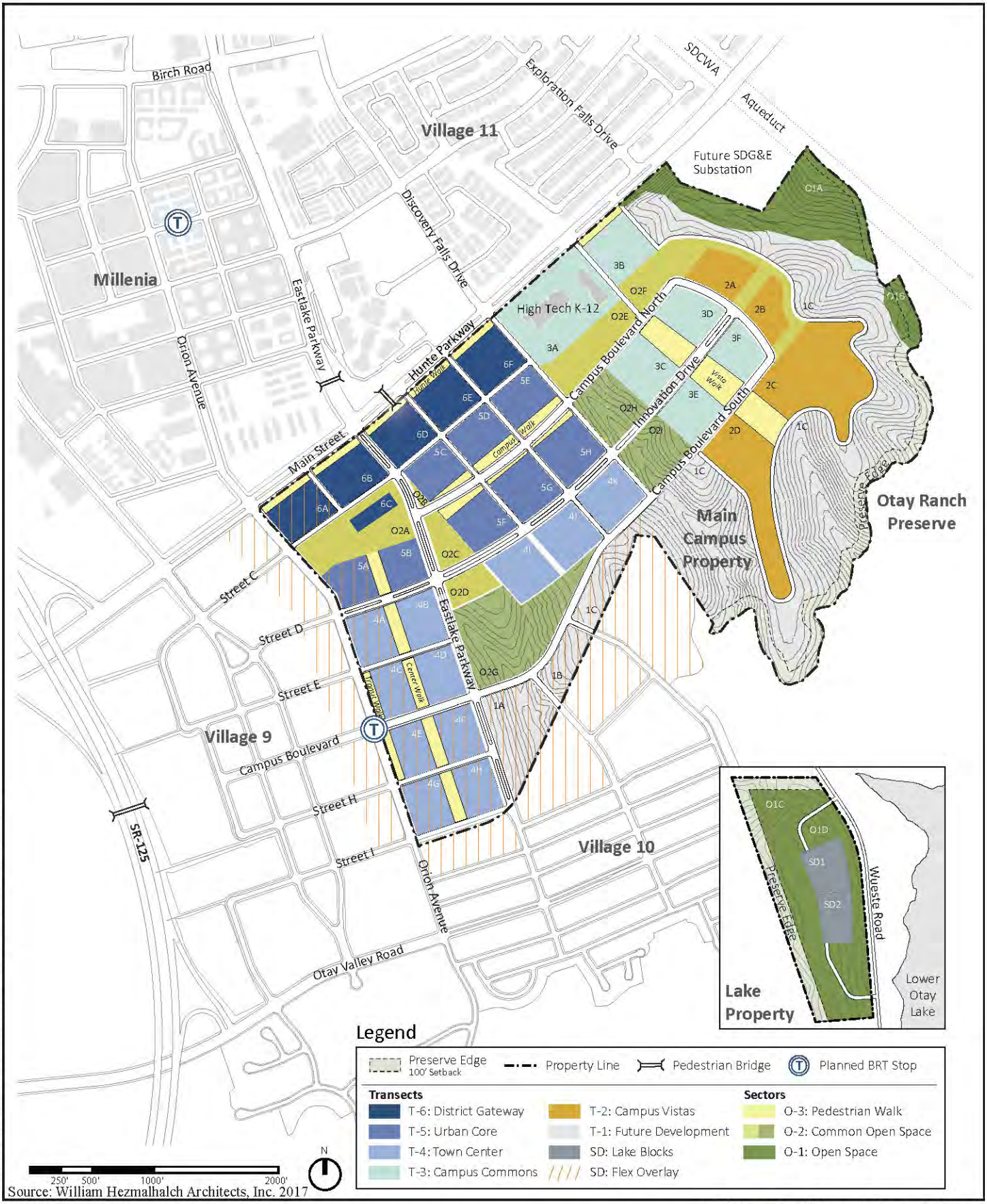
3.3.1 Development Concept

The Project would implement the University/RTP objectives and policies of the Chula Vista General Plan to stimulate academic and business investment in the area and to bring intellectual capital and research activities to the City. The UID SPA is adjacent to existing urban development and planned for transit-oriented development with higher densities and mixed uses located within 0.25 mile of transit stops or station.

Figure 3-3, *Site Utilization Plan*, illustrates the site utilization plan for the Project site. As shown in Figure 3-3, the Project includes a variety of transects, special districts, and sectors over about 35 blocks. Each transect features distinct but compatible floor area ratios (FARs) and design characters. To facilitate high compatibility with land uses surrounding the Project site, the UID SPA Plan focuses higher densities (e.g., urban and campus development) within the center of the Main Campus Property and transitions into less dense development and open space and habitat conservation at the edges of the property near the Otay Ranch Preserve (Preserve). The Lake Property features mostly habitat conservation areas with some low-intensity satellite academic uses with limited building footprints.

For the purposes of land use and environmental impact analysis in this EIR, the Project is evaluated using the maximum dwelling unit yield and gross square footage permitted by the UID SPA Plan (thus providing a conservative impact analysis). The proposed maximum development area for the UID SPA is 10,066,200 square feet that would support a total of 34,000 people including a mix of students, faculty, staff, residents, and office/retail workers. The university land uses are assumed to include up to 20,000 full-time students and 6,000 university faculty and staff. Innovation uses would include a mix of office, laboratory, and retail uses to support up to 8,000 jobs. Residents on the site are anticipated to include up to 5,400 students and 6,000 non-student residents within 2,000 market-rate units. A total of 13,500 parking spaces would be provided at full build-out to support the proposed UID SPA Plan development. Educational, commercial, and residential uses are not specifically included and may be developed within any of the transects/special districts; however, the total amount of development proposed within the UID SPA (10,066,200 square feet) would not be exceeded.

Chapter 3, *Development Code*, of the UID SPA Plan includes "development standards" that regulate the placement of the buildings within the various transects and development areas in the UID SPA. Specifically, development standards include minimum and/or maximum FARs, gross



Source: William Hezmalhalch Architects, Inc. 2017

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Site Utilization Plan

UNIVERSITY INNOVATION DISTRICT EIR

Figure 3-3

HELIX Environmental Planning

square footage of development, building heights, and setbacks, as well as various guidelines for buildings and lots to regulate key characteristics of the built form (e.g., pedestrian and vehicle access, open space, parking, etc.). Brief descriptions of the proposed transects, special districts, and open space sectors are provided below in order of descending development intensity (i.e., the most intense development area [Transect T-6] is discussed first).

A. Transect T-6: District Gateway

Transect T-6: District Gateway would serve as a major gateway to the UID by providing visual and physical entry to the Project site from Eastlake Parkway and Hunte Parkway/Main Street. Eastlake Parkway would have median and formal street trees to provide shade. In addition, other landscaping and streetscape features would contribute to the entryway's formal appearance. Buildings within this transect would have a strong, active architectural presence along the street by providing strong visual cues illustrating the innovative mixed-use character of the transect. Buildings would be at least three stories or 42 feet in height and no taller than 92 feet, with the exception of the "signature tower" in Block 6C, which would be between 200 and 250 feet in height with up to 500,000 square feet of developed space. Active ground-floor uses would occur on Hunte Parkway/Main Street along a 20-foot-wide pedestrian walkway, referred to as "Hunte Walk" (which is included in Sector O-3: Pedestrian Walk). Parking structures in this transect would be screened or below grade. As shown on Figure 3-3, Transect T-6: Gateway District would encompass five blocks, as well as location of the "signature tower" in Block 6C.

B. Transect T-5: Urban Core

Transect T-5: Urban Core would include the center for innovation for the UID, featuring 11 walkable blocks and "Campus Walk," which would include a central common open space feature spanning three blocks. The buildings in this transect would emphasize dramatic shapes and forms constructed of materials that highlight emerging technology. A mix of laboratory spaces, civic services, and common plaza areas would promote pedestrian activities. Similar to Transect T-6, building heights in Transect T-5 would range between 42 and 92 feet. The majority of this transect (Blocks 5C through 5H) is located towards the center of the Project site; however, there are two blocks (Blocks 5A and 5B) along Street D between Eastlake Parkway and Orion Avenue. Streetscapes in this transect would include interactive multi-modal spaces that would combine the street, landscape, architecture, and gathering spaces. Formal street trees and formal lawns would be accented with celebratory banners and demonstration projects. Some areas would be allocated for multi-modal facilities (such as bike- and car-share programs) and common open spaces.

Table 3-1 OVERVIEW OF PROPOSED TRANSECTS, SPECIAL DISTRICTS, AND SECTORS

Transect/Sector	Acres	Maximum Floor Area Ratio (FAR)	Building Height Limits (feet)	Maximum Gross Square Footage (GSF)	Description
T-6: Gateway District	20.0	2.0	Min. 42 Max: 92[1]	2,098,000	• Provides a strong urban edge for the UID along Hunte Parkway/Main Street between Orion Avenue and Discovery Falls Drive • Serves as a major gateway to the UID by providing visual and physical entry from Eastlake Parkway and Hunte Parkway/Main Street. • Includes the signature tower in Block 6C between 200 and 250 feet in height surrounded by common open space (Area O2A) • Includes Special District: Flex Overlay on Block 6A
T-5: Urban Core	25.3	2.5	Min: 42 Max: 92	2,757,700	• Represents the center of innovation for the UID • Adjacent and south of T-6 and includes Campus Boulevard North and Innovation Drive • Located along a central common open space feature (Campus Walk) • Includes Special District: Flex Overlay on Block 5A
T-4: Town Center	33.6	2.0	Min: 42 Max: 92	2,929,900	• A campus-oriented mixed-use area intended to extend the character of the adjacent Village 9 • Majority of transect located between Orion Avenue and Eastlake Parkway, with three blocks to the east of Eastlake Parkway along Innovation Drive • Adjacent to the pedestrian-friendly Transit Walk and a planned BRT stop (at Campus Boulevard and Orion Avenue) and bisected by the pedestrian-friendly Center Walk • Includes Special District: Flex Overlay on Blocks 4A, 4C, and 4E through 4H

Table 3-1 (cont.) OVERVIEW OF PROPOSED TRANSECTS, SPECIAL DISTRICTS, AND SECTORS

Transect/Sector	Acres	Maximum Floor Area Ratio (FAR)	Building Height Limits (feet)	Maximum Gross Square Footage (GSF)	Description
T-3: Campus Commons	29.0	1.3	Min: none Max: 50	1,642,400	• A campus-oriented mixed-use area with reduced density and scale, when compared to Transects T-4 through T-6 • Located along Campus Boulevard North, Innovation Drive, and Campus Boulevard South • Bisected by pedestrian-friendly Vista Walk
T-2: Campus Vista	26.4	0.5	Min: none Max: 50	575,600	• A transition area between urban and open space • Located south of Campus Boulevard South and east of Transect T-3 • Bisected by pedestrian-friendly Vista Walk (which is also bisects Transect T-3)
T-1: Future Development	99.8	0.2	Min: none Max: 50	--[2]	• May include a limited extension of the development in Transects T-2 through T-6 • Located between Campus Boulevard South to the north and the Preserve to the south • Includes Special District: Flex Overlay on Blocks 1A, 1B, and a portion of 1C
SD: Lake Blocks	5.2	0.2	Min: none Max: 50	47,600	• Development limited to satellite academic uses with low or infrequent use, and may include a Chancellor's residence and/or Conference Center • Located on the Lake Property along Wueste Road, just west of Lower Otay Lake
O-3: Pedestrian Walk	14.5	--	N/A	N/A	• Comprises a system of five pedestrian walkways throughout the Project site, including Hunte Walk, Transit Walk, Campus Walk, Center Walk, and Vista Walk Includes pedestrian and bicyclist amenities

Table 3-1 (cont.) OVERVIEW OF PROPOSED TRANSECTS, SPECIAL DISTRICTS, AND SECTORS

Transect/Sector	Acres	Maximum Floor Area Ratio (FAR)	Building Height Limits (feet)	Maximum Gross Square Footage (GSF)	Description
O-2: Common Open Space	39.5	--	N/A	15,000[3]	• Comprises a system of shared common open spaces for recreation and gathering throughout the Project site • Includes four pavilion features to provide shade and gathering opportunities, and (potentially) academic sports facilities
O-1: Open Space	41.1	--	N/A	N/A	• Includes non-developable areas that would be maintained as natural habitat • Located in two places, including in the northeastern corner of the Main Campus Property and in the Lake Property
Street Rights-of-Way	49.3	--	N/A	N/A	• Includes proposed Campus Boulevard North, Innovation Drive, and Campus Boulevard South • Includes extension of Eastlake Parkway, Discovery Falls Drive, and Orion Avenue • Includes other streets throughout the Project site
TOTAL	**383.8***			**10,066,200**	

*Totals may not match due to rounding.

[1] Exception: The signature tower in Block 6C would be between 200 and 250 feet in height.

[2] Development is encouraged to be focused in Transects T-2 through T-6; however, a maximum of 10 percent of the total developed gross square footage within the other transects may be permitted within Transect T-1 (subject to Design Review and approval by the City Council).

[3] Up to 15,000 gross square feet of development are permitted in the Common Open Space for pavilion features.

C. Transect T-4: Town Center

Transect T-4: Town Center is intended to serve as a transition and interface with the "Main Street" feel of the adjacent Village 9 Town Center, located to the west of Orion Avenue. The majority of this transect (Blocks 4A through 4H) is located between Orion Avenue and Eastlake Parkway (and adjacent to Village 9), three blocks (Block 4I through 4K) are located to the east of Eastlake Parkway and south of Innovation Drive and would be adjacent to common open space and open space areas. Buildings would be scaled to reflect a walkable, pedestrian-oriented setting with a high degree of building design, variation, and visual interest. Buildings would create a two- to three-story "Streetwall Frontage" along Orion Avenue. Similar to Transects T-6 and T-5, buildings in Transect T-4 would range between 42 and 92 feet in height. There would be no setbacks between buildings and streets. A Bus Rapid Transit (BRT) stop (or "Transit Hub") that would serve the Project site and nearby off-site residential and commercial areas would be located at the intersection of Campus Boulevard and Orion Avenue. Two pedestrian walkways (which are included in Sector O-3: Pedestrian Walk) are adjacent to Transect T-4 and include "Center Walk," a 100-foot-wide pedestrian and open space corridor spanning over four blocks, and "Transit Walk," a two-block, 50-foot-wide walkway centered at the planned BRT stop. Streetscapes would be multi-modal and comfortable for all users. Street trees would provide shade and street furniture would provide bicycle parking, seating, and gathering opportunities. Frontage along Campus Boulevard South would provide opportunities for active uses, plazas, and connections to Center Walk.

D. Transect T-3: Campus Commons

Transect T-3: Campus Commons is located in the eastern portion of the Main Campus Property to the east of Discovery Falls Drive. This transect includes four blocks situated around "Vista Walk," which is a pedestrian and recreational area included in Sector O-3: Pedestrian Walk. Transect T-3 also includes High Tech K-12 School and an area adjacent and east of the existing school. Buildings in this transect would be designed as "signature pieces" and integrated with sculptural outdoor spaces. Overall, development in this transect would be lower in density and scale (compared to the more central transects) to serve as a transition to the southern open space areas. The site begins to decrease in elevation gradually towards the south. Building heights would not exceed 50 feet. Building form and location would maintain viewsheds of the southern-facing views to the Preserve. Streetscapes in this transect would utilize orientation and landscaping to increase opportunities for views of the Preserve to the south.

E. Transect T-2: Campus Vista

Transect T-2: Campus Vista is located between Transects T-1 and T-3 in the eastern portion of the Main Campus Property. Transect T-2 comprises four areas, including two areas to the south of Campus Boulevard South and two areas to the east of Transect T-3. Vista Walk (which is included in Sector O-3: Pedestrian Walk) would continue through this transect from Transect T-3. Transect T-2 would provide a transition to naturalized open spaces and southern-facing views, which would be achieved by lower building densities compared to Transects T-3 through T-6, and by limiting buildings heights to 50 feet. Buildings would vary in size and shape with a distinctive stepping down toward the edges of this transect. Art and/or building pieces would be located in Vista Walk to contribute to the viewshed and provide locations from which to enjoy the nearby natural vistas.

Similar to Transect T-3, streetscapes in Transect T-2 would utilize orientation and landscaping to increase opportunities for views of the Preserve to the south. Thematic street trees and landscape would continue from Campus Boulevard North and Campus Boulevard South.

F. Transect T-1: Future Development

Transect T-1: Future Development is intended to allow limited development at low intensities within the Main Campus Property and to serve as the final transition between the built and natural environments. The maximum FAR and building height in this transect would be similar to Transect T-2; however, additional development restrictions would limit the buildout of this area based on the amount of development in Transects T-2 through T-6. Specifically, development may be permitted in Transect T-1 subject to the ability to make one of the following findings:

1. Development does not exceed 10 percent of the maximum development within Transects T-2 through T-6.

2. A minimum of 85 percent of the total allowed gross square footage has been developed in Transects T-2 through T-6.

In addition, to build within Transect T-1, findings must be made that development within Transect T-1 would be better utilized than would otherwise be achieved in Transects T-2 through T-6. Also, additional permit review would be required, including Design Review and City Council approval, prior to any development in Transect T-1. This transect generally comprises the southern edge of the Project site adjacent to the Preserve.

G. Special District (SD): Lake Blocks

The Lake Blocks Special District is located in the Lake Property adjacent to Lower Otay Lake, about 0.5 mile to the east of the Main Campus Property. Access to the Lake Blocks Special District would occur from Wueste Road and development within this area would be limited to satellite academic uses with low or infrequent use and may include a Chancellor's residence and/or Conference Center. Site development would be oriented toward Lower Otay Lake and/or surrounding open space views. Development footprints and impacts would be limited, and the maximum building height would be 50 feet in this special district.

H. Sector O-3: Pedestrian Walks

Sector O-3 includes a series of pedestrian walks within the UID SPA Plan to provide a system of public spaces comprised of squares, plazas, common open spaces, and natural landscapes that are interconnected by a network of complete streetscapes. Each of the pedestrian walks would include wide views to open landscape areas or views along key district corridors. The UID SPA would include five pedestrian walks, including Hunte Walk, Transit Walk, Campus Walk, Center Walk, and Vista Walk, which are each briefly described below.

Hunte Walk would be located adjacent to Transect T-6: District Gateway along the southern side of Main Street/Hunte Parkway between Discovery Falls Drive and Orion Avenue. Hunte Walk would provide an area for multi-modal activities (e.g., walking and bicycling) and would connect with the City's Regional Trail.

Transit Walk would be located near the southwestern corner of the Project site adjacent to Transit T-4: Town Center along the east side of Orion Avenue between Street E and Street H, and would provide enhanced pedestrian access to the planned BRT stop at the intersection of Campus Boulevard and Orion Avenue. Street trees would provide shade along Transit Walk and street furniture would provide bicycle parking, seating, and gathering opportunities.

Campus Walk would be located within Transect T-5: Urban Core along both sides of Campus Boulevard North between Eastlake Parkway and Discovery Falls Drive. Campus Walk would be approximately 200 feet wide and would include trees and lawns accented with celebratory banners and demonstration projects. Space within Campus Walk would be allocated for multi-modal facilities such as bike- and car-share areas and pedestrian resting spaces.

Center Walk would be located within Transect T-4: Town Center and a portion of T-5: Urban Core between (and parallel to) Eastlake Parkway and Orion Avenue. The termini of Center Walk would occur at Street I and Block O2A near the "signature tower" associated with Transect T-6: District Gateway. Center Walk would provide pedestrian access to buildings located along the walk.

Vista Walk would be located within portions of Transect T-3: Campus Commons and Transect T-2: Campus Vistas and would span the length of three blocks between Campus Boulevard North and a proposed open space area adjacent to Blocks 2C and 2D. Vista Walk would be between 160 and 220 feet in width and would include informal landscaping.

I. Sector O-2: Common Open Space

Sector O-2 includes several shared common open spaces throughout the Project site for enhanced pedestrian connectivity, gathering spaces, and active and passive recreational areas/amenities. The locations of the Sector O-2 areas would provide key common open space features that visually anchor the Project and allow visual access to dramatic viewsheds within the Project site. Common open spaces in Sector O-2 are divided into two types of distinct spaces, including social spaces and slopes, as described below.

Social spaces within Sector O-2 would include landscaping, hardscaping, design features, and pedestrian furniture. Each common open space would be uniquely designed to interact with the immediate built environment and provide pedestrian circulation through the space. Development in Sector O-2 would be limited to four pavilion features and (potentially) some academic sports facilities. Pavilion features would be constructed at key access points and would provide informal venues for community events and places to enjoy views. Each pavilion feature would be limited to 5,000 square feet in area and be individually designed and scaled to fit its unique location. Academic sports facilities to support academic uses may be developed in any Sector O-2 area (or may be developed in a transect as part of the academic campus). Sports facilities may include sports and fitness centers and/or a stadium.

Slopes within Sector O-2 are located in natural terrain areas that slope down toward the Preserve. The exact locations and designs of these slopes would be determined on future TM(s), master precise plan(s), and/or final maps. These areas include naturalized landscape, storm water management, and vista points that are aligned with the natural topography of the Project site. Slope areas may include informal landscaping designed to stabilize slopes and minimize erosion, as well

as trails and supporting amenities (e.g., benches and signage). No structures other than walls and fences would be permitted in slope areas, and heights of walls and fences would be minimized to the extent possible. Turf would not be permitted in the slope areas.

J. Sector O-1: Open Space

Sector O-1: Open Space is intended to protect existing natural habitat; therefore, access and development in Sector O-1 would be prohibited, with the exception of limited grading and planting (if necessary). Sector O-1 areas are located within the Lake Property and the northeastern corner of the Main Campus Property. Noise and lighting restrictions would be implemented in adjacent and nearby areas to reduce and/or avoid impacts to wildlife within Sector O-1 and the Preserve.

K. Preserve Edge

A 100-foot-wide "Preserve Edge" would provide a buffer zone between the Preserve and proposed development along the eastern boundary of the Main Campus Property, and the western and northern boundaries of the Lake Property. The Preserve Edge would help protect the Preserve from direct and indirect impacts associated with human activity. No development is proposed in the Preserve Edge, with the exception of sewer facilities, storm drain systems, utility access roads, and a rural trail.

L. Special District (SD): Flex Overlay

The Flex Overlay Special District is intended to support Villages 9 and 10, and would serve as a transition area between the university-focused UID and the mixed-use development in Villages 9 and 10. Flexibility and coordination of the development within the Flex Overlay would help foster a seamless relationship between the Project and Villages 9 and 10. Project development within the Flex Overlay would be required to be consistent with for the design guidelines/standards for Villages 9 and 10. Development within Transect T-1 should first occur within the portions of Transect T-1 with the Flex Overlay prior to development within the remaining portions of Transect T-1.

3.3.2 Off-Site Improvements

Proposed off-site utility improvements are shown on Figure 3-2 and include drainage improvements (including a detention basin) to the south of the Main Campus Property for storm water conveyance, and sewer improvements to serve the Lake Property. For the Main Campus Property, off-site drainage would be conveyed within pipelines that would follow an existing trail easement to the south of the Project site. For the Lake Property, off-site improvements would be necessary for the proposed sewer system to be located within existing access roads and would connect to the Salt Creek Interceptor between the Lake Property and Main Campus Property. Also, the proposed Project would include a rural trail along an existing 8-foot-wide dirt road within the Preserve as a link between the trails within the UID, Village 10, and the Salt Creek Sewer Interceptor/Greenbelt Trail; the construction of this trail would be consistent with the Chula Vista Multiple Species Conservation Program (MSCP) Subarea Plan (a comprehensive, long-term habitat conservation plan that addresses the needs of multiple sensitive plant and animal species and the preservation of natural vegetation communities in southern San Diego County). The

proposed rural trail would be located just south of the Project site and is shown as a yellow line on Figure 3-4, *Pedestrian and Bicycle Circulation Plan*.

3.3.3 Mobility

The UID circulation system would provide a system of roadway and trail corridors to support both vehicular and non-vehicular modes of transportation. This system includes the extension of existing and planned roads, trails, and transit from adjacent villages, internal systems to serve the Project site, and a connection to the greenbelt system. Streets in the Project site have been designed as "complete" streets, considering all modes of transportation by providing vehicular travel lanes, bike lanes or bike routes, sidewalks, and transit lanes, where appropriate.

A. Existing Site Access

Regional vehicular access to the Project site is currently provided from SR-125 via Olympic Parkway to Eastlake Parkway. Eastlake Parkway currently terminates at its intersection with Hunte Parkway, which is located at the gateway of the UID. Hunte Parkway is planned to extend westerly through Village 9 as Main Street, and a new access ramp would connect Hunte Parkway/Main Street to SR-125, providing direct access to the Project site. A future access ramp would connect the future Otay Valley Road to SR-125, providing secondary access from the south. Existing public transportation is currently provided by Chula Vista Transit, a part of Metropolitan Transit System (MTS). Routes 709 and 712 serve the Otay Ranch area; however, neither route currently extends service to the Project site. The nearest bus stop is located over one mile away, north of Hunte Parkway at the intersection of Olympic Parkway and Eastlake Parkway; however, transit stops are planned along Hunte Parkway/Main Street as part of the Village 9 development.

B. Proposed Vehicular Circulation Network

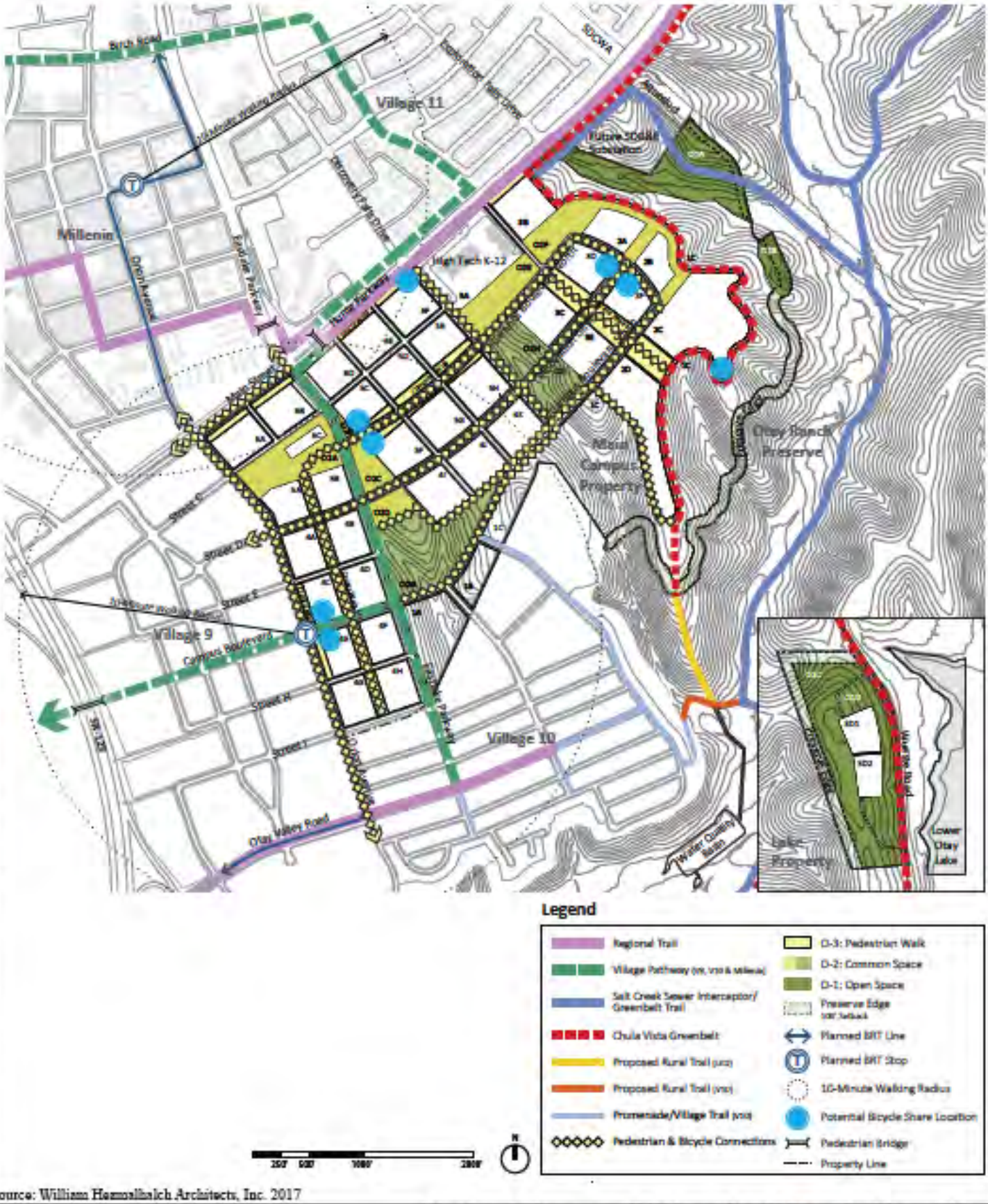
Roadway System

The proposed circulation system would organize traffic into roadway classifications consistent with the Otay Ranch GDP. Project roadways would form a modified grid street pattern that promotes walkability and supports urban development. This modified grid pattern gives way to a more irregular street pattern near the eastern edge of the SPA, providing a transition to the natural open space areas in the south, and responding to the topography of this portion of the site. The proposed roadway circulation system is shown on Figure 3-5, *Vehicular Circulation Plan*, and shown in Table 3-2, *Project Roadway Characteristics*. Roads within the Project site that are identified in the Circulation Element of the Chula Vista General Plan include Otay Valley Road and Hunte Parkway/Main Street.

Hunte Parkway/Main Street and Eastlake Parkway would serve as the primary entrances to the Project and adjoining villages by providing access from SR-125 via two future freeway access ramps. Main Street would be a six-lane gateway road that would connect SR-125 and Village 8 East to existing Hunte Parkway. An access and parking plan is provided as Figure 3-6, *Access and Parking Plan*.

A series of roadways would serve as primary connections within and throughout the Main Campus Property and would provide connections with surrounding villages and developed areas (e.g., Villages 9, 10, and 11 and the Millenia development). The layout of these streets is shown on Figure 3-5.

Hunte Parkway becomes Main Street to the west of Eastlake Parkway, and provides a direct connection to SR-125 to the west. Eastlake Parkway, Discovery Falls Drive, and Orion Avenue are the primary north-south streets within the Project site. Orion Avenue, which extends from the northern boundary of the Project site to Otay Valley Road and separates the Project site from Village 9, would include transit service at its intersection with Campus Boulevard. Orion Avenue would include two center lanes (one in each direction) dedicated for buses only. Campus Boulevard North, Innovation Drive, and Campus Boulevard South would provide primary east-west connections through the Project site and to Village 9. There are several other public streets proposed within the Main Campus Property that were designed to maximize connectivity within the Project site and promote walkability. The exact alignment of these streets would be determined at the TM level and built as needed by individual projects.



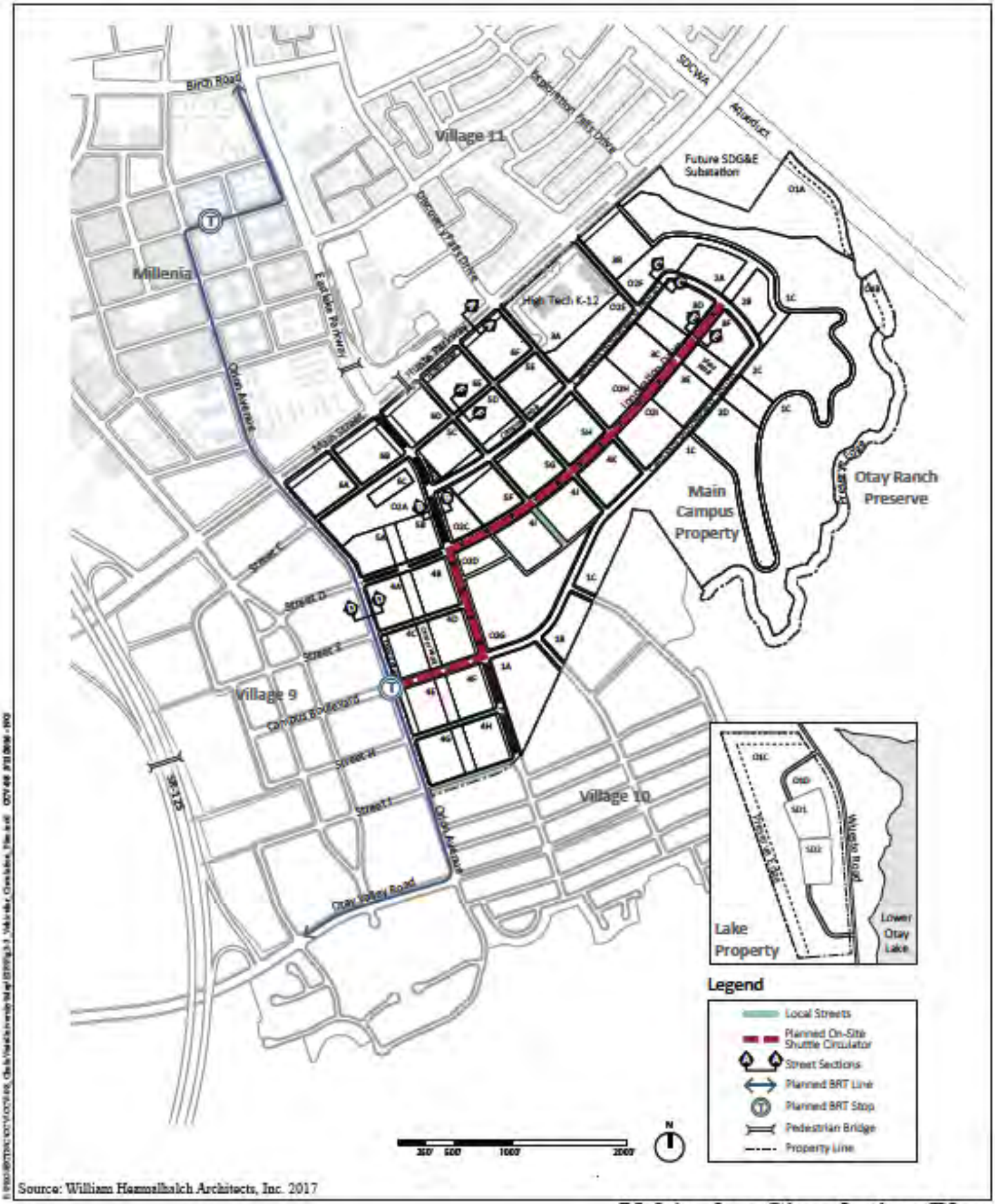
Source: William Hezmalhalch Architects, Inc. 2017

Pedestrian and Bicycle Circulation Plan

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Figure 3-4



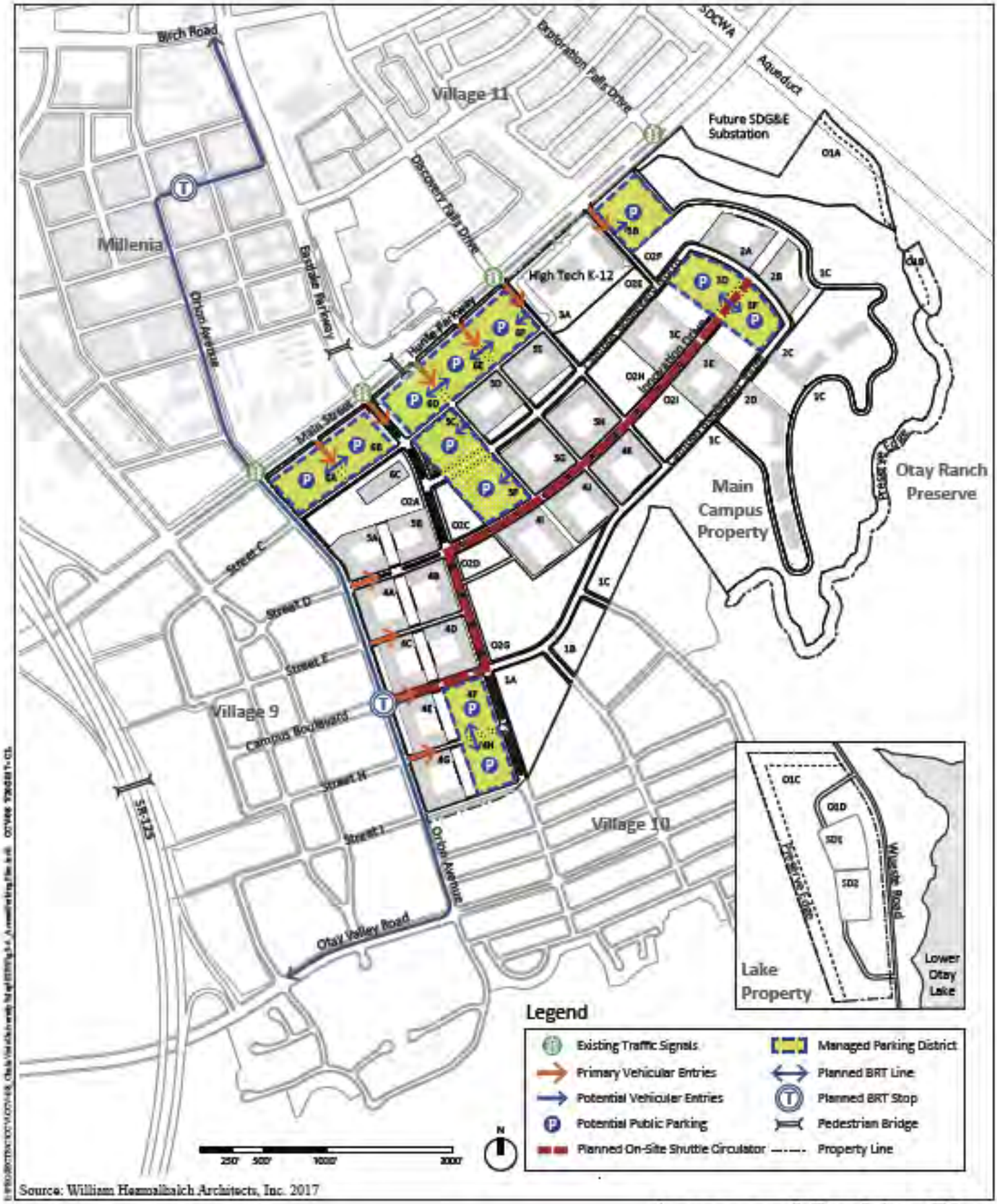
Source: William Hezmalhalch Architects, Inc. 2017

Vehicular Circulation Plan

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Figure 3-5



Source: William Hezmalhalch Architects, Inc. 2017

Access and Parking Plan

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Figure 3-6

Table 3-2 PROJECT ROADWAY CHARACTERISTICS

Roadway Name	Classification	Widths (in feet)				Number of Lanes	Parking	Bicycle Facilities	Pedestrian Facilities	Transit Facilities
		Right-of-Way	Curb-to-Curb	Median	Planting Strip					
Hunte Parkway	6-lane Major	128	100	16-24	Up to 8 (varies; both sides)	6 (3 in each direction)	Emergency only	Class IV; 7-foot-wide bikeways with 3-foot-wide buffers (1 in each direction)	10-foot-wide sidewalks (both sides)	None
Eastlake Parkway	Village Entry Street	120	60	20	12 (both sides)	2 (1 in each direction)	None	Class IV 6-foot-wide bikeways with 3-foot-wide buffers (1 in each direction)	10-foot-wide sidewalks (both sides)	None
Campus Boulevard North	Town Center Street	94	58	None	8 (both sides)	2 (1 in each direction)	Parallel (both sides)	Class IV 7-foot-wide bikeways with 3-foot-wide buffers (1 in each direction)	10-foot-wide sidewalks (both sides)	None
Campus Boulevard South	Town Center Street	94	58	None	8 (both sides)	2 (1 in each direction)	Parallel (both sides)	Class IV 7-foot-wide bikeways with 3-foot-wide buffers (1 in each direction)	10-foot-wide sidewalks (both sides)	None
Orion Avenue	Town Center Street	108	78	None	6 (both sides)	2 (1 in each direction)	None	Class IV 6-foot-wide bikeways with 3-foot-wide buffers (1 in each direction)	9-foot-wide sidewalks (both sides)	11-foot-wide transit lanes (1 in each direction in center of roadway)

Table 3-2 (cont.) PROJECT ROADWAY CHARACTERISTICS

Roadway Name	Classification	Widths (in feet)				Number of Lanes	Parking	Bicycle Facilities	Pedestrian Facilities	Transit Facilities
		Right-of-Way	Curb-to-Curb	Median	Planting Strip					
Innovation Drive	Town Center Street	110	82	24	None, but may have tree grates or cutouts for trees and as needed to meet water quality standards	2 (1 in each direction)	Parallel (both sides)	Class IV 7-foot-wide bikeways with 3-foot-wide buffers (1 in each direction)	14-foot-wide sidewalks (both sides)	High-Frequency Local Bus (Campus Shuttle)
Local Streets	Local Street	56	36	None	8 (both sides)	2 (1 in each direction)	Parallel (both sides)	Shared with vehicles	Sidewalks (both sides)	None

Traffic Calming Measures

Traffic calming measures promote pedestrian and bicycle safety, as well as vehicle safety, by controlling the speed and distribution of vehicles traveling through the Project site. Specific traffic calming measures included as part of the Project design include narrow, multi-modal streets, multiple connections, and on-street parking.

Alternative Transportation Network

The following section describes the major alternative mode circulation systems in the Project site for bicycles, pedestrians, public transit, and low-speed vehicles.

C. Bicycle Circulation

The Project area and surrounding development include a series of existing and planned bicycle pathways and facilities. The Project would include additional improvements that would integrate the Project site with adjacent local and regional bicycle facilities. Specifically, the Project would include a series of shared vehicle/bicycle lanes, as well as dedicated bicycle lanes within the Project site. Project improvements would also include construction of part of the Village Pathway that connects to Villages 9 and 10 and the Millenia development, and a rural trail south of the Project site that connects the Main Campus Property to the water quality detention basin to the south of Village 10. Existing, planned, and proposed bicycle circulation features are shown on Figure 3-4, which depicts internal bicycle amenities, as well as planned connections to regional and neighboring bicycle facilities.

On-street shared vehicle/bicycle lanes would be provided internally along Discovery Falls Drive, between Campus Boulevard and Hunte Parkway. Dedicated bike lanes would be included along Campus Boulevard North, Innovation Drive, Campus Boulevard South, and Main Street/Hunte Parkway to minimize conflicts with pedestrians and motorists. Lastly, several bicycle paths would be included along Campus Boulevard North, Eastlake Parkway, Campus Boulevard South, and several other streets. For those local streets that would include a shared vehicle/bicycle lane, the traffic volumes and vehicular speeds on these streets would be low enough to accommodate bicyclists as well as vehicles.

A Village Pathway is currently planned to connect several villages in the Project area, including Village 8 East, Village 9, Village 10, Village 11, the Millenia development, and the Project site. As shown on Figure 3-4, the Village Pathway is planned to cross SR-125 at Campus Boulevard, continue east through the Project site near Campus Boulevard, head north along Eastlake Parkway, and cross Hunte Parkway with a pedestrian bridge. The planned Village Pathway would then continue east and northward through Village 11 (and westward near Birch Road). The Village Pathway in Otay Ranch is intended to provide an off-street, interconnected multi-use trail that allows bicyclists and pedestrians to travel between village cores and Town Centers. The Village Pathway would consist of 10-foot-wide paved trails and would ultimately connect to a planned pedestrian bridge over SR-125 to facilitate bicycle travel between Village 9, Village 8 East, and the Project site; however, this pedestrian bridge is not within the Project site and was previously evaluated as part of the EIR for Village 9 (EIR 10-04; SCH# 2010061090). The bridge would be 15 feet wide to accommodate separate bicycle and pedestrian facilities.

A regional trail connection is planned at the south side of Otay Valley Road that would connect to two proposed dedicated bicycle lanes along Orion Avenue and Eastlake Parkway. This trail would connect with a Promenade/Village Trail as part of the development in Village 10 (south of the Project site) that would terminate at Campus Boulevard South within the Project site. The UID SPA Plan also designates the extension of a proposed rural trail to the south of the Project site, which would connect to a proposed rural trail included as part of the Village 10 development. The rural trail included as part of Village 10 is planned to also connect to the Greenbelt Trail. Greenbelt trails would conform to the Chula Vista Greenbelt Master Plan. Some park pathways would be designed to accommodate bicyclists, subject to City approval. The alignment of these Class I pathways would be determined by individual park site master plans.

D. Pedestrian Circulation Network

The pedestrian circulation network includes an interconnected system of sidewalks, the Village Pathway and Greenbelt Trail described above, connections to pedestrian bridges, and other trails. The proposed pedestrian circulation is shown on Figure 3-4. Areas are designated to serve as pedestrian walkways throughout the Project site, in addition to pedestrian connections. The Village Pathway described above for bicycle circulation would also permit pedestrian usage and would connect the Project with Village 11 and Millenia to the north, Village 10 to the south, and Village 9 to the west. Proposed pedestrian trails in Village 10, including the proposed rural trail and proposed Promenade/Village Trail would connect with the proposed rural trail included as part of the proposed Project.

E. Transit Network

The Project would accommodate the future extension of transit service into the Project site. Transit service would consist of a bus system that would provide local connections between residential, employment, and major activity centers within the UID and the remainder of Otay Ranch, as well as regional connections. The proposed South Bay BRT Line would traverse the Project site along Orion Avenue and would provide a regional transit connection to surrounding cities and to the Mexico-United States border. The types of bus service that would be available are described in greater detail in Section 5.3, *Transportation/Traffic*. Figure 3-4 identifies the anticipated transit stops and transit routes within the Project site. The final route, type of service, and timing of service would ultimately be determined by the transit agency.

F. Low-Speed Vehicles Circulation Network

Low-speed vehicles, which are small electric vehicles with a low maximum speed, provide an alternative vehicular mode of transport, designed for use during shorter trips. Low-speed vehicles would be permitted on all streets with a posted speed limit of 35 miles per hour or less, as well as potentially on the Village Pathway. The circulation system has been designed to provide an internally connected system of low speed streets that allow low-speed vehicles to travel between various destinations within the Project site. Low-speed vehicles would not be permitted on sidewalks or trails.

3.3.4 Water Supply

A. Potable Water Demand

The UID is located within the boundaries of Otay Water District (OWD), which is the local agency responsible for providing water service. OWD is a member agency of the San Diego County Water Authority which, in turn, is a member agency of The Metropolitan Water District of Southern California. The Project site would be required to annex into an OWD Improvement District prior to receiving service.

Domestic water demand for the Project is estimated to be 840,688 gallons per day (gpd) or about 941.7 acre-feet per year (AFY). OWD would require a water subarea master plan (SAMP) prior to the approval of final engineering improvement plans for the Project to establish final water demands, Project phasing, recycled water requirements, processing, and facility requirements for the Project. A water supply assessment and verification report (WSAV) was adopted by OWD in October 2016 for the Project that assures sufficient supplies are planned to be available as demand is generated by the Project. Figure 3-7, *Conceptual Potable Water Plan*, depicts the proposed distribution system required to meet demands within the Project site and the relocated City of San Diego water transmission pipelines.

B. Recycled Water System

Current OWD policies regarding new subdivision development require the use of recycled water where available. Consistent with the Otay Ranch GDP, recycled water would be used to irrigate street landscaping, parks, manufactured slopes, and landscaped areas of commercial and multi-family residential sites. The use of recycled water directly offsets potable water use, making it an important component in meeting water supply challenges in the region. The estimated average recycled water demand for the Project site is projected to be 159,255 gpd (or 178 AFY) at full buildout.

The primary source of recycled water to the Project site would be the South Bay Water Reclamation Facility. From this plant, the recycled water system consists of a series of pump stations, transmission piping, and storage reservoirs that provide recycled water to the area. Recycled water would be provided via an existing line located in Eastlake Parkway. The plan to distribute recycled water within the Project site is depicted in Figure 3-8, *Conceptual Recycled Water Plan*.

3.3.5 Sewer Service

Sewer service to the Project site would be provided by the City, which operates and maintains its own sanitary sewer collection system that connects to the San Diego Metropolitan Sewerage System. Wastewater from the Project would flow to the Salt Creek sewer basin. The Chula Vista Subdivision Manual establishes sewage generation factors based on population multipliers used to project sewage flows. Based on the maximum development that would be allowed in the UID, at buildout, the Project peak daily flow into the Salt Creek sewer basin would be approximately 1.074 mgd, including 1.056 mgd from the Main Campus Property and 0.018 mgd from the Lake Property.

The Project site is located within the Salt Creek sewer basin. There are no existing sewer facilities within the Project site, except that High Tech K-12 School connects into the Hunte Parkway sewer system, which flows easterly in Hunte Parkway. Currently, Villages 9 and 10 are not constructed; however, they are anticipated to be completed before the Project. If the Project is developed before Villages 9 and 10, an additional 2,200 linear feet of 12- and 15-inch-diameter sewer mainline would need to be constructed to connect into the Salt Creek interceptor sewer. Refer to Figure 3-9a, *Conceptual Sewer Plan Main for the Campus Property*, and Figure 3-9b, *Conceptual Sewer Plan for the Lake Property*, for the location of the existing and proposed sewer facilities.

3.3.6 Storm Water Drainage System

Drainage from the Project would be conveyed to 10 major drainage basins, including Basins 100, 200, 300, 400, 500, 600, and 700, which all eventually flow to the Otay River, and Basins 1000, 1100, and 1200, which would be retained on site. The proposed storm drain outlet location would incorporate full energy dissipation measures to ensure that the potential for erosion in the Otay River Channel would be minimized. The proposed drainage system is shown on Figure 3-10a, *Conceptual Drainage Plan for the Main Campus Property*, and Figure 3-10b, *Conceptual Drainage Plan for the Lake Property*.

Bio-retention best management practices (BMPs) are proposed to treat urban runoff pollutants generated via the proposed roadways and sidewalks. To ensure that all runoff contained within the storm drain systems are treated prior to entering the storm drains, these BMPs would be located throughout the Project site at the proposed storm drain inlet locations. Low Impact Development (LID) practices would also be incorporated within the roadway and sidewalk design in accordance with state and local requirements. The proposed drainage facilities and BMPs for the Project are described in greater detail in Section 5.11, *Hydrology and Water Quality*.

3.3.7 Schools

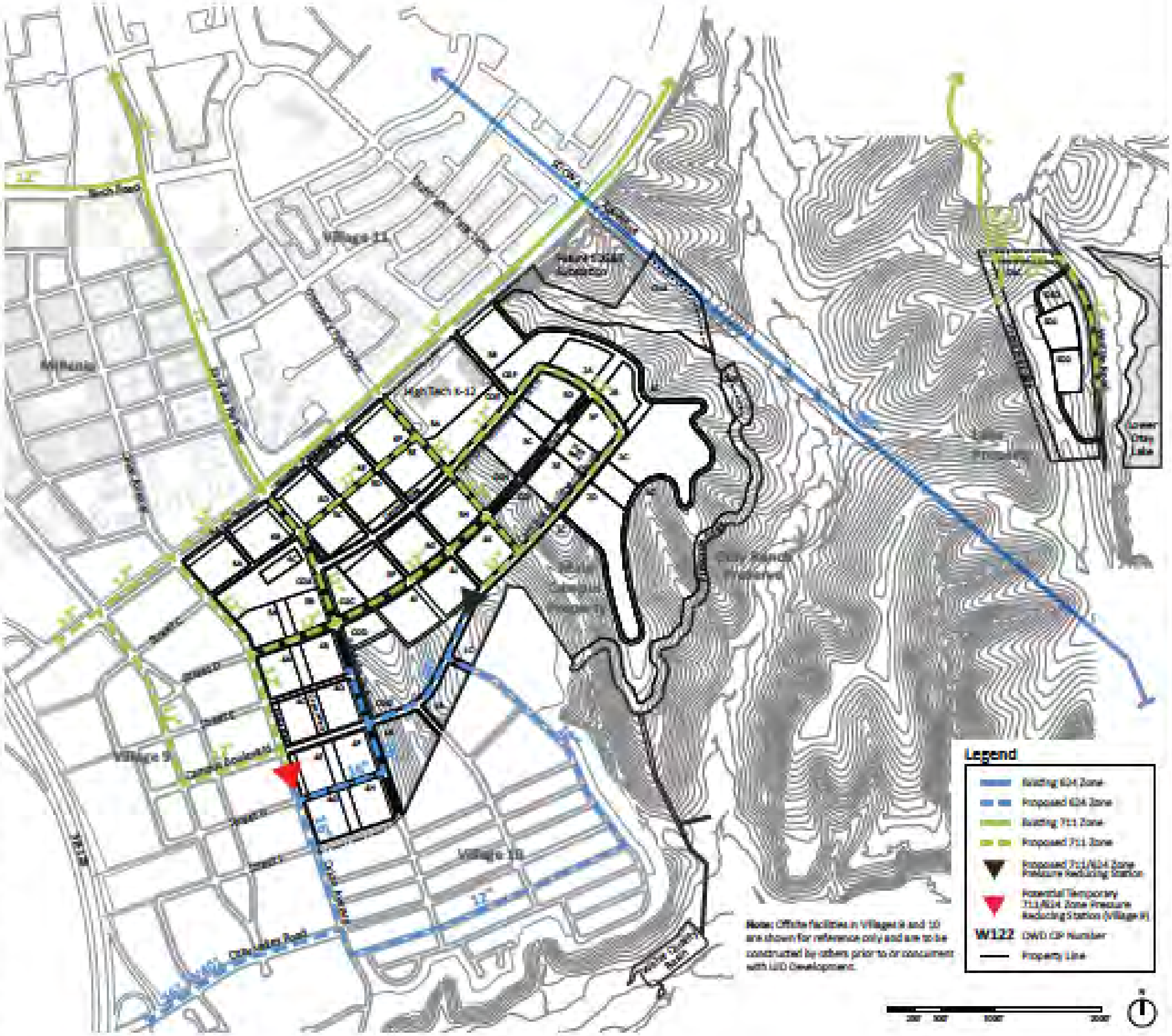
No primary or secondary schools would be included in the UID besides the existing High Tech K-12 School, which would remain in operation along Hunte Parkway in the northern-central portion of the Main Campus Property.

3.3.8 Police Protection

The Chula Vista Police Department would provide law enforcement services to the Project site from its existing police facility in downtown Chula Vista. The Project would increase the demand for police services as discussed in Section 5.9, *Public Services*.

3.3.9 Fire Protection

Fire protection services are provided by the City of Chula Vista Fire Department (CVFD). Fire Station #7 is located in Village 2. Pursuant to the draft Chula Vista Fire Master Plan, approved by the Chula Vista City Council on January 28, 2014, an additional fire station is planned within the Village 8 West Town Center. In addition, a new fire station is approved within the Millenia development, which is located northwest of the Project site and would be the nearest fire station to the Project site. The demand for fire protection equipment and facilities to serve the SPA Plan



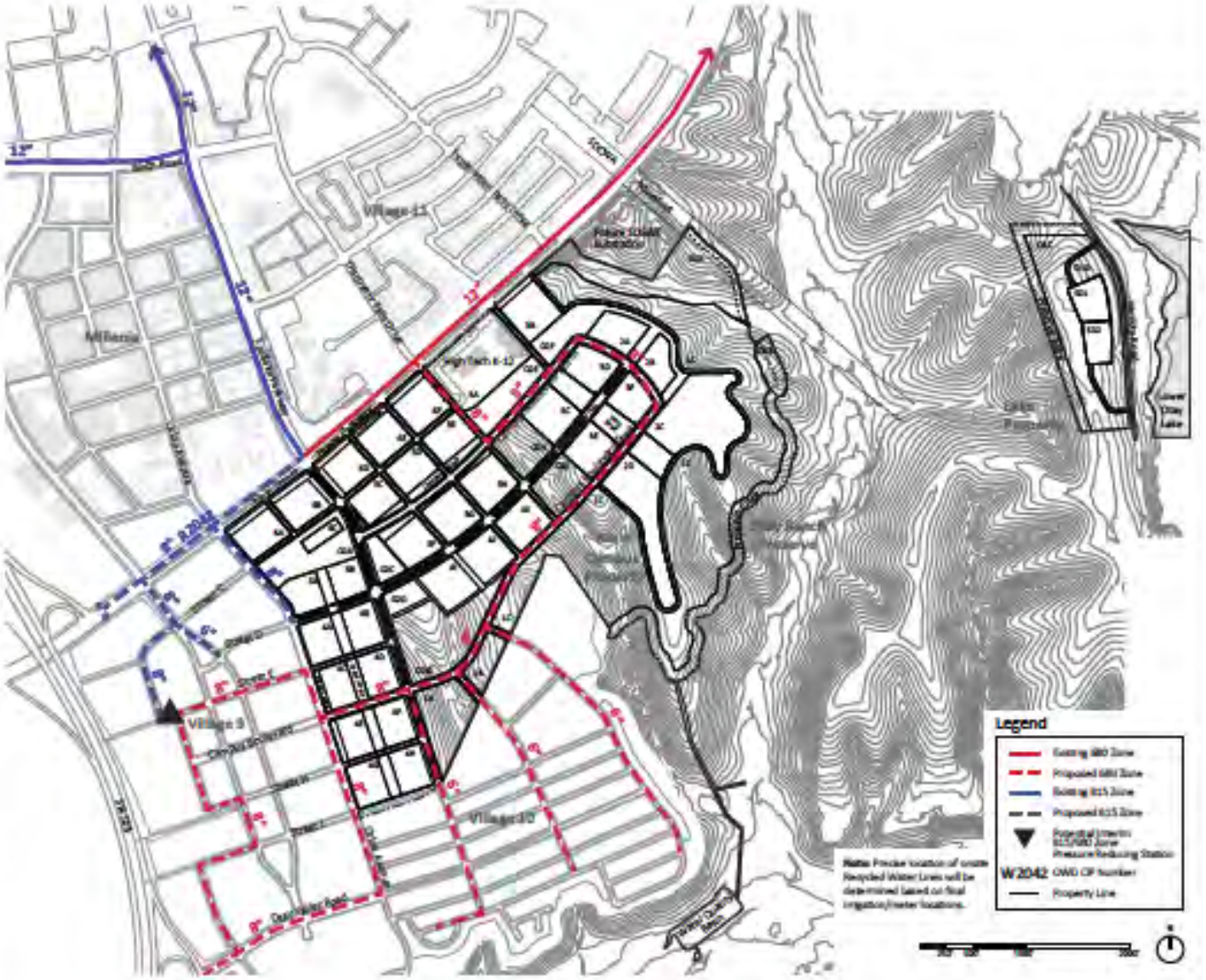
Source: William Hezmalhalch Architects, Inc. 2017

Conceptual Potable Water Plan

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Figure 3-7

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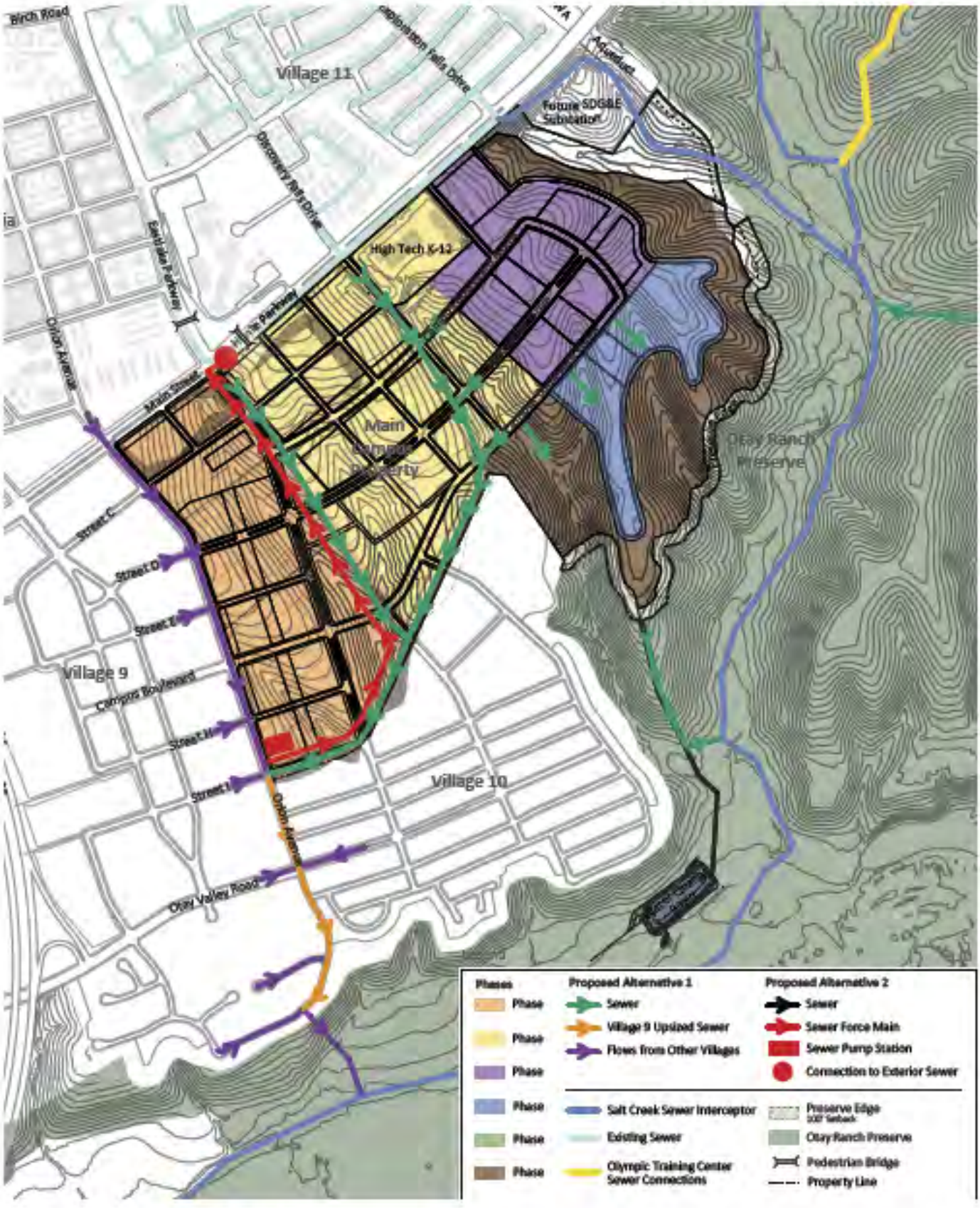
Source: William Hezmalhalch Architects, Inc. 2017

Conceptual Recycled Water Plan

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Figure 3-8



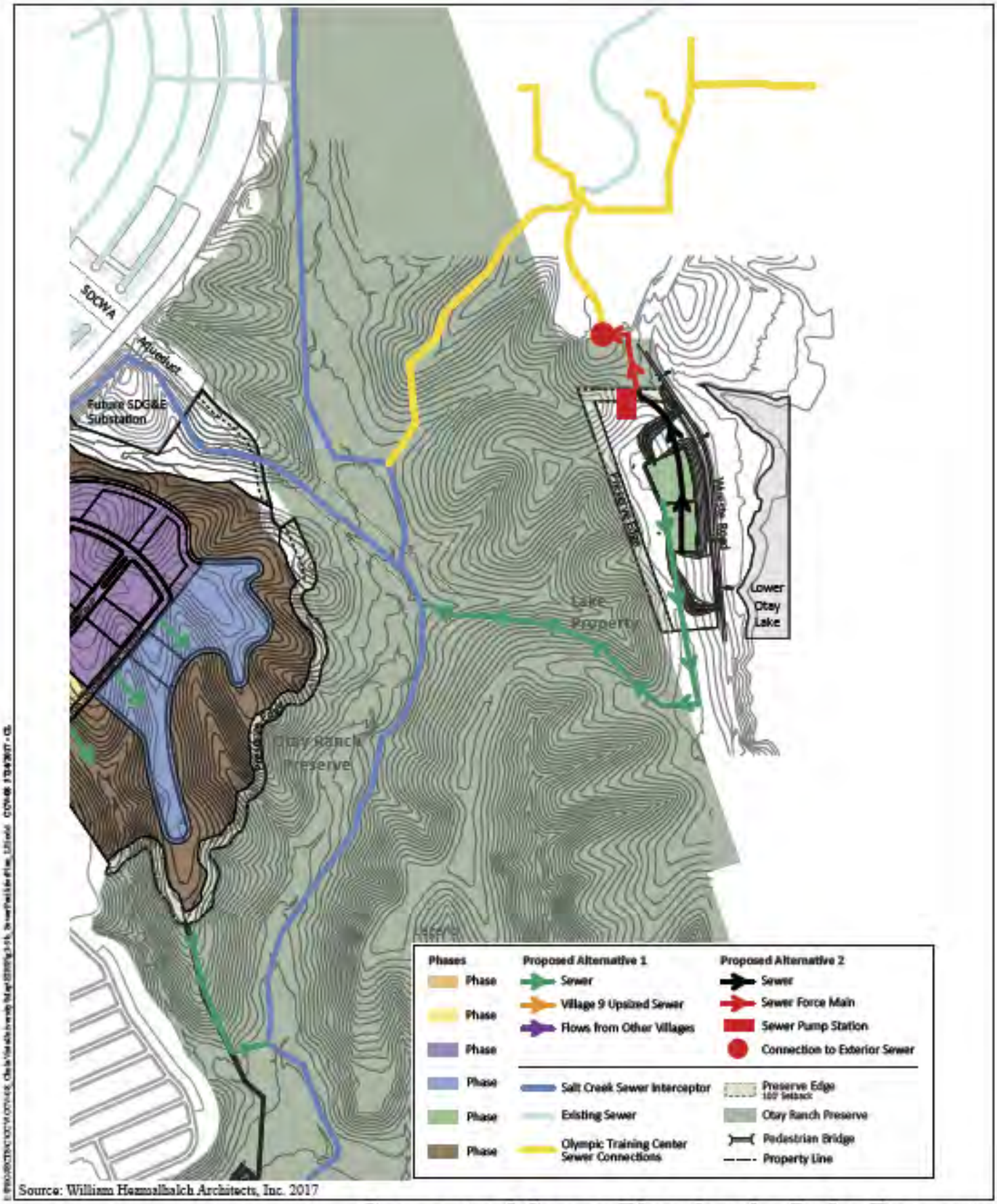
Source: William Hezmalhalch Architects, Inc. 2017

Conceptual Sewer Plan for the Main Campus Property

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Figure 3-9a



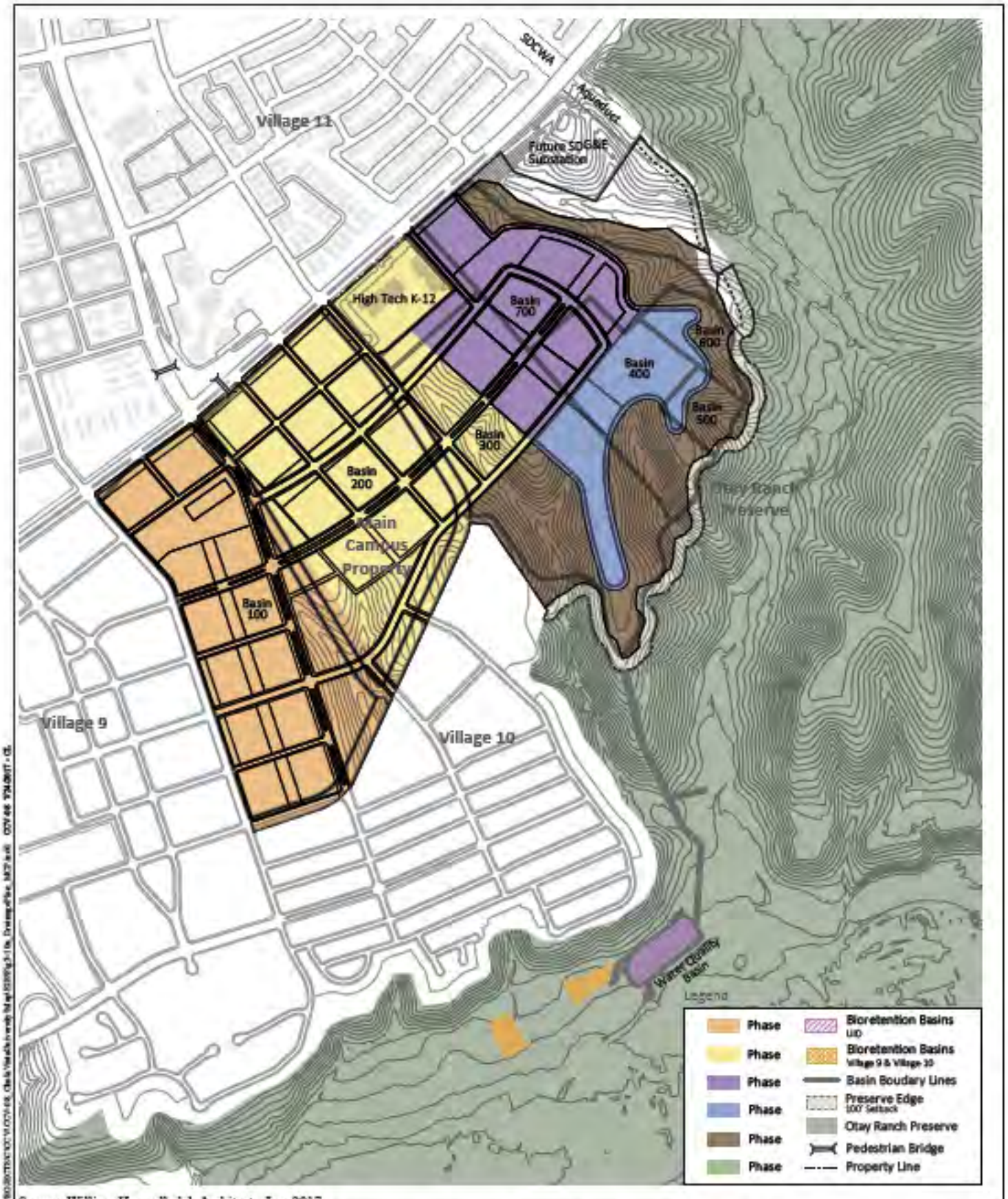
Source: William Hezmalhalch Architects, Inc. 2017

Conceptual Sewer Plan for the Lake Property

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Figure 3-9b



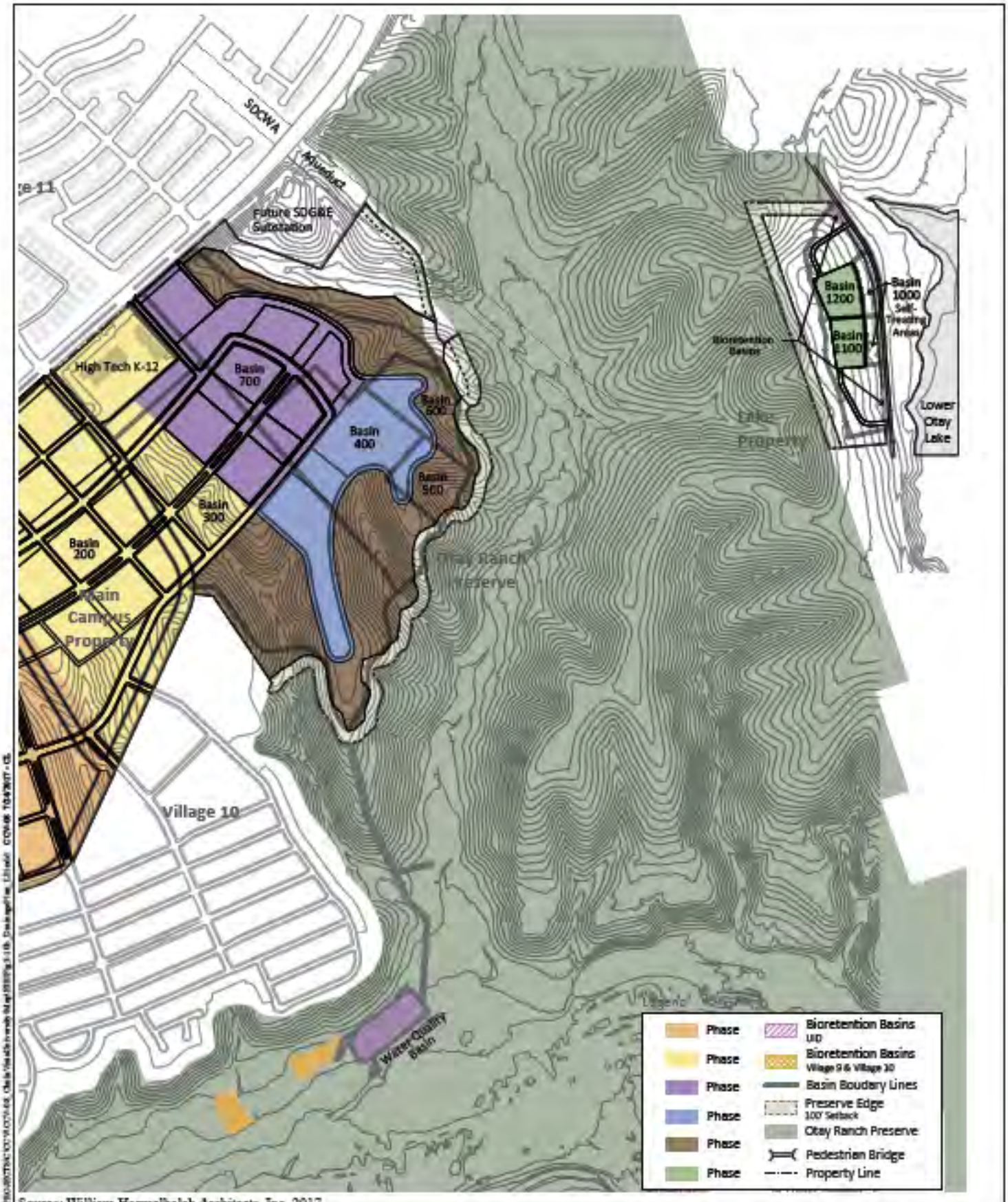
Source: William Hezmalhalch Architects, Inc. 2017

Conceptual Drainage Plan for the Main Campus Property

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Figure 3-10a



Source: William Hezmalhalch Architects, Inc. 2017

Conceptual Drainage Plan for the Lake Property

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Figure 3-10b

area is described in the Public Facilities Finance Plan (PFFP), which is included as part of the SPA Plan. The Project must comply with the 2014 Chula Vista Fire Facility Master Plan, as adopted.

The Otay Ranch GDP requires that the CVFD review fuel modification plans as a condition of SPA plan approval. The Fire Protection Plan (FPP) for the Project was developed with direction from the CVFD. The UID FPP provides for fuel modification zones adjacent to natural open spaces. CVFD-approved architectural measures, such as boxed eaves, exterior sprinkler systems, and solid block wall fencing may also be used for fire protection in certain circumstances. The fuel modification and fire protection strategies are described in further detail in the Project FPP, which is a component of the SPA Plan.

3.3.10 Emergency Medical Services

American Medical Response provides contract emergency medical services for Chula Vista, National City, and Imperial Beach. There are five American Medical Response South County paramedic units; two are located in Chula Vista, two in National City, and one in Imperial Beach. The Project site would be served through a contract arrangement between the City and American Medical Response.

3.3.11 Library

Library services are provided by the City as described by the City Library Master Plan. The nearest library to the Project site is located in the Otay Ranch Town Center, approximately one mile northwest of the Project site. The recently approved Library Master Plan also identifies a new library in the Millenia development. Libraries are a permitted use throughout Transects T-2 through T-6, pursuant to the City's Library Master Plan.

3.3.12 Other Services

A. Solid Waste Management

Solid waste management services for the Project would be provided by Allied Waste Management. Solid waste would be collected curb-side once a week and transported to the Otay Landfill located in Chula Vista. Allied Waste Management also provides a comprehensive recycling program with the City for residential, commercial, and industrial generators.

B. Electricity, Gas, Telephone, and Cable

Electricity, gas, telephone, and cable would be extended to the Project site in accordance with provisions of the applicable service providers.

3.3.13 SPA Elements

The Otay Ranch GDP requires the following elements be included in all SPA Plans.

A. Air Quality Improvement Plan

An Air Quality Improvement Plan (AQIP) has been prepared in conjunction with the UID SPA Plan in accordance with the Chula Vista Growth Management Ordinance (GMO), Municipal Code Section 19.09.050B. The AQIP includes several design features into the site design that promote alternative transportation use, reduce traffic congestion, encourage energy efficient, and reduce area source pollutants. Specifically, these include the following:

- Vehicle Miles Traveled Reduction Features. The UID would be built in such a way as to include several features that work to minimize vehicle miles traveled (VMT). These include the following measures as described in the California Air Pollution Control Officers Association (CAPCOA) *Quantifying Greenhouse Gas Mitigation Measures*:

    - ***LUT-1 Increase Density*** – The UID results in increased employment density (14,000 jobs on a 383-acre site results in 36.55 jobs per acre). Increased densities affect the distance people travel and provide greater options for the mode of travel they choose. The percent increase in employment is based on a 20 jobs per acre baseline.

    - ***LUT-3 Increase Diversity*** – The UID includes multiple land use types. Having different types of land uses near one another can decrease VMT since trips between land use types are shorter and may be accommodated by non-auto modes of transport.

    - ***LUT-5 Increase Transit Accessibility*** – Locating a project with high density near transit will facilitate the use of transit by people traveling to or from the project. The use of transit results in a mode shift and therefore reduced VMT.

    - ***LUT-9 Improve Walkability Design***– The Project will include improved design elements to enhance walkability and connectivity.

    - ***SDT-1 Improve Pedestrian Network*** – Providing a pedestrian access network to link areas of a project site encourages people to walk instead of drive. This mode shift results in people driving less and thus a reduction in VMT.

- Energy Efficiencies. The Project would be constructed as a zero net energy facility, incorporating sustainable design and energy reduction measures (such as photovoltaic panels) to offset the UID's annual energy use.

- Water Conservation. The Project would utilize reclaimed water for outdoor landscaped areas.

- Area Source Reductions. The Project would not install any new wood burning fireplaces.

B. Agriculture Plan

Agricultural uses would not be permitted within the Project as a permanent use; however, prior to buildout of the Project, interim uses would be permitted pursuant to the CVMC (specifically Chapter 17.30, *Otay Ranch Grazing Ordinance*, and Chapter 19.20, *Agricultural Zone*) and the Chula Vista MSCP Subarea Plan. An Agricultural Plan has been prepared in conjunction with the UID SPA Plan and is discussed in Section 5.12, *Agricultural Resources*.

C. Non-Renewable Energy Conservation Plan

A Non-Renewable Energy Conservation Plan identifies feasible methods to reduce the consumption of non-renewable energy resources. The goals, objectives, and policies of the GDP require that any new projects identify a plan that assists in a long-range strategy that would increase conservation of and decrease the consumption of non-renewable energy resources. The three main categories identified in the UID SPA Plan where reductions in energy occur are land use and community design, building siting/construction techniques, and transit facilities/alternative transportation modes. The Non-Renewable Energy Conservation Plan is described in detail in Section 5.10, *Global Climate Change.*

D. Preserve Edge Plan

The Preserve Edge Plan identifies allowable uses for areas adjacent to the Otay Ranch Preserve, in accordance with Policy 7.2 of the Otay Ranch Resource Management Plan (RMP). The Preserve is located to the south of the Project site. The Preserve Edge Plan area includes a 100-foot-wide strip of land adjacent to the Preserve. As described in the UID SPA Plan, no structures other than fencing and walls would be constructed within the 100-foot-wide Preserve Edge. Fencing and walls would be designed to minimize visual impacts to the Preserve and Otay Valley Regional Park. The Preserve Edge Plan lists the Chula Vista MSCP Subarea Plan policies related to land use adjacency and describes how the UID SPA Plan would be consistent with each policy.

E. Fire Protection Plan

The purpose of an FPP is to address fire safety and compliance with applicable codes, ordinances, and regulations relative to development adjacent to native vegetation. Topics addressed in the FPP include, but are not limited to, the urban-wildland interface, emergency service access, water supply and fire flow, fire history, risk for wildland fire analysis, fire resistive construction, fuel management, and fire protection planning. The FPP was prepared alongside the Preserve Edge Plan when identifying fire protection measures such as fuel modification zones, architectural controls, and appropriate landscaping within fuel modification zones that are located within 100 feet of a Preserve boundary. The Fuel Modification Plan included in the FPP is shown in Figure 3-11a, *Fuel Modification Plan for the Main Campus Property*, and Figure 3-11b, *Fuel Modification Plan for the Lake Property*.

F. Water Conservation Plan

The UID Water Conservation Plan (WCP) includes water conservation measures that are incorporated into the planning and design of the Project, including the requirements outlined in the Chula Vista Landscape Water Conservation Ordinance. The focus of the WCP is on additional

water conservation measures that are not mandated by state or local regulations. The identified water conservation measures include installation of hot water pipe insulation, pressure reducing valves, and water efficient dishwashers in all single-family and multi-family residential units. Additionally, developers would install dual flush toilets and water efficient landscaping in compliance with the Landscape Water Conservation Ordinance.

G. Parks, Recreation, and Open Space Master Plan

Chapter 5 of the UID SPA Plan serves as the Parks, Recreation, and Open Space Master Plan required by the Otay Ranch GDP. Parks and recreation areas would be provided as residential units are developed and would be located within Sectors O-2 and O-3. Amenities to be included in these areas would consist of play areas, academic sports facilities, seating areas, flex-spaces, public plazas, water features, open areas, and/or dog parks. Open space areas would be located in Sector O-1 and would include non-developable areas that would be maintained as natural habitat within the northeastern corner of the Main Campus Property and within much of the Lake Property.

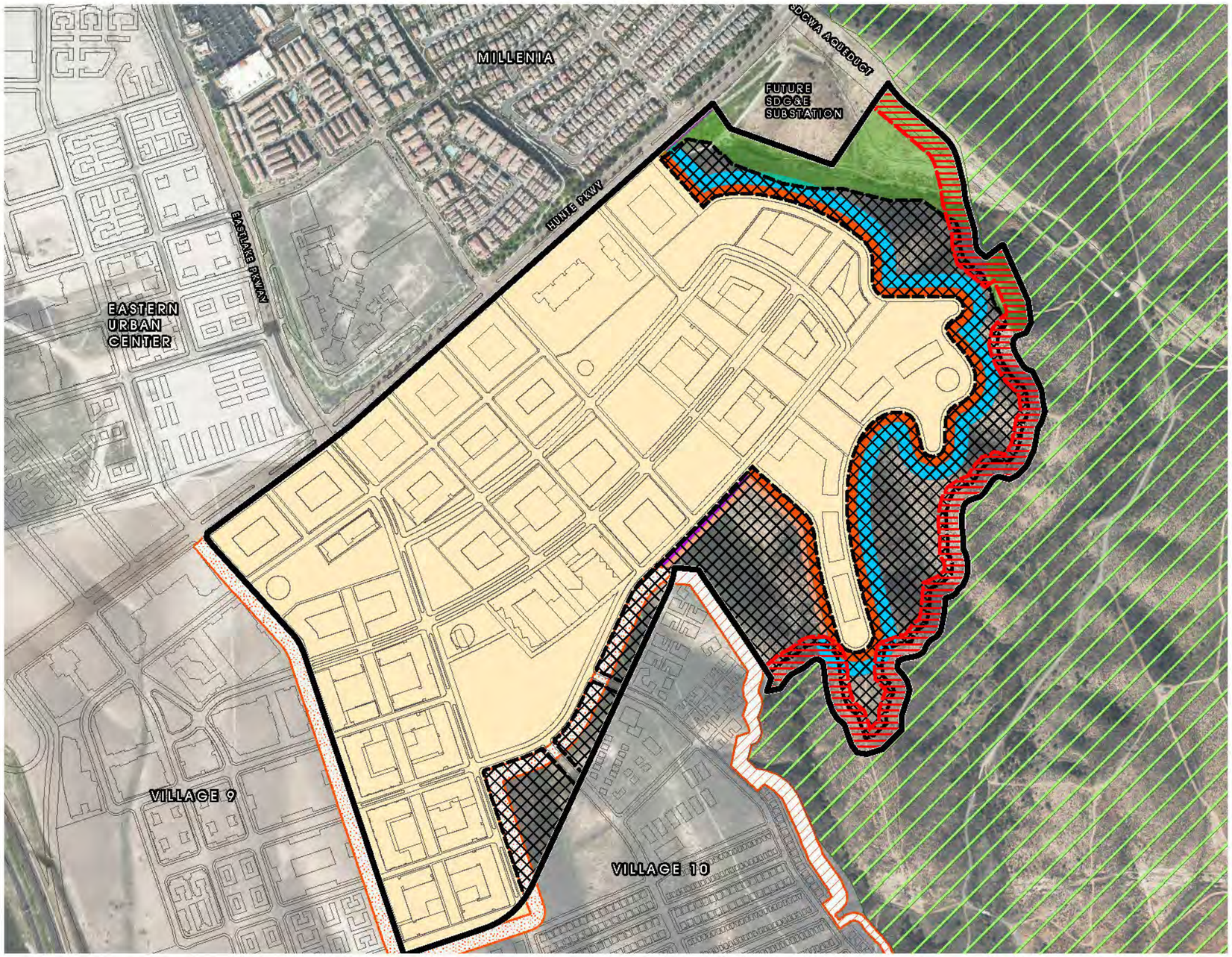
H. Emergency Disaster Plan

The Otay Ranch GDP requires all SPA plans to provide an emergency disaster plan that addresses the various hazards that have the potential for disrupting communities, causing damage, and creating casualties within the area. Possible natural disasters include earthquakes, floods, fires, landslides, and tropical storms. There is also the threat of man-made incidents such as war, nuclear disasters, hazardous materials spills, major transportation accidents, crime, fuel shortages, terrorism, or civil disorder. The UID SPA Plan addresses these disaster situations by implementing the plans already developed for the area. The plans listed below are described in Section 5.13, *Hazards and Hazardous Materials*:

- San Diego County Emergency Plan
- San Diego County Multi-Jurisdiction Hazard Mitigation Plan
- Unified San Diego County Emergency Services Organization
- California Disaster and Civil Defense Master Mutual Aid Agreement
- Community Emergency Response Team (CERT) Program

I. Public Facilities Financing Plan (PFFP)

A PFFP is required as part of the UID SPA Plan by the CVMC Section 19.09.050. The PFFP for the Project, included as Appendix A to the UID SPA Plan, provides detailed explanations of the public facilities and infrastructure required to support new development within the Project site and assign responsibilities for construction and financing. The PFFP would implement the Chula Vista Growth Management Program and Ordinance. The intent of the PFFP is to ensure that the phased development of the Project is consistent with the overall goals and policies of the Chula Vista General Plan, Growth Management Program, and Otay Ranch GDP. The PFFP components include an analysis of infrastructure facilities, such as water and sewer, and the provision of community services and facilities, including fire protection and emergency services, law enforcement, libraries, schools, and parks. The PFFP would require specific facilities to be built in conjunction with development to ensure that improvements adequately serve such development and meet City threshold standards. Except for sewer fees, all university-related land uses, such as



Project Site

Proposed Development

Open Space

Future Development

MSCP Preserve

Fuel Modification Zones (FMZ)

Proposed Village 10 FMZ

150-Ft FMZ Preserve Edge if Future Development Occurs

Roadway Zone (30-Ft Main Campus Property)

Interim FMZ

Zone 1 (irrigated 0'-60')

Zone 2 not adjacent to Preserve (thinned 61'-100')

Zone 2 adjacent to Preserve (thinned 61'-150')

FMZ between Project Site and Villages 9 & 10 (cut grasses)

N

0 350 700 1,400 Feet

Source: Dudek 2017

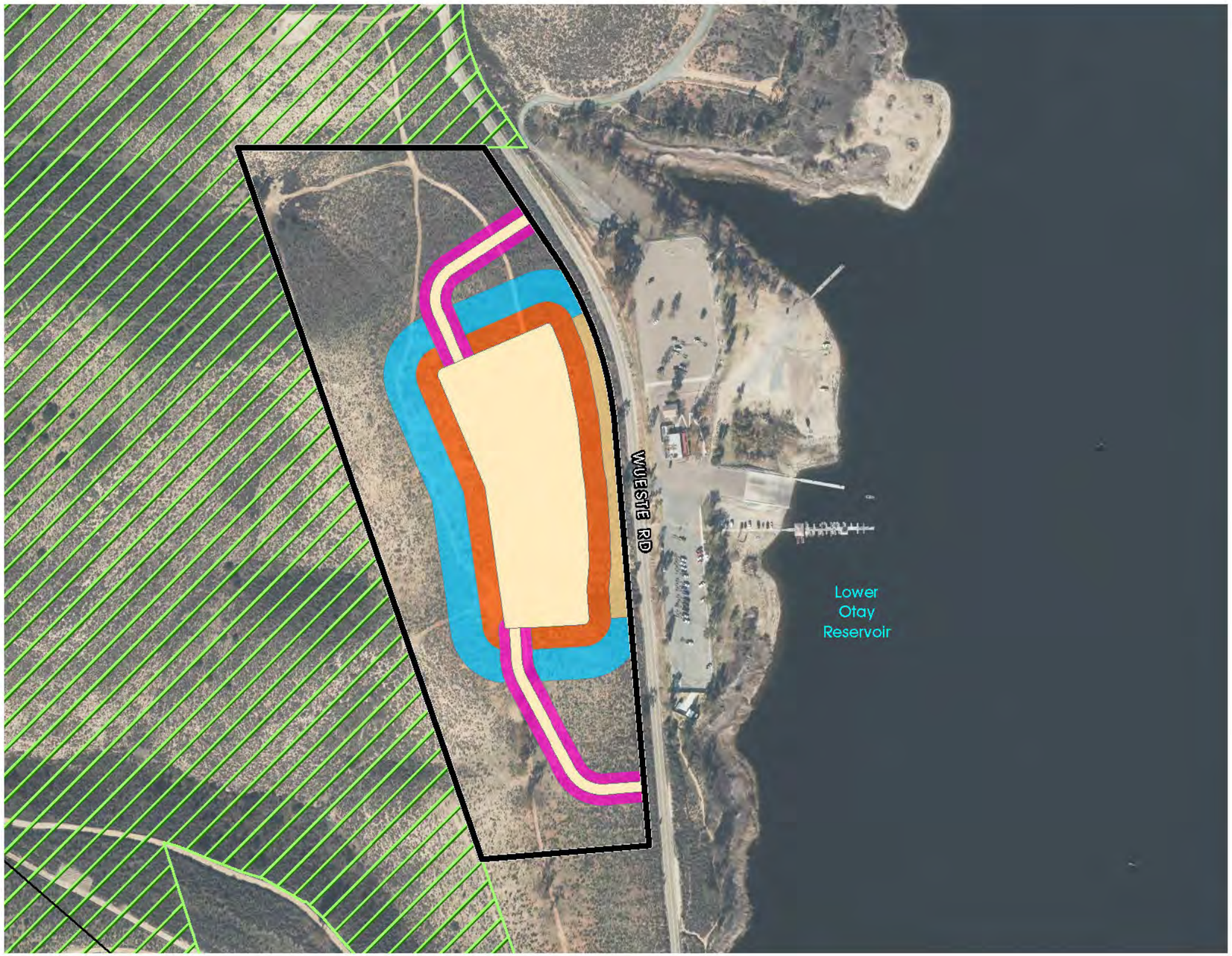
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Fuel Modification Plan fo the Main Campus Property

UNIVERSITY INNOVATION DISTRICT EIR

HELIX Environmental Planning

Figure 3-11a



Project Site

Proposed Development

MSCP Preserve

Fuel Modification Zones

Zone 1 (irrigated 0'-60')

Zone 2 not adjacent to Preserve (thinned 61'-100')

Zone 2 adjacent to Preserve (thinned 61'-150')

Roadway Zone (30-Ft Lake Property)

N

0 150 300 600 Feet

Source: Dudek 2017

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Fuel Modification Plan fo the Lake Property

UNIVERSITY INNOVATION DISTRICT EIR

HELIX Environmental Planning

Figure 3-11b

instructional space, staff offices, research facilities, and on-campus student housing, are exempt from payment of public facility fees. Other land uses, including market-rate housing and commercial and retail space, would be subject to the public facility fees identified in the PFFP.

3.4 CONCEPTUAL GRADING PLAN

Grading for the Project would include primarily on-site improvements and would utilize grading practices consistent with the requirements of the Chula Vista General Plan, Otay Ranch GDP, Otay Ranch Overall Design Plan, and Otay Ranch Phase 2 RMP. Slopes would occur along roadways and adjacent to the perimeter of the development area. Slopes over 25 feet in height would feature contour grading and would not have slope gradients greater than 2:1. All slopes would be landscaped. Approximately 6.8 million cubic yards of soil would be excavated during grading. All the excavated material would be used as fill material on the Project site to create a balanced grading plan. The conceptual grading plan is shown on Figure 3-12, *Conceptual Grading Plan*, and the cut and fill map is shown on Figure 3-13, *Maximum Cut and Fill Plan*. As shown on these figures, a majority of the Project site is assumed to be graded and represents a conservative estimate of the total grading that would occur.

3.5 DEVELOPMENT PHASING

Development of the Project would be completed in multiple phases to ensure construction of necessary infrastructure and amenities for each phase as the Project progresses. Figure 3-14, *Conceptual Project Phasing*, reflects development phasing that is dependent upon the market and the ability to secure academic and business innovation users. The Conceptual Phasing Plan is non-sequential. It is recognized that sequential phasing is frequently inaccurate due to unforeseen market changes or regulatory constraints. Therefore, the Project and the associated PFFP permits non-sequential phasing by imposing specific facilities requirements per the PFFP for each phase to ensure that the Project is adequately serviced and the City threshold standards are met. If necessary, infrastructure within the Project site may be installed in overlapping or consecutive phases to be determined by Project-specific requirements.

3.6 DISCRETIONARY ACTIONS

The proposed Project is a discretionary project, which is defined as "a project that requires the exercise of judgment or deliberation when the public agency or body decides to approve or disapprove a particular activity." The following discretionary actions are associated with the Project and would be considered by the Chula Vista Planning Commission and City Council.

Adoption of the following documents:

- Otay Ranch and EastLake III GDP Amendments
- UID SPA Plan
- Air Quality Improvement Plan
- Agriculture Plan
- Non-Renewable Energy Conservation Plan
- Preserve Edge Plan
- Fire Protection Plan

- Water Conservation Plan
- Parks, Recreation, and Open Space Master Plan
- Emergency Disaster Plan
- Public Facilities Financing Plan
- ~~Federal Aviation Administration (FAA) Determination of No Hazard to Air Navigation~~
- Certification of a Final EIR and adoption of an MMRP

Additionally, future applicants that would be applying for permits to develop on the Project site may be required to obtain approvals, permits, licenses, certification, or other entitlements from various federal, state, and local agencies, including but not limited to the following:

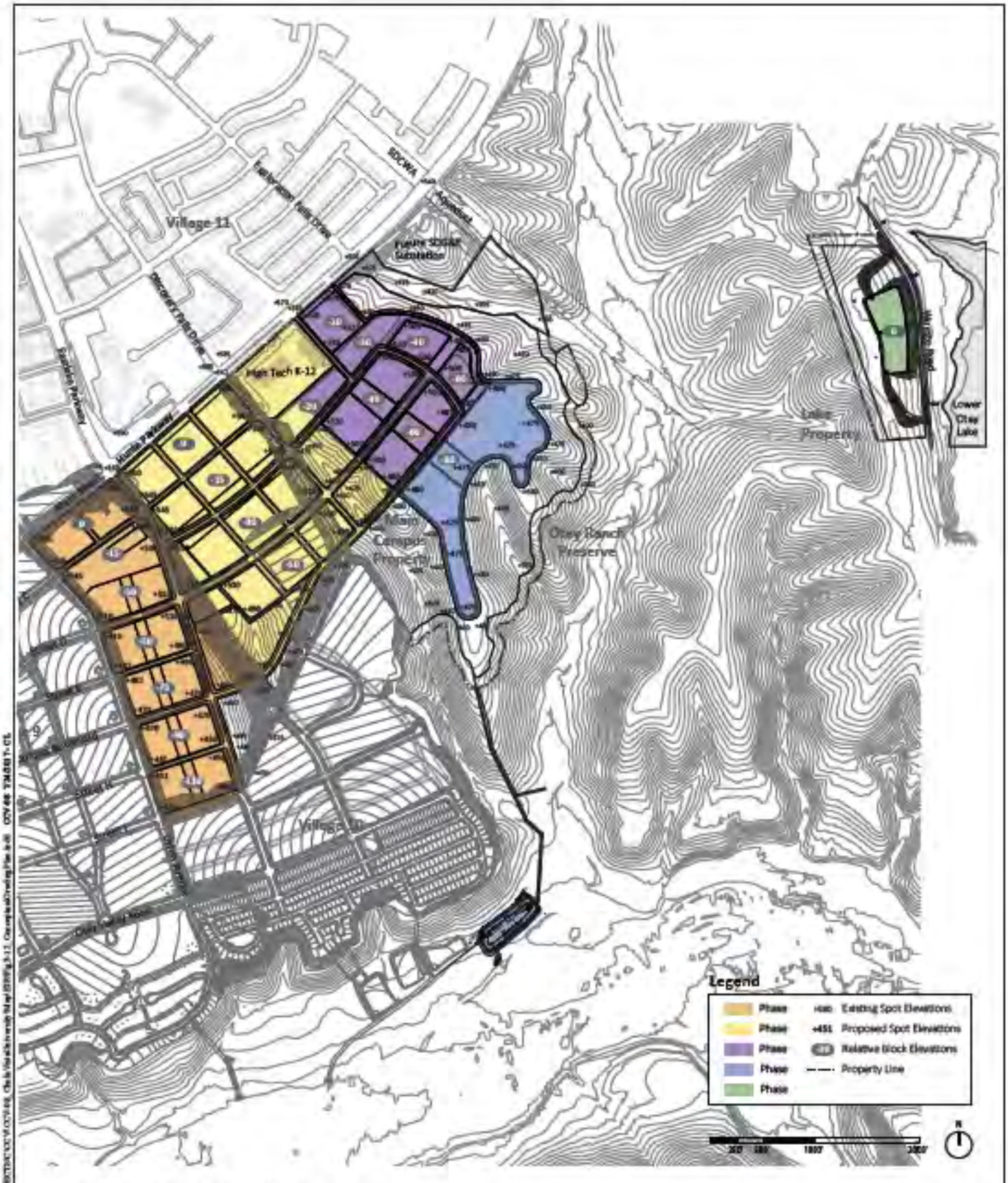
- Individual/Nationwide Section 404 Permit (Clean Water Act [CWA], 22 U.S. Code [USC] Section 1344) from the U.S. Army Corps of Engineers (USACE)

- General Construction Activity Storm Water Permit State Water Resources Control Board (SWRCB) Order No. 2009-0009 DWQ from the RWQCB

- Section 401 Certification (CWA, 33 USC 1342, if the Project requires USACE 404 Permit) from the RWQCB

- Lakebed/Streambed Alteration Agreement (California Fish and Game [CFG] Code Section 1600 et seq.) from the California Department of Fish and Wildlife (CDFW)

- Right-of-way and other permits for roadway improvements outside the jurisdiction of the City of Chula Vista from the City of San Diego or the County of San Diego and future public utility agreements between the cities of Chula Vista and San Diego



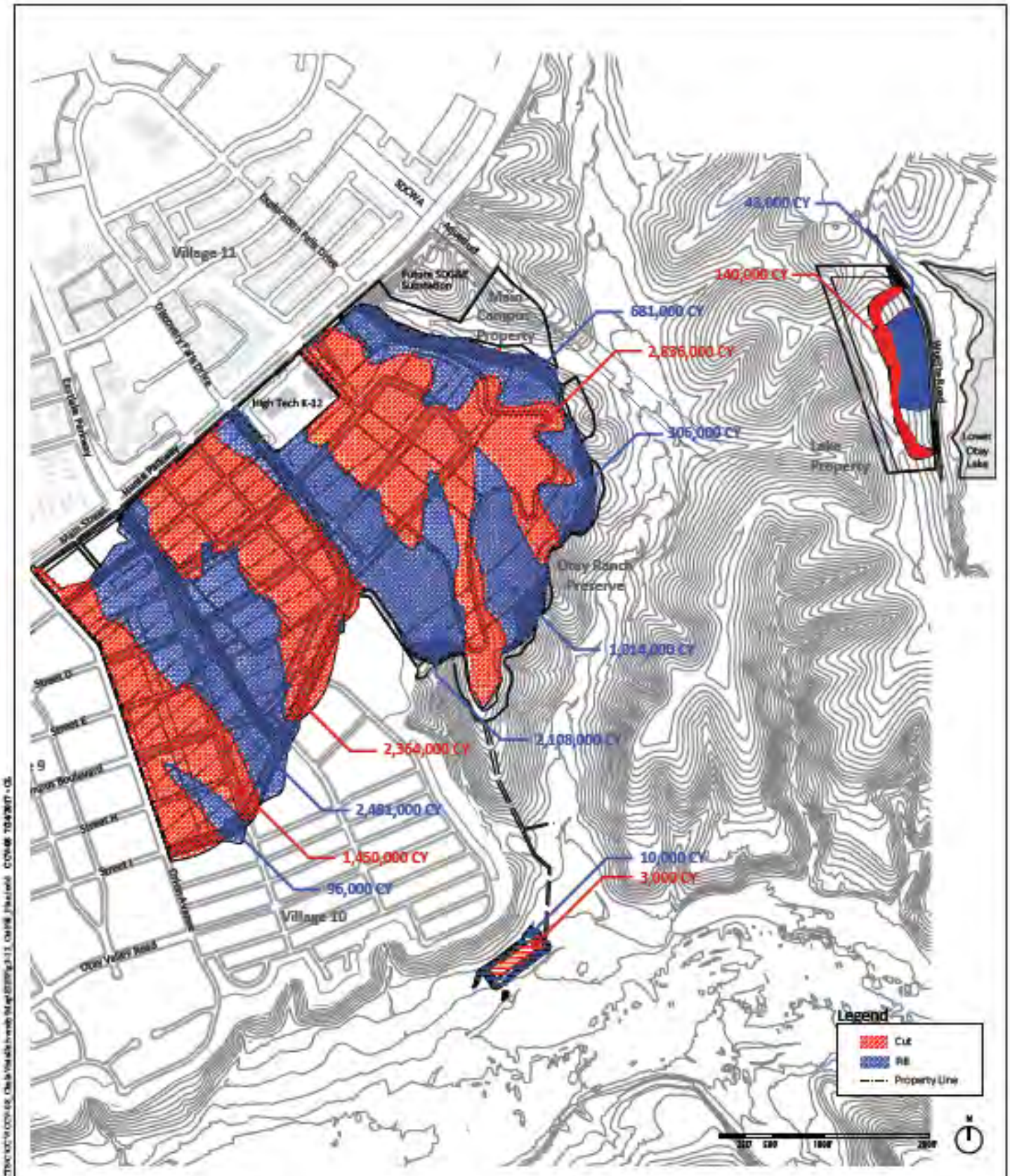
Source: William Hezmalhalch Architects, Inc. 2017

Conceptual Grading Plan

UNIVERSITY INNOVATION DISTRICT EIR

HELIX Environmental Planning

Figure 3-12



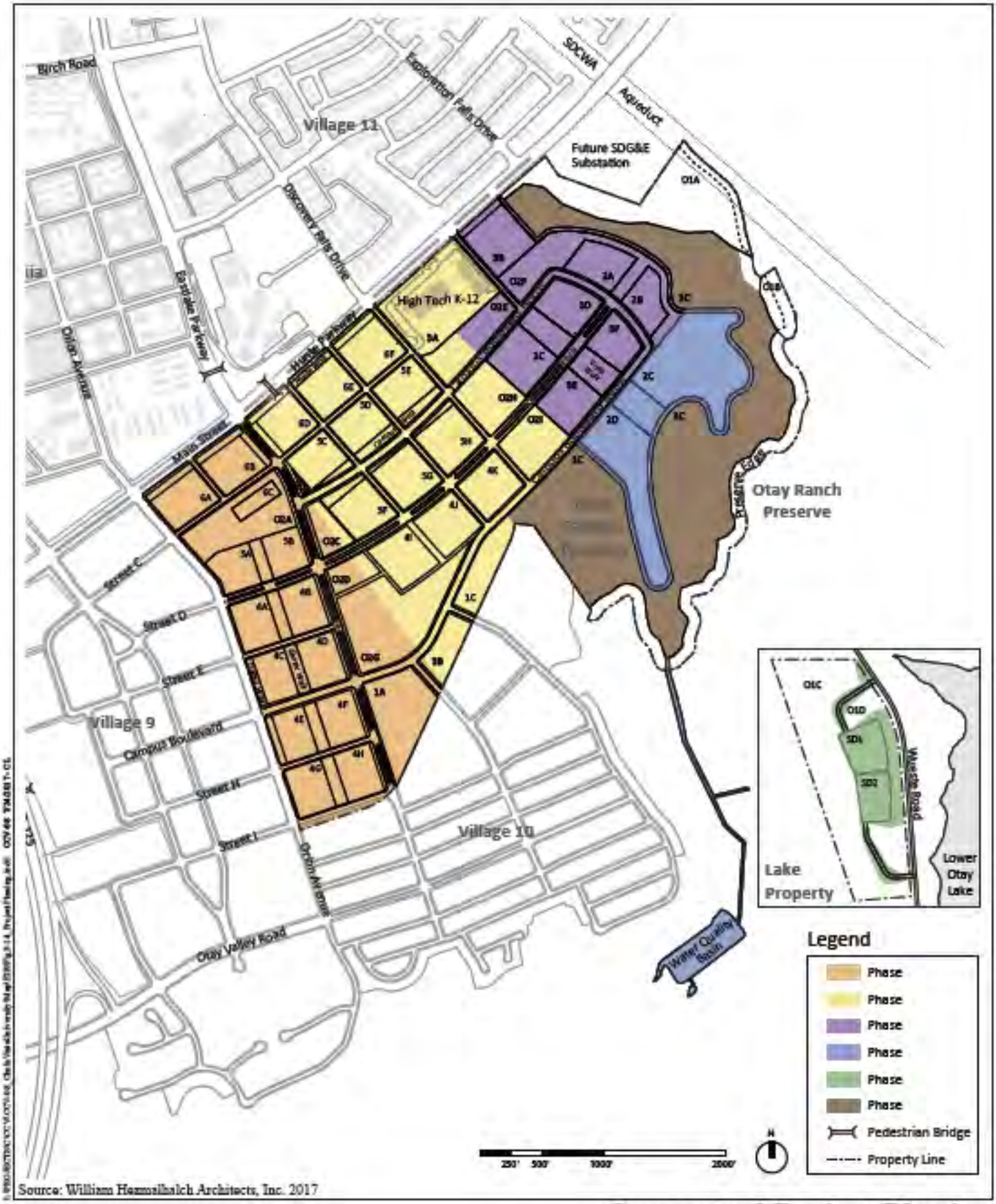
Source: William Hezmalhalch Architects, Inc. 2017

Maximum Cut and Fill Plan

UNIVERSITY INNOVATION DISTRICT EIR

HELIX Environmental Planning

Figure 3-13



Source: William Hezmalhalch Architects, Inc. 2017

Conceptual Project Phasing

UNIVERSITY INNOVATION DISTRICT EIR

HELIX Environmental Planning

Figure 3-14

4.0 ENVIRONMENTAL SETTING

4.1 LOCATION

The UID site comprises two non-contiguous areas, including the Main Campus Property and the Lake Property. Both sites are within the City of Chula Vista, San Diego County, California. The Main Campus Property is located adjacent and south of Hunte Parkway and is surrounded to the east, south, and west by undeveloped land. Areas north of the site include developed portions of Otay Ranch, north of Hunte Parkway. Eastlake Parkway and Hunte Parkway currently terminate at the northwest corner of the Main Campus Property. The Main Campus Property includes the developed High Tech K-12 School on a 10-acre site along Hunte Parkway towards the middle of the Main Campus Property. The Lake Property is located about a half-mile east of the Main Campus Property, adjacent and west of Wueste Road, and directly west of Lower Otay Lake. Areas immediately to the west and south of the Lake Property are undeveloped; however, the Otay Water Treatment Plant is located further southeast of the Lake Property. Otay Valley Regional Park and the Otay River Valley are south of both the Main Campus Property and the Lake Property.

4.2 CLIMATE

The climate in the Project area is dominated by a semi-permanent high-pressure cell located over the Pacific Ocean. This cell influences the direction of prevailing winds (westerly to northwesterly) and maintains clear skies for much of the year. The nearest climatological monitoring station that records precipitation data is located at the lower Otay Reservoir, approximately three miles east of the Project site. The normal precipitation in the lower Otay Reservoir area is 11 inches annually, occurring primarily from December through March (Western Regional Climate Center [WRCC] 2011a). Temperature is recorded at the monitoring station located in the community of Bonita, north of the Otay Ranch area. According to the Western Regional Climate Center, in summer (August) the normal daily maximum temperature in Bonita is 81 degrees Fahrenheit (°F), and in winter (January) the normal daily minimum temperature is 40°F (WRCC 2011b).

4.3 LANDFORM AND VEGETATION

Existing conditions were assessed at the time the Notice of Preparation (NOP) was released for a 30-day public review in December 2014. At the site of the Main Campus Property, elevations range from approximately 620 feet AMSL on the northwestern portion of the Project near Hunte Parkway to approximately 340 feet AMSL at the southeast end of the Project near the Otay River valley. The site consists of rolling hills of low to moderate relief, with south-flowing tributary drainages towards the Otay River. The Main Campus Property generally slopes southward towards the Otay River Valley. At the site of the Lake Property elevations range from approximately 500 feet AMSL at the north end to approximately 560 feet AMSL at the south end. A north-south trending drainage for Salt Creek is located between the two campus properties.

Native or naturalized vegetation communities occur within the UID Project site, including agriculture (fallow), Diegan coastal sage scrub, Diegan coastal sage scrub/non-native grassland, southern willow scrub, and vernal pool. Both the Main Campus Property and the Lake Property contain unpaved roads and trails, and the Main Campus Property includes a series of storm

water/drainage facilities located east of the High Tech K-12 School site (including concrete-lined ditches, an outlet structure, and a riprap energy dissipater).

4.4 ACCESS

Access to the Main Campus Property is achieved via SR-125, Olympic Parkway, Eastlake Parkway, Hunte Parkway, Discovery Falls Drive, and future extensions of Otay Valley Road and Street B in Otay Ranch Village 9. Access to the Lake Property is achieved from Olympic Parkway and Wueste Road. As discussed above, Eastlake Parkway and Hunte Parkway currently terminate at the Main Campus Property northwestern boundary. Eastlake Parkway, Discovery Falls Drive, and Exploration Falls Drive all provide north/south access to the Main Campus Property. Hunte Parkway provides east/west access to the site.

4.5 SURROUNDING LAND USES

The Main Campus Property is located at the southern end of the Otay Ranch community and is surrounded by undeveloped land to the west, south, and east. The future locations for Village 9, to the west of the site (between the site and SR-125); and Village 10, to the south of the site, are currently undeveloped. The Otay River Valley is located to the south. The open space area adjacent to the Project site is the Otay Ranch component of the MSCP Subarea Plan Preserve, and the MSCP boundary extends along the southern boundary of the Project site opposite of the proposed Preserve Edge, shown on Figure 3-3, *Site Utilization Plan*. Areas north of the Main Campus Property and Hunte Parkway are generally developed with residential uses related to Village 11. The Millenia development north and west of the Main Campus Property is under construction.

The Lake Property is also located at the southern end of the Otay Ranch community, east of the Main Campus Property, and includes the Olympic Training Center to the north, Lower Otay Reservoir (owned and operated by the City of San Diego) to the east, and an open space preserve to the south and west. Immediately to the south and southeast of the Lake Property are undeveloped land, and the City of San Diego's Otay Water Filtration Plant.

5.0 ENVIRONMENTAL IMPACT ANALYSIS

5.1 LAND USE

This section evaluates the existing and proposed land uses within the Project site to determine if implementation of the UID SPA Plan would conflict with any adopted land use plans, policies, or other land use regulations that apply to the Project site, or if there would be any impacts on an established community. Other issues associated with land use decisions include aesthetics, noise, and resource conservation. These issues are addressed in their respective sections of this EIR. Potential conflicts with agricultural land uses are addressed in Section 5.12, *Agricultural Resources*.

This EIR tiers from the Previous Environmental Review Documents, as described in Chapter 2.0, *Introduction*. Section 5.1, *Land Use*, of the Final SEIR for the GPA/GDPA (SEIR 09-01) analyzed potential impacts related to the proposed land uses for the GPA/GDPA area. The GPA/GDPA SEIR identified a potentially significant impact related to community character because, although the GPA/GDPA conforms to the City's General Plan goals, it does not include design standards necessary to assure that community character issues are implemented. These standards are included at the SPA level (and are provided for the Project in the UID SPA Plan [WHA 2017]). SEIR 09-01 concluded that impacts would remain significant and unmitigated because there are no mitigation measures available to reduce impacts on the Main Campus Property. SEIR 01-01 included one mitigation measure for the Lake Property to reduce impacts to less than significant and requires demonstration of conformance with the adopted goals and objectives of the Eastern Territories Area Plan and MSCP Subarea Plan. The Eastern Territories Area Plan has since been replaced and is now referred to as the East Planning Area in the City's Land Use and Transportation Element of the General Plan. Conformance with the adopted goals and objectives of current plans is discussed below for the proposed Project and the SEIR 01-01 mitigation measure therefore is not incorporated herein; however, the analysis and discussion of land use contained in the 2013 SEIR for the Main Campus Property and the 2001 SEIR for the Lake Property are incorporated by reference. The latest amendments to the Otay Ranch GDP were approved by the City Council in 2015. These GDP amendments occurred within the Otay Valley Parcel's urban villages.

5.1.1 Existing Conditions

A. Regulatory Framework

1. State

a. Senate Bill 375 (Sustainable Communities and Climate Protection Act of 2008)

Senate Bill (SB) 375, the Sustainable Communities and Climate Protection Act of 2008 (Chapter 728, Statutes of 2008), directs the California Air Resources Board (CARB) to set regional targets for reducing greenhouse gas (GHG) emissions.

SB 375 relates to land use planning by building on the existing framework of regional planning to tie together the regional allocation of housing needs and regional transportation planning to reduce

GHG emissions from motor vehicle trips. Further, SB 375 established CEQA streamlining and relevant exemptions for projects that are determined to be consistent with the land use assumptions and other relevant policies of an adopted Sustainable Communities Strategy (SCS).

2. Regional

a. San Diego Association of Governments' Regional Plan

San Diego Forward: The Regional Plan was adopted by the San Diego Association of Governments (SANDAG) on October 9, 2015. The Regional Plan combines and updates two regional planning documents, the 2004 Regional Comprehensive Plan and the 2011 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), into a unified document to guide regional growth between 2015 and 2050. The Regional Plan unites land use and transportation planning by incorporating local planning efforts with regional transportation planning and identifies investments in public transportation, bike paths, and pedestrian improvements in the region. San Diego Forward: The Regional Plan includes several elements, one of which is the SCS. Required by state law (SB 375), the primary purpose of the SCS is to show how development patterns and our transportation system could work together to reduce GHG emissions for cars and light trucks and provide a more sustainable future for the San Diego region.

The SCS includes five building blocks:

1. A land use pattern that accommodates the region's future employment and housing needs, and protects sensitive habitats and resource areas;

2. A transportation network of public transit, managed lanes and highways, local streets, bikeways, and walkways built and maintained with reasonably expected funding;

3. Managing demands on the regional transportation system (Transportation Demand Management, or TDM) in ways that reduce or eliminate traffic congestion during peak periods of demand;

4. Managing the transportation system (Transportation System Management, or TSM) through measures that maximize the overall efficiency of the transportation network; and

5. Innovative pricing policies and other measures designed to reduce the number of miles people travel in their vehicles, as well as traffic congestion during peak periods of demand.

By combining land use and transportation planning, it is intended that the Regional Plan would facilitate compliance with the state's GHG reduction targets.

3. Local

a. City of Chula Vista General Plan

The Chula Vista General Plan, known as Vision 2020, was adopted by the City on December 13, 2005 (Chula Vista 2005). The General Plan provides a long-term strategy to address planning issues for the growth and development of the City and is comprised of the following six elements:

land use and transportation, economic development, public facilities and services, growth management, environmental, and housing. The Project, and the rest of the Otay Ranch, is located in the Otay Ranch subarea of the General Plan, which is identified as a master planned community in the Chula Vista General Plan.

i. Land Use and Transportation Element

The Land Use and Transportation Element establishes the land use categories, roadway classifications, and generalized land use patterns for City development, while focusing on themes that: (1) support strong community character and image; (2) support strong and safe neighborhoods; and (3) improve mobility. This 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 and building intensity in each land use classification are provided.

The Project site is located in the Eastern University District of the Otay Ranch Subarea, in the East Planning Area. Otay Ranch is identified as a master planned community in the Chula Vista General Plan. According to the element, the eastern university district is intended to serve as the urban center for the East Planning Area and serves much of the inland south San Diego County region. The district would provide higher value employment opportunities along with business and commercial services; and cultural and entertainment services. The Project would provide the multi-institutional university center or traditional university identified in Land Use and Transportation Policy (LUT) 65 and related support uses, as described in the land use element.

ii. Economic Development Element

The Economic Development Element establishes policies to ensure the long-term vitality of the local economy and to help develop, guide, and encourage appropriate employment and business ownership 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: the tideland area, the Montgomery area, and the Otay Ranch area. The Project is wholly sited within an Employment Land Area in the Economic Development Element. Village 9, immediately adjacent to the west, is also an area of Otay Ranch identified as Employment Land Area, as is the Millenia development to the north of Main Street and west of Eastlake Parkway.

iii. Public Facilities and Services Element

The Public Facilities and Services Element establishes a plan to provide and maintain infrastructure and public services for future growth, without diminishing services to existing development within the City. The overall goal of this 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. A number of facilities (e.g., parks, a library, fire station, trunk sewers, etc.) have been identified for this portion of the City.

iv. Growth Management Element

The purpose of the Growth Management Element is to guide future development in the City based on the principles that: (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. This element serves as assurance that the vision described within the General Plan is achievable without sacrificing the quality of life enjoyed in the community, and establishes a framework for directing new development, redevelopment, and community enhancement.

v. 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.

vi. Housing Element

The Housing Element details a five-year strategy for enhancement and preservation of the City character, identifies strategies for expanding housing opportunities for the various economic segments of the city, and provides policy guidance for local decision-making related to housing. The focus of this element is to: (1) maintain and enhance the quality of housing and residential neighborhoods in the City; (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 this element require 10 percent affordable ("inclusionary") housing, including five percent low-income and five percent moderate-income, for projects consisting of 50 or more dwelling units.

b. Otay Ranch General Development Plan

The Otay Ranch GDP/Subregional Plan was originally approved jointly by Chula Vista and County of San Diego in 1993 for the future development of Otay Ranch. The Otay Ranch GDP was amended in 2001, and in December 2005 concurrently with the preparation of the 2005 General Plan, again in 2011, and most recently with the 2015 GDPA. The GDP establishes land plans, design guidelines, objectives, policies, and implementation measures that apply to all portions of Otay Ranch while supporting a balance of housing, shops, workplaces, schools, parks, civic facilities, and open spaces. The majority of development is intended to be clustered in villages, with conveniently located "core" features and well-defined edges such as the Chula Vista greenbelt, open spaces, and wildlife corridors. The goals of the Otay Ranch GDP are to: (1) create a well-integrated, balanced land use; (2) reduce reliance on the automobile and promotion of alternative modes of transportation; and (3) diversify the economic base within Otay Ranch.

The GDP originally designated the primary land use for Village 10 as Public and Quasi-Public for a university campus site. A secondary land use designation for Village 10 was as an urban village with single-family and multi-family residential, a mixed-use village core, and a community park.

In 2014, non-university uses were separated out from the University Planning Area, and village boundaries were clarified relative to Village 9. Village 10 land uses were converted from the original designated uses of Public and Quasi Public to Residential Medium, Mixed-Use Residential, Parks and Recreation, and Open Space. All Village 10 objectives now focus on uses complementary to, and supportive of, uses proposed for Village 9 and the University Planning Area.

c. EastLake III General Development Plan

The EastLake III GDP was adopted by the City Council on June 20, 2006. The purpose of the EastLake III GDP is to implement the City's General Plan and extend the comprehensive planning concepts established during previous planning in the EastLake Community (which includes EastLake I and EastLake II) to the next major planning phase for the community (EastLake III). The EastLake III GDP provides policies for future development within the SPAs in the EastLake III GDP boundary. The EastLake III GDP provides community; residential; commercial; open space, parks, and recreation; public facilities, circulation, and infrastructure; plan administration; and economic goals. The GDP also provides planning objectives for the area, as well as policies and standards for land use, development, and conservation.

d. City of Chula Vista Zoning Code

Title 19 of the Chula Vista Municipal Code (CVMC) is the City's Zoning Code, which is intended to implement the Chula Vista General Plan. The Project site is included within the City's Planned Community (P-C) Zone.

As defined in Chapter 19.48 of the CVMC. The purposes of the P-C Zone are as follows:

- Provide for the orderly preplanning and long-term development of large tracts of land. These tracts may contain a variety of land uses, but are under unified ownership or development control, so that the entire tract will provide an environment of stable and desirable character;

- Give the developer reasonable assurance that sectional development plans in accordance with the approved general development plan will be acceptable to the City. Sectional development plans may include subdivision plans and/or planned unit development plans as provided in this title; and

- Enable the City to adopt measures for the development of the surrounding area compatible with the planned community zone (Chula Vista 2012, Chapter 19.48).

According to Section 19.48.020 of the Zoning Code, P-C zoning may be established on lands that are suitable and of sufficient size for planning and development in a manner consistent with the purpose of the zone. P-C zoning does not include any area of less than 50 acres of contiguous land (Chula Vista 2012, Section 19.48.020). Section 19.48.025 establishes a requirement for Community-Purpose Facility (CPF) sites to be provided within the P-C zone at the rate of 1.39 acres per 1,000 persons (Chula Vista 2012, Section 19.48.025).

As stated in Section 19.48.090, SPAs shall be composed of identifiable planning units, within which common services and facilities, a strong internal unity, and an integrated pattern of land use, circulation, and townscape planning are readily achievable. Where practicable, SPAs shall have discernible physical boundaries.

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

The MSCP (August 1998) is a subregional plan under the California Natural Community Conservation Planning Act (FGC sections 2800-2835). The MSCP covers an area encompassing 12 jurisdictions and 582,243 acres. 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 MSCP Subregional Plan is a comprehensive, long term habitat conservation plan that addresses the needs of multiple sensitive plant and animal species and the preservation of natural vegetation communities in southern San Diego County. The MSCP Subregional Plan is implemented through local subarea plans prepared by participating jurisdictions. The Chula Vista MSCP Subarea Plan was approved in 2003, and it provides for conservation of covered species and their associated habitats by establishing a preserve of interconnected conservation lands. The combination of the MSCP Subregional Plan and subarea plans, including the City's MSCP Subarea Plan, serves as a Multiple-Species Habitat Conservation Plan pursuant to section 10(a)(1)(B) of the federal Endangered Species Act and as Natural Community Conservation Plan (NCCP) and associated permit under the Natural Community Conservation Planning Act. The MSCP Subregional Plan is being implemented in phases as participating jurisdictions and special districts submit their subarea plans for approval to the U.S. Fish and Wildlife Service (USFWS) and CDFW. Upon approval, the USFWS and CDFW authorize the incidental take of listed species and other species of concern, subject to the terms of the MSCP Subarea Plan and the MSCP Subregional Plan. Conservation and management responsibilities and implementation guarantees for each subarea plan are set forth in implementing agreements between the entity responsible for each subarea plan, USFWS, and CDFW.

Consistent with the City's MSCP Subarea Plan approval, the City entered into an Implementation Agreement with USFWS and CDFW in January 2005. The City's MSCP Subarea Plan is consistent with the MSCP Subregional Plan and contributes to its implementation.

The Otay Ranch Preserve (Preserve) was developed in cooperation with USFWS and CDFW, property owners, developers, and environmental groups. The majority of the Preserve consists of hard-line areas designated for 100 percent conservation, and these areas are either already in public ownership or will be dedicated into the Preserve as part of the City's development approval process for covered projects. Preserve boundaries for covered projects were established on a project-by-project basis after evaluation of habitat and species data and/or surveys conducted as part of project entitlement processing, evaluation by USFWS and CDFW, and consideration of how such mitigation could best contribute to the overall MSCP Subregional Plan. In addition, the City's MSCP Subarea Plan allows for infrastructure within the Preserve to support planned development, subject to specific conditions.

For development projects located within Otay Ranch, the City's MSCP Subarea Plan relies on the Preserve design and policies contained in the Otay Ranch RMP. The Otay Ranch RMP established performance standards for achieving the 13,000-acre Otay Ranch Preserve (Chula Vista 2003a; Chula Vista and County of San Diego 2015). The Chula Vista MSCP Subarea Plan and the Otay Ranch RMP are the habitat conservation and community habitat conservation plans applicable to the Project site. For development projects located within Otay Ranch, the MSCP Subarea Plan relies on the preserve design and policies contained in the Otay Ranch RMP as the framework for conservation and management of biological resources within Otay Ranch Preserve. Ultimate compliance relies on progressive acquisition, or funding for acquisition, of the designated Otay Ranch preserve areas with each development approval.

Otay Ranch, including the Project, is considered a covered project under the MSCP Subarea Plan. This means that the areas proposed to be preserved (100 percent conservation areas) either are already in public ownership or are expected to be dedicated to the Preserve as part of the development approval process for covered projects.

The Project site largely is bordered by developed uses, or uses planned for development, to the north (Village 11 and the Millenia development), west (planned Village 9) and south (planned Village 10). The remainder of the southern UID boundary (east of planned Village 10) and lands east of the eastern boundary of the Project site is dedicated open space. These areas are part of the City and County of San Diego's MSCP Plan, and are addressed in that document, as well as the Otay Ranch RMP (see additional discussion below). In addition, this area includes the planned Chula Vista Greenbelt Trail. The proposed Preserve Edge would provide a buffer between the Project's development and the Preserve. Development in and adjacent to the Preserve Edge is controlled by the SPA Plan and the accompanying Preserve Edge Plan (Appendix D to the SPA Plan) to limit potential impacts to sensitive plant and animal species within the Preserve.

f. Otay Ranch Resource Management Plan

The Otay Ranch RMP was adopted in 1993 with the approval of the Otay Ranch GDP to establish a permanent preserve within Otay Ranch. The purpose of the Otay Ranch Preserve is to protect and enhance biological, paleontological, cultural, and scenic resources. Plan objectives include biological diversity and promotion of the survival and recovery of native species and habitats.

The RMP is composed of two separate documents, the Phase 1 RMP (1993) and Phase 2 RMP (adopted in 1996 and revised in 2002). The Phase 1 RMP identifies Preserve areas within Otay Ranch and contains policies regarding species and habitat conservation and long-term management of the Preserve. The Phase 2 RMP includes community-wide studies conducted pursuant to the Phase 1 RMP and provides additional detail on conveyance, management, and funding (Chula Vista and County of San Diego 1993 and 2002). It identifies implementation measures; including procedures for dedicating parcels of land to the Preserve and for determining the proportionate share for each village, as well as preservation of steep slopes within Otay Ranch. Land identified by the RMP as part of the Preserve must be conveyed to the Preserve prior to the approval of Final Maps. As established in the Phase 2 RMP, the conveyance ratio (ratio of land to be dedicated per acre of development) is 1.188 acres dedicated for each developable acre that is Final Mapped. The conveyance obligation is required to be met on a village-by-village basis.

The RMP identifies a planned open space system of 13,000 acres to be dedicated within Otay Ranch, targeting lands that include important resources such as vernal pools, coastal sage scrub habitat, coastal California gnatcatcher (*Polioptila californica californica)* populations, and potential wetlands restoration areas. The Preserve also connects large areas of open space through a series of wildlife corridors and covers portions of Salt Creek Canyon to Otay Valley. The Preserve boundaries from the RMP have been incorporated into the adopted Otay Ranch GDP. The preserve/development boundary of the Otay Ranch GDP is consistent with the objectives, policies, and criteria established in the RMP (Chula Vista and County of San Diego 1993 and 2002).

g. City of Chula Vista Growth Management Ordinance

The purpose and intent of the Chula Vista Growth Management Ordinance (GMO; CVMC Sec. 19.09) is to provide quality housing opportunities for all economic sections of the community; to balance the community with adequate commercial, industrial, recreational, and open space areas to support the residential areas of the City; to provide that public facilities, services, and improvements meeting City standards exist or become available concurrent with the need created by new development; to 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 Threshold Standards; and to meet the goals and objectives of the Growth Management Program and other programs associated with quality of life. The GMO prohibits new development unless adequate public facilities are provided in advance of or concurrently with the demands created by new development.

The GMO contains "quality of life" threshold standards. These include police, fire, and emergency response times; anticipated demand for schools and evaluation of school funding; establishment of a library service ratio of 500 square feet of equipped and staffed facility per 1,000 residents; a service ratio for neighborhood and community park land of three acres (with appropriate facilities) per 1,000 residents; water service availability; compliance with City engineering sewage flow and related standards (subdivision manual); compliance with City engineering storm water drainage standards (subdivision manual); maintenance of acceptable City-wide traffic flows; and air quality and pollution overview and evaluation to foster air quality improvement pursuant to relevant regional and local air quality improvement strategies. The GMO also requires PFFPs, AQIPs, and WCPs for every SPA Plan (or, if a SPA Plan is not required, for every TM application).

The PFFP must provide a complete description of the planned development and all public facilities included within the boundaries of the plan as defined by the Director of Development Services, including phasing and financing of infrastructure. The plan must contain an analysis of the individual and cumulative impacts of the proposed development on the community as it relates to the Growth Management Program, the specific facility master plans, and threshold standards. Proposed development must also be accompanied by a fiscal impact report and provide funding for periods when City expenditures for the development would exceed projected revenues.

h. Park Land Dedication Ordinance

Chapter 17.10 of the CVMC establishes requirements for parklands and public facilities, including regulations for the dedication of land and development of improvements for park and recreational

purposes (Section 17.10.010); determination of park and recreational requirements (Section 17.10.020); calculation of area to be dedicated (Section 17.10.040); specifications for park improvements (Section 17.10.050); criteria for area to be dedicated (Section 17.10.060); procedures for in-lieu fees for land dedication and/or park development improvements (Section 17.10.070); and other regulations regarding park development and collection and distribution of fees.

i. Parks and Recreation Master Plan

The Chula Vista Parks and Recreation Master Plan (PRMP) was adopted in 2002 and a Draft Update was completed in 2010 (Chula Vista 2002). The PRMP is the blueprint for the City's park system through the year 2030. It envisions a comprehensive and interrelated package of community and neighborhood parks and presents each park within the context of the whole park system to ensure that it provides a balance of recreational opportunities. The PRMP identifies existing park and recreation facilities and provides guidance for future park sites, including locations for specific types of additional recreational facilities within the Otay Ranch area. The plan does not include a specific community or neighborhood park acreage requirement for the UID since the 2002 PRMP envisioned a university site in this general location.

The PRMP has not yet been updated to reflect the GDP amendments or village boundary adjustments since 2002. The City is, however, currently in the process of updating the plan. A draft PRMP Update was released in December 2010. The Draft PRMP states that the year 2030 citywide park system will contain community, neighborhood, mini, urban, and special-purpose parks and recreation facility and community center sites (Chula Vista 2002).

j. Greenbelt Master Plan

The Chula Vista Greenbelt Master Plan provides guidance and continuity for the planning of open space and construction and maintenance of Greenbelt Trails (Chula Vista 2003b, http://www.chulavistaca.gov/departments/development-services/planning/chula-vista-greenbelt-master-plan). There are two general types of trails: multi-use and rural. Multi-use trails are designed for a variety of users, such as bicyclists, equestrians, pedestrians, joggers, and other non-motorized activities. According to the Greenbelt Master Plan, even a single-track pedestrian-only trail would be considered multi-use since it could accommodate hikers, backpackers, runners, bird-watchers, and others. Minimum standards for trails are set forth in the City Landscape Manual and the Greenbelt Master Plan (Chula Vista 1994). A multi-use trail may also be improved with a variety of trail surfaces, with concrete and asphalt surfacing to accommodate the broadest range of users in an urban setting. The minimum standards require a paved multi-use trail to be 10 feet wide with 2-foot-wide natural shoulders. However, variation in the minimum standards may be allowed, based on consideration of the number and types of trail users and environmental constraints. Other minimum standards include Greenbelt Trail signs, and standards regarding fencing and signage shall be determined based upon environmental and other constraints and are subject to review and approval of the Development Services Director.

k. Brown Field Airport Land Use Compatibility Plan

The San Diego County Regional Airport Authority (SDCRAA), designated as the Airport Land Use Commission for all public airports in the County of San Diego, adopted the Brown Field Airport Land Use Compatibility Plan (ALUCP) in September 1981 (last updated in December 2010). The ALUCP assists in achieving compatible land use development in the area surrounding Brown Field Municipal Airport located in Otay Mesa on Heritage Road, east of I-805. Brown Field is a general aviation airport accommodating both propeller- and jet-powered aircraft and serves as a port of entry for private aircraft coming into the United States from Mexico. Brown Field is also heavily used by military and law enforcement agencies and is classified as a "reliever airport" by the FAA (SDCRAA 2010). The ALUCP designates the airport influence area and contains projected noise contours, flight activity zones, a land use compatibility matrix, and plan recommendations for areas surrounding Brown Field. The airport influence area is delineated by using the projected 60-decibel (dB) Community Noise Equivalency Level (CNEL) contour and is generally the area in which current and future airport-related noise, overflight, safety, and/or airspace protection factors may affect land uses or necessitate restrictions on uses. The airport influence area is divided into Review Area 1 and Review Area 2. The composition of each area is determined as follows:

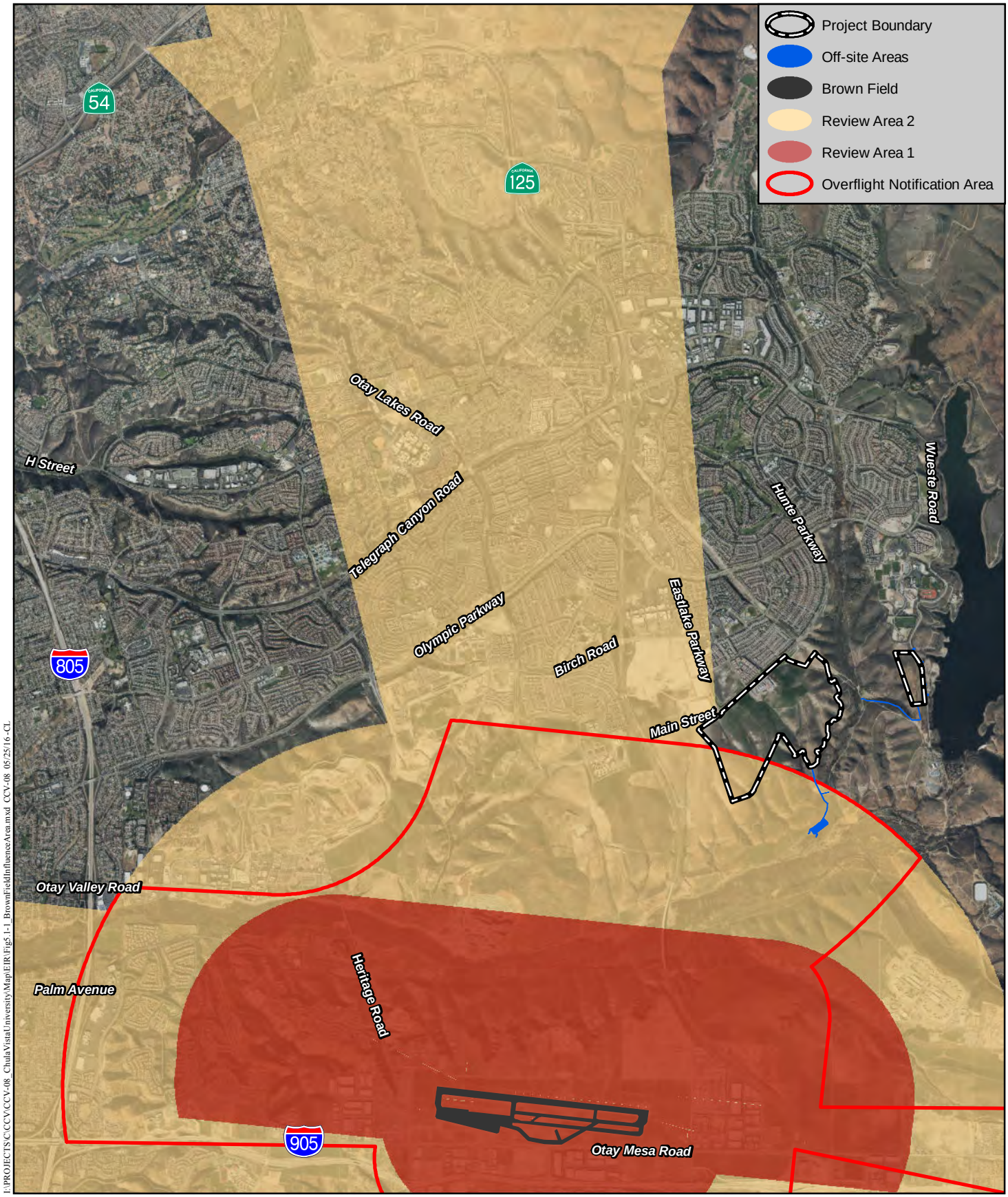
- Review Area 1 consists of locations where noise or safety concerns may necessitate limitations on the types of land use actions. Specifically, Review Area 1 encompasses locations exposed to aircraft noise levels of 60 CNEL or greater together with all of the safety zones identified in the ALUCP.

- Review Area 2 consists of locations beyond Review Area 1 but within the airspace protection and/or overflight notification areas. Limits on the heights of structures, particularly in areas of high terrain, are the only restrictions on land uses within Review Area 2.

As shown on Figure 5.1-1, *Brown Field Airport Influence Area*, the southwestern portion of the Project site contains Review Area 2 of the airport influence area. Both residential and non-residential development is compatible in this zone. The Project site is within the FAA Height Notification Boundary for a north-south oriented airport approach, with height restrictions for any structure of 200 feet above ground level. In addition, part of the Project area is within the Airport Overflight Notification Area, which requires notification for all new residential development in this area (SDCRAA 2010).

l. Otay Valley Regional Park Concept Plan

The Otay Valley Regional Park (OVRP) Concept Plan was updated in July 2017 as the result of a multi-jurisdictional planning effort including the cities of San Diego and Chula Vista and the County of San Diego (visit: http://www.ovrp.org/documents/OVRP%20CONCEPT%20PLAN.pdf). The planning area for the OVRP Concept Plan is located in the southern portion of the County of San Diego, four miles north of the United States-Mexico International Border, and spans approximately 11 miles from the southeastern edge of the salt ponds in the OVRP to the land surrounding the Lower and Upper Otay Lakes. The Plan defines the boundary of the regional park, provides for the protection of environmentally sensitive areas and important cultural



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Brown Field Airport Influence Area

UNIVERSITY INNOVATION DISTRICT EIR

HELIX Environmental Planning

N 0 5,000 Feet

Figure 5.1-1

resources by identifying an open space core/preserve area, identifies areas adjacent to the open space core for active and passive recreational development opportunities, includes a trail system with staging areas, viewpoints and overlooks and connections to recreation areas and adjacent public lands and trails, and envisions two interpretive centers for environmental and educational programs. A majority of the land within the plan is privately owned. The plan does not change existing zoning and land use plans, or add new development regulations, nor does it preclude private development. Rather, it provides the multiple jurisdictions with policies and direction regarding land acquisition and development of the plan. Approximately 1,000 acres of the Preserve are contiguous with the OVRP.

B. Existing Conditions

1. On-site Conditions

The Project area consists of rolling hillsides that range in elevation from approximately 620 feet AMSL in the northwestern portion to 340 feet AMSL in the southwestern portion of the (western) Main Campus Property. The (eastern) Lake Property features a north-south trending central ridgeline and ranges in elevation from a high of approximately 500 feet AMSL in the northern portion to 560 feet AMSL in the southern portion. Steep slopes greater than 25 percent gradient occur on both portions of the Project area. Salt Creek and its associated open space is located between the west and east properties.

The bluffs abutting the Otay River Valley are located to the south. With the exception of High Tech K-12 School, the Main Campus Property consists of vacant, ranch and dry-farmed lands that currently support non-native grasslands and Diegan coastal sage scrub, with small areas of mule fat scrub and southern willow scrub. The Lake Property is undeveloped and mainly features coastal sage scrub habitat.

2. Surrounding Land Uses

Existing developed uses located east of Eastlake Parkway and north of Hunte Parkway are located north of the Project site (Village 11). The site of the future Millenia development is located across Main Street to the northwest, and further north of the Millenia site is the Otay Ranch Town Center, a shopping mall that features stores, a movie theater, and restaurants. The Project site is surrounded by undeveloped property to the northwest, west, south and east. Planned Villages 9 and 10 are located to the west and south. Bluffs abutting the Otay River Valley are located to the south. Lower Otay Lake is immediately east of the Lake Property and is owned and operated by the City of San Diego. The locations of the surrounding land uses are illustrated in Figure 3-2.

Otay Ranch uses would be developed in accordance with the GDP. Future land uses planned for the Millenia development include retail, commercial, and entertainment development with higher density residential development, schools, and parks. The planned land uses for Villages 9 and 10 include some commercial elements, single and multi-family residential uses, and park land, all complementary to the university (and support commercial, cultural, and entertainment services uses) proposed as part of the Project.

As noted above, the Otay River Valley, which is part of the Preserve and the Otay River Valley Regional Park, is in the vicinity to the south of the Project site. The park provides recreational

opportunities ranging from playing fields and picnic areas to hiking, biking, and horse trails. The park is also intended to protect open space, wildlife, historic, agricultural, and archaeological resources. The Preserve consists of 13,000 acres of land identified in the MSCP that is to be set aside as mitigation for impacts to sensitive resources resulting from Otay Ranch development that would occur both within the City and in the unincorporated San Diego County. The Project's proposed development areas abut the Preserve.

5.1.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, the Project would have a significant impact on land use if it would:

- **Threshold 1:** Physically divide an established community (incompatibility with adjacent and surrounding land uses).
- **Threshold 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.
- **Threshold 3:** Conflict with any applicable habitat conservation plan or natural community habitat conservation plan.

5.1.3 Impact Analysis

A. Threshold 1: Physically divide an established community (incompatibility with adjacent and surrounding uses).

The Project site is undeveloped; some of the property is located within MSCP-covered lands and some has historically been used for agriculture. None of it, however, is located within or part of an established community. As such, there is no potential for division of an established community. No impact is identified.

The remainder of this discussion focuses on the potential for incompatibility with (existing and future) adjacent and surrounding uses, including the following topics: (1) potential land use conflicts associated with construction; (2) the Project's expected operational compatibility with surrounding land uses; (3) compatibility with internal land uses; (4) compatibility with off-site improvement areas; and (5) the Project's potential impact on community character.

1. Short-term Construction Conflicts

Construction of the Project would require site grading, road building, installation of utilities, and building construction. The Project site is located adjacent to existing residential uses along its north boundary. Village 11 is located across Hunte Parkway from the Project site. High Tech K-12 is located on the Project site. Currently, undeveloped land is located to the northwest, west, south and east of the Main Campus Property, as well as around the Lake Property. Some off-site grading would be required for utility improvements south of the Project site (east of future Village 10).

Project construction activities on the Project site would not be incompatible with the vacant land to the northwest, west, south and east of the Project site. For undeveloped areas designated for open space, the Otay Ranch RMP mandates a 100-foot-wide buffer area between development areas and the Preserve. The specifics of Project development result in an even greater buffer area. Potential activities allowed within that buffer area include trails and some recreational uses, but this would result in little to no construction activity immediately adjacent to Preserve. The proposed development footprint in the Lake Property would be confined to the eastern half of the parcel, 300 to 400 feet from the nearest boundary with the Preserve. The portions of the Main Campus Property adjacent to the Preserve would be situated at the top of manufactured slopes that place the development substantially above the Preserve topographically. These manufactured slopes, along with areas within the parcel boundary but outside the development footprint, also provide a buffer of 100 to 200 feet between proposed development and the Preserve boundary. Additionally, all construction activities would be required to comply with the Preserve Edge Plan, as discussed in Section 5.6, *Biological Resources*, of this EIR. The mitigation measures in Section 5.11*, Hydrology and Water Quality*, would protect the Preserve from storm water runoff from construction. Requirements for construction noise levels, pre-construction biological surveys, and habitat replacements and restoration are included as mitigation in Section 5.6. Dust-minimizing construction practices are required in Mitigation Measure 5.4-1a in Section 5.4, *Air Quality*.

Noise associated with mass grading is the most likely impact to existing developed uses, although some vertical construction may also result in noise when in immediate proximity (such as to High Tech K-12 School). Fugitive dust may also result in some nuisance impacts. As noted above, however, Project design and mitigation measures would address these short-term impacts to nearby existing uses.

In summary, potentially significant land use incompatibilities could occur for the issues of air quality, operational noise, biological resources, hydrology/water quality, and hazards and hazardous materials (Impact 5.1-1).

2. Incompatibility with Surrounding Land Uses

a. Otay Ranch Villages

Village 11 is built out and located north of the Project site, north of Hunte Parkway. High Tech K-12 School is located south of Hunte Parkway within the Project site, and would be surrounded on three sides (west, south and east) by Project development. The potential for the Project to result in future land use incompatibilities with these uses as a result of excessive operational noise is addressed in Section 5.5, *Noise* (Impact 5.1-1). As discussed in Section 5.5, operational noise sources related to heating, ventilation, and air conditioning (HVAC) could exceed noise standards at existing development closest to the Project site, and specifically High Tech K-12 School campus.

Village 9, located to the west of the Project site, the Millenia development, located to the north/northwest, and the Village 10 site, located to the south, are currently undeveloped. These villages are planned for development in accordance with the adopted GDP and have been planned with neighboring villages and related SPA plans in mind. As such, no conflicts with existing land

uses would occur. Specific to the Village 9/UID interface and Village 10/UID interface, a "Flex Overlay" zone described in the SPA Plan would establish a "permeable" edge between the UID and adjacent village. Flexibility and coordination of the development within the Flex Overlay is planned to foster a seamless relationship between the villages in which the identified portion of Villages 9 and 10 may be combined with or designed to support or include Project uses or Villages 9 and 10 land uses (including residential). Coordinated development of the built form and academic-suitable pedestrian setting between the Project and Villages 9 and 10 uses is encouraged and may result in undefined building and use boundaries. Interim, incubator, or long-term academic, residential, or business innovation uses, including student and faculty living and service uses, may be established on either side of Orion Avenue within the Flex Overlay. Establishment of Project buildings and uses should occur within the Flex Overlay before development occurs within the T-1 Transect. Accordingly, the Project would not be incompatible with the Villages in Otay Ranch, and impacts would be less than significant.

b. MSCP Subarea and Otay Ranch Preserve

The open space to the south and east of the Main Campus Property, as well as to the north and west of the Lake Property, is part of the Preserve, which is divided into several Preserve Management Areas (PMAs). A small extension of the Preserve across the north edge of the Lake Property is in the Central City PMA, but all other Preserve lands bordered by the Lake Property, and all Preserve lands bordered by the Main Campus Property, are in the Otay Ranch PMA. As noted above, intensive developed uses in general would be separated from the Preserve by a mandated 100-foot-wide buffer, that would be larger based on the actual Project development footprint. Lighting, landscaping, and irrigation of the areas adjacent to the Preserve that are controlled by the SPA Plan and the accompanying Preserve Edge Plan would limit disruption to sensitive native plant and animal species within the Preserve. Fire protection measures are also considered within the SPA Plan and the accompanying FPP to address this wildland interface. Section 5.6 identifies mitigation measures that would reduce potentially significant indirect impacts to sensitive biological resources to a less than significant level. Mitigation measures in Section 5.11 would reduce potential off-site water quality impacts to a less than significant level. Therefore, land use impacts associated with incompatibility would be less than significant. The Project's consistency with the policies of MSCP is addressed under Threshold 3 in this section.

3. Internal Land Use Compatibility within the UID

The SPA Plan is designed to facilitate a high level of compatibility between adjoining land uses within the Project area. The SPA Plan utilizes transect, or form-based, planning that focuses on the form of development rather than land use and seeks to provide a gradual transition from intense urban development to open space areas. The SPA Plan would implement form-based regulations and standards that focus on compatibility between buildings, streets, and public spaces. Form-based codes approach the development of land by regulating the form, character, and street presence of a building focusing attention on the public presentation of buildings and creating a public realm with compatible land uses that is comfortable for pedestrians. Land use types are still controlled but they play a secondary role to the creation of communities and streetscapes that are pedestrian friendly as a result of compatible development. A key objective of transect-based planning is the creation of integrated and coherent land uses.

The SPA Plan establishes a plan for development implementation that would guide the Project site to be developed with compatible land uses. The SPA Plan also includes a Development Code in Chapter 3, which specifies development standards, establishes transect zones, and includes allowable land uses. Additionally, Chapter 7 of the SPA Plan establishes design guidelines for development. Development standards include requirements for building configuration, open space, parking, design considerations, frontage types, performance standards, and sign regulations. Therefore, the Project's land uses would be internally compatible with one another, and no impact would occur.

4. Compatibility of the Off-site Improvements and Grading with Surrounding Land Uses

Several off-site facilities are planned for the Project, including storm water and sewer conveyance lines, detention basins, and minor access road improvements. The off-site infrastructure improvements associated with the Project would be placed within the Preserve. One off-site storm water conveyance line and detention basin is proposed south of the Main Campus Property and two sewer conveyance lines are proposed to connect the Main Campus Property and the Lake Property to the Salt Creek Interceptor. Access to off-site facilities from the Main Campus Property would be provided by an extension of the existing access road (which would require minor improvements to accommodate widths of up to 20 feet) for the Salt Creek Interceptor. In addition, off-site storm water and sewer facilities are proposed west of the Lake Property and would follow existing roads wherever possible. Off-site storm water conveyance and outfall facilities would occur within developed portions of Wueste Road, as well as through the parking lot and native habitat areas adjacent to and on either side of Wueste Road. The Project also includes a number of trails, most of which follow roadways within the development footprint, but two trails cross open space: the Chula Vista Greenbelt and the Salt Creek Sewer Interceptor/Greenbelt Trail. The Chula Vista Greenbelt would follow the sewer access road described above. The Salt Creek Interceptor/Greenbelt Trail follows an existing crushed granite road, so no further impacts are anticipated. Use of the associated access road would be compatible with the Facilities Siting Criteria contained in Section 6.3.3.4 of the Chula Vista MSCP Subarea Plan, as discussed in Section 5.6 of this EIR, and would not conflict with use of the Preserve for habitat management.

In summary, there is a potential for significant impacts from construction of off-site improvements to air quality, biological resources, and hydrology/water quality (Impact 5.1-1).

5. Community Character Impacts

The SPA Plan includes a form-based code that would regulate the form, character, and street presence of a building to focus attention on the public presentation of buildings, creating a public environment that is comfortable for pedestrians. The SPA Plan also includes a development code in Chapter 3 that specifies development standards for the entire Project area, specific transect zones, as well as individual development types. Additionally, Chapter 4, *Community Design*, of the SPA Plan establishes design guidelines for the Project area as a whole, as well as for specific land uses and the Town Center. As discussed in greater detail in Section 5.2, *Aesthetics/Landform Alteration*, of this EIR, the development standards and guidelines proposed in the SPA Plan would ensure that a consistent community character is maintained between the Project and Villages 9 and 10, as well as with surrounding development in Otay Ranch. The GPA/GDPA SEIR determined that specific design guidelines and regulations would minimize community character

impacts. Therefore, implementation of the Project would assure that impacts to community character would be less than significant.

B. Threshold 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, or zoning ordinance), adopted for the purpose of avoiding or mitigating an environmental effect.

Construction/grading activities of the Project would comply with the Chula Vista Building Code and other established regulations addressing air quality, noise, and water quality. Potential physical impacts that would result from construction to air quality, biological resources, and water quality, are addressed in Section 5.4, 5.6, and 5.11, respectively. Mitigation measures identified in these sections would reduce potential impacts to less than significant levels. Because implementation of Project design and/or mitigation measures would reduce direct and indirect impacts to less than significant levels and because the Project would adhere to existing construction regulations and codes, no significant construction land use impacts with respect to regulatory plans and policies would occur. Consistency between applicable land use plans, policies, and regulations are evaluated below. MSCP and RMP consistency is addressed under Threshold 3 in this section.

1. City of Chula Vista General Plan

The City General Plan has overarching development objectives and policies that are briefly addressed below. City-wide general policies that are particularly applicable to Otay Ranch and EastLake are discussed, as are focused policies of the East Planning Area. The General Plan specifically states (LUT 61.1 and 69.1) that proposed development in this area is to be consistent with existing Otay Ranch GDP and SPA plans, which are addressed in more detail below.

Objective LUT 1 addresses a balance of residential and non-residential development in the City overall that "achieves a vibrant development pattern, enhances the character of the City, and meets the present and future needs of all residents and businesses." The Project would support this objective through consistency with the zoning code, integration of the Project into the overall Otay Ranch residential and commercial uses, provision of the long-planned for university focus in this portion of the City, provision of jobs in proximity to housing, provision of a variety of housing that is responsive to a variety of economic needs (including students), and specifically planning for cultural outreach and art viewing locations within the Project.

Objective LUT 3 addresses urban design and new development that blends with, and enhances, the City's character and social/physical qualities. The Project would support this objective through its development plan and design guidelines. The Project is planned to be a landmark university destination. It would provide a draw to the community for its educational amenities, as well as innovative architecture and intervening public spaces. Structures on the southern and eastern perimeter of the Main Campus development, in particular, as well as structures on the Lake Property, would be designed to be architecturally interesting and to take advantage of the expansive open space and canyon views afforded from these locations.

Objective LUT 5 requires designation of mixed use areas with denser housing near shopping, jobs, and transit. The Project would support this objective through intermixing the university, residential

and commercial uses, as well as being sited in proximity to more focused residential and commercial/employment opportunities provided in planned Villages 9 and 10, and the Millenia development, respectively. Daycare, shopping, entertainment, parks, and recreation would all be incorporated into the Project, and would be located offsite in proximity. The Project is planned to be easily walkable, with both north-south and east-west linear pedestrian walks totaling over 14 acres of the Project site. Transit (BRT) would be available along the western edge of the Project site, along Orion Avenue at a transit stop at Campus Boulevard, which would allow Project residents and visitors to enter the overall urban core, town center, and campus commons via the Transit Walk and Center Walk. The Project also would be accessible via mixed use pathways and bike lanes from Hunte Parkway, Eastlake Parkway, and Greenbelt trails feeding into the Project.

Objective LUT 6 requires that adjacent land uses be compatible with one another. The Project would support this objective through placement of UID uses in proximity to High Tech K-12 School, and a seamless integration into planned Villages 9 and 10. The portion of the Project site adjacent to future Village 9 and 10 is identified as a flex area, and is planned for District Gateway, Urban Core, Town Center, and Common Space/Transit Walkway uses. Village 10, originally part of the Project site, would provide single-family and multi-family housing, as well as other uses. Structures would meld into the higher intensity Village 9 uses and would be planned in conjunction with Village 10 in the portions of the Project site that abut Village 10 boundaries (these areas are currently identified for "Future Development"). Both planned Villages 9 and 10 specifically call out the Project in their planning documents, noting that they would complement and provide support services for Project residents/users. Performance standards requiring elements such as screening of outdoor storage areas are provided in the SPA Plan.

Objective LUT 7 focuses on transitions between land uses. The Project is an innovative project that integrates mixed uses in a way that provides easy access to commercial, retail, and work opportunities for Project residents on the Main Campus Property. It also identifies focused zones for more intensively focused uses and identifies several transition zones. Specifically, Transect T-3: Campus Commons uses edge portions of the Urban Core and Town Center transects and would include development at lower density and scale to transition to the southern open space areas. Transect T-2: Campus Vista includes broad open space and walk areas to provide a transition to naturalized open spaces and southern-facing views. Transect T-1:Future Development would allow limited development at low intensities to serve as the final transition between the build and natural environments. A planned future San Diego Gas & Electric (SDG&E) substation south of Hunte Parkway is separated from planned Project uses by open space. On the Lake Property, the small Lake Blocks would be surrounded by open space and the Preserve Edge, adjacent to the Preserve. Performance standards are provided in the SPA Plan.

Objective LUT 16 requires integration of land use and transportation planning and related facilities. The Project would support this objective through minimization of the need to go "off-site" through incorporation of shopping and employment opportunities on site, as well as inclusion of walking and biking trails, future transit stops, access to planned BRT stops, and adequate roadways for motorized vehicles. A potential transit station has been identified in the Town Center, with a BRT stop planned for the intersection of Orion Avenue and Campus Boulevard. Safe pedestrian and bicycle access to the transit stop would be provided through a system of village pathways, sidewalks, trails, and bicycle lanes that connect all Project areas.

Objective LUT 61 addresses balanced communities and provision of a high quality of life to residents. The Project would support this objective through inclusion of mixed uses which, at build out, would offer residential, employment, and retail opportunities providing for balanced communities. The educational/research options provided by the campus facilities, combined with the diversity of residential and commercial/retail uses, and a variety of walking/recreation/ open space uses, would provide a vibrant sense of community and contribute to a vigorous economy, and a healthy environment, and a resultant high quality of life. All entryway signage would be consistent with the requirement to include "City of Chula Vista" on community identification signs.

Objective 65 requires promotion and provision of a multi-institutional university center or traditional university in the East Planning Area, which is one of four City-wide planning areas identified in the City's General Plan Land Use and Transportation Element. The Project is directly responsive to this objective through innovative design of a multi-institutional university in Otay Ranch.

Objective LUT 72 requires comprehensive, well-integrated and balanced land uses within villages and town centers, which are compatible with surroundings. This objective ties together a number of elements specifically addressed above for Objectives LUT 3, 5, 6, 7, 16, and 61. In addition, the transect development pattern of the Project is responsive to the requirement in LUT 72.7 for a grid circulation pattern offering a wider range of mobility choices and routes. Bicycle lanes and sidewalks tie into larger pedestrian walks, and bike/pedestrian routes off site are provided via Hunte Parkway to the north and tie into Greenbelt trails to the south, leading to more distant portions of the City.

Objective LUT 74 focuses on diversification of the economic base within Otay Ranch and southern San Diego County as a whole. The Project would support this objective through provision of the university and campus uses. This is a markedly different use from most development and job uses, focused as it is on education and research opportunities on a large scale, and designed to bring people into this portion of the County for specific educational opportunities. The Project is designed not only to provide self-supporting uses to its residents and users, but also to synergistically support residential and commercial/retail uses provided in adjacent Otay Ranch villages and the future Millenia development.

Objective LUT 84 focuses on provision of land uses and recreational opportunities that do not threaten the viability of the Otay Ranch Preserve and are consistent with the OVRP Concept Plan. A number of the recreational walks and common space areas proposed for the Project are located interior to the development footprint, adjacent to commercial/retail or the campus commons. Perimeter development, infrastructure in the Preserve, and the Preserve Edge buffer, as well as potential effects on the OVRP Concept Plan are addressed in detail in the UID biological technical report and Section 5.6 of this EIR. As described in portions of this chapter addressing the MSCP, Preserve, and OVRP Concept Plan, impacts would be less than significant based on Project design and/or mitigation.

Objective LUT 87 requires a "distinctly identifiable" corridor with a "unique sense of place" through its integration of diverse uses/land uses within a cohesive development pattern that connects proposed uses to adjoining communities, open spaces, and the sub-region. The Project

would support this objective through elements described for LUT 5, 6, 7, 16, 72, and 84. The transect development program specified in the UID SPA Plan is uniquely applicable to this objective. The strong integration of the university campus area with broad pedestrian and common space malls, combined with the innovative architecture anticipated in the SPA Plan and adjacency to the Preserve and views of canyons and mountains (as well as connecting paths and Greenbelt trails) available from the Project combine to satisfy this objective.

Objective LUT 89 requires establishment of a university campus that promotes economic development and serves as a center of education, prestige, and distinction for Chula Vista and southern San Diego County. As noted for LUT 65, the Project is directly responsive to this objective through innovative design of a multi-institutional university. Business innovation development that supports a campus atmosphere is proposed for 25 percent of the Project site.

Objective LUT 90 requires a campus that is accessible to students regionally and bi-nationally. The Project would support this objective through its open accessibility to regional students via SR-125 and primary East Planning Area roadways such as Hunte Parkway, Eastlake Parkway, and Otay Valley Road, as well as through BRT and Rapid Bus, and non-motorized vehicular access via regional trails and the Greenbelt trail system. With regard to student draw, a Project objective is to provide higher education opportunities for Chula Vista residents and the broader San Diego-Tijuana region, serving the shifting demographics of the San Diego region, and the United States in general. Student housing of various types is proposed in the SPA Plan, including non-traditional housing types not currently found in the Otay Ranch. These include undergraduate and graduate dormitories and other mixed-use student housing projects (including post-graduate housing) that differ from the single- and multi-family housing stock seen in most of the existing Otay villages. Offering student housing and residential amenities to prospective University partners will be a key aspect to attracting institutional anchors in the future. The Project's focus on innovation would also drive residential capacity as today's startups and technology workers often prefer living in urban mixed-use areas to traditional detached residential neighborhoods.

Objective LUT 91 requires a campus that combines a learning institution into a cohesive and well-designed area that enhances pedestrian activity and livability, respects the natural setting, and is integrated into adjoining communities. The Project is directly supportive of this objective, as detailed in the SPA Plan, which includes design elements, set-backs, and parking requirements, among other things. Discussions for LUT 5, 6, 7, 16, 61, 84, and 87 are also directly responsive to Project consistency with policies under this objective.

Objective LUT 95 requires a pedestrian-oriented, mixed-use Town Center that provides an interface ("common meeting ground") of the University, RTP, and surrounding residential uses at a size and location shown in the General Plan. The Project would support this objective by being located in the general location of the General Plan identified University use, and as described in LUT 1, 3, 5, 6, 72, 74, and 87. No regional serving or large-format commercial uses are proposed. The Project would be easily walkable – pedestrian only walkways, in some cases of substantial width – are included along roadways and bisecting development areas where roadways are absent. Development intensity reduces to the south, with the District Gateway, Urban Core, and Town Center Uses located north to south, respectively, and Habitat Conservation and Campus Vista properties being located north of Preserve areas and Village 10. A "permeable edge" is proposed between the Project and Villages 9 and 10, intended to support the university uses. Streets would

provide an interconnected grid system, and generally would be narrow. Library, performing arts, galleries, cultural facilities, retail, food service and similar uses are all considered appropriate for Project development, and would be shared by surrounding residential communities.

Objective LUT 96 requires a unified community providing public facilities such as schools, parks, and open spaces, that promotes walking and bike riding. The Project would support this objective through establishment of a destination university, visual and physical access to community and open spaces, and design that promotes pedestrian and non-mechanized vehicles, particularly as described under discussion of Project consistency with LUT 16, 72, 87, and 95.

Economic Development Element (ED) Objective ED 2 requires maintenance of a variety of job and housing opportunities to improve variety within the City. The Project is planned to be a landmark university destination. It would provide a draw to the community for its educational amenities, and intermix the university, residential and commercial uses as described throughout the LUT objective discussions above. As stated in the UID SPA Plan, the Project would encourage mixed use structures where retail and other uses are mixed within a single building by design.

ED 8 requires development of a City-wide image that would promote the City's assets. The Project would support this objective through provision of a unique university destination and associated uses at the eastern extent of the City. The transects identified in the SPA Plan provide identifiable locations for shopping and business. The District Gateway along Hunte Parkway would provide a primary gateway and key corridor for the Project. As described in LUT 5, 6, 7, 61, 72, and 95, commercial and retail locales would be appropriately grouped and intermixed, with Gateway, Urban Core, and Town Center uses specifically oriented toward major transportation zones. LUT 16, 72, and 95 reference the ability for Project travel to be pedestrian and non-mechanized. The uniqueness of the campus integration into support retail, residential and recreational uses, combined with its locations adjacent to vast open space tracts associated with the Preserve, OVRP, and Otay Lakes, would provide a tremendous asset to the City.

Objective PFS 19 of the Public Facilities and Services (PFS) Element requires provision of art and culture programs, childcare and health and human services facilities. Excluding the Lake Property, permitted childcare facilities are specifically allowed in the SPA Plan (Chapter 9). Health and medical facilities that serve the Project include Scripps Chula Vista Memorial Hospital, Sharp Chula Vista Medical Center, and Paradise Valley Hospital. A 66,000-square-foot medical office building is located in Village of Heritage, which houses the Sharp Rees-Stealy Medical Group about 2.5 miles northwest of the Project site. The mixed use commercial and community purpose facility sites within the Otay Ranch villages provide opportunities for both public and private nursing, health education, screening research and medical offices.

Objective GM 2 of the Growth Management (GM) Element requires an adequate and sustainable fiscal base. The Project would support this objective through incorporation of commercial and retail uses, as well as educational jobs.

Objective GM 3 requires creation and preservation of vital neighborhoods. Although no neighborhood currently exists on the Project site, the Project would support this objective through its landmark destination development, integrated on-site mixed uses, and easy accessibility to both planned complementary Villages 9 and 10, as well as to existing Village 11.

Taking all of these issues into consideration, the Project would be consistent with applicable land use objectives and policies of the General Plan. This land use impact would be less than significant.

2. Otay Ranch General Development Plan

The adopted Otay Ranch GDP establishes goals and objectives for land use; mobility; housing; parks, recreation, and open space; public facilities; safety; phasing; and resource protection, conservation, and management. Chapter 11 of the SPA Plan, *GDP Compliance*, provides a detailed comparison of GDP goals and objectives and evaluates Project compliance. As shown in the SPA Plan, the GDP goals include developing comprehensive and balanced land uses compatible with surrounding land uses, preserving environmentally sensitive areas to protect resources and large open space areas, reducing reliance on automobiles, promoting land uses that offer a sense of place, diversifying the economic base within Otay Ranch, and promoting synergistic uses between the villages and town centers. In general, the SPA Plan is consistent with the goals of the GDP. Some additional discussion of the Project's consistency with the Otay Ranch GDP is provided below.

Chapter 1, includes goals, objectives, and policies to develop comprehensive, well-integrated and balanced land uses compatible with the surroundings by promoting both housing and employment opportunities, while enhancing the unique environmental and visual qualities of the Otay Ranch. Other goals in this section include protecting sensitive environmental resources and large open spaces, and promoting village and town center land uses to promote social interaction. The Project would involve a mix of land uses that are designed to relate to the surrounding villages and would also include the preservation of open space.

Chapter 1 Section D: Land Use Design, Character and Policies includes goals to provide for at least 30 percent of the student housing needs and 20 percent of graduate student and faculty/staff housing needs. Also, this section includes a goal that new research institutions, industries, and businesses should complement the activities of the RTP, and that plazas/quads, pathways, and other community spaces should link the development of the University. While the exact enrollment numbers are not known, nor is the split of student housing and graduate housing, the Project would accommodate up to 20,000 full-time students, and housing for 5,400 students. The Project also includes research uses intended to complement the proposed commercial and office uses. Finally, the uses on site would be linked through a series of pedestrian, bicycle, and automobile connections, consistent with the goals of the GDP.

Chapter 1, Section E: Implementation, requires that the total land use acres for each individual village not exceed 15 percent of the designated acres indicated in the overall Project summary table of the GDP. The overall Project summary table in the GDP would be amended and updated as part of the approval of the UID SPA Plan to include the proposed 383.8 acres associated with the Project. Because the acreage associated with the proposed Project would be included in the overall Project summary table of the GDP, no inconsistencies would exist upon Project approval.

Chapter 2, Mobility, includes goals for the circulation system, such as encouraging other modes of transportation, providing an efficient circulation system, minimizing the amount of ingress/egress, landscaping entry streets, and incorporating regional transit plans. The proposed Project provides for bicycle, pedestrian, and public transit transportation, and would not conflict with the goals, policies, and objectives of this chapter of the Otay Ranch GDP.

Chapter 4, Parks, Recreation, Open Space, includes goals, objectives, and policies to provide diverse recreational opportunities to Otay Ranch residents that meet recreation, conservation, preservation, cultural, and aesthetic needs of Project residents. The proposed Project includes 39.5 acres of common open space, in addition to 41.1 acres of open space which would be non-developable areas maintained as natural habitat, and would not be in conflict with this chapter of the Otay Ranch GDP.

Chapter 5, Capital Facilities, includes goals, objectives, and policies to assure efficient and timely provision of public services concurrent with need. The proposed Project includes a PFFP, which identifies joint siting, planning, development, and operation of complementary public services in the Project area, consistent with the Otay Ranch GDP.

Chapter 6, Air Quality, includes goals, objectives, and policies to minimize impacts of development on air quality through the creation of a safe and efficient multi-modal transportation system. Section D, Implementation, requires Otay Ranch SPA applications to include an Air Quality Improvement Plan (AQIP) that is consistent with the Otay Ranch GDP. In compliance, the proposed Project includes an AQIP intended to implement the GDP. As a result, the proposed Project is consistent with the goals, objectives, and policies of the Air Quality chapter of the GDP.

Chapter 9, Growth Management, requires the preparation of a PFFP to ensure facilities and improvements are installed and financed to meet standards for providing public facilities. The proposed Project includes a PFFP as Appendix A to the proposed SPA Plan, consistent with the GDP.

As noted in the SPA Plan, the following portions of the GDP will be reviewed for approval and revised as part of the Project to reflect planning for the UID:

- LUT Element, Section 10.5.5.2, Regional Technology Park: Vision for Focus Area: The description of an 85-acre master-planned business park will be revised.

- Objectives LUT 92 and 95 will be revised to reflect that the RTP is no longer a stand-alone business park but integrated into the UID.

- Policies LUT 92.4-92.8, 94.2, and 95.5 will also be amended accordingly.

- Economic Development Element, Policy ED 2.1, and Section 3.2.4 will be revised to reflect the concept that the RTP is not a stand-alone business park but integrated into the UID.

Because these changes would be part of Project approvals and; therefore, would occur concurrently with the Project as approved, the SPA Plan would be consistent with applicable land use objectives and policies of the GDP. These land use impacts would therefore be less than significant.

3. EastLake III General Development Plan

The adopted EastLake III GDP establishes community; residential; commercial; open space, parks, and recreation; public facilities, circulation, and infrastructure; plan administration; and economic goals. The GDP also provides planning objectives for the area, as well as policies and standards

for land use, development, and conservation. The Project would not be incompatible with the goals, objectives, policies, and standards set forth in the EastLake III GDP. In fact, the Project would help meet the community goal to "provide for adequate schools, parks, and recreation facilities, community purpose facilities, and other public/quasi-public uses," and the public facilities, circulation, and infrastructure goal to "continue to enhance the quality of the EastLake community through excellence in public and private education facilities, which serve all residents." The SPA Plan would be consistent with applicable land use objectives and policies of the EastLake III GDP. These land use impacts would therefore be less than significant.

4. City of Chula Vista Zoning Code

The Project is subject to the existing P-C District zoning regulations, which apply to the Village Development Areas. The P-C zone requires the preparation of an SPA Plan, and the Project would provide for orderly pre-planning and long-term development because it includes a SPA Plan that will guide Project development. It implements an orderly pre-planning for Project development through the implementation of approved site utilization plans and form-based code. The form-based code in the SPA Plan would implement regulations and standards that focus on the physical relationships between buildings, streets, and public spaces. This approaches the development of land by regulating the form, character, and street appearance of a building to focus attention on the public presentation of buildings and creating a public setting that is comfortable for pedestrians. This approach also provides design standards for landscape zones, open space and recreational areas, lighting, parking areas, and signage. Therefore, the Project is consistent with the zoning code and land use impacts associated with zoning code compliance would be less than significant.

5. City of Chula Vista Growth Management Ordinance

As described above, the GMO requires the provision of a PFFP, AQIP, and WCP for every SPA Plan to ensure that existing public services and financing for new public facilities would keep pace with new development, adequate water supply would be available to serve new development, and that a project would meet local and state air quality standards. The UID SPA Plan includes a PFFP, AQIP, and a WCP, which will be considered for approval concurrently with the SPA Plan. The Project could not move forward without an approved SPA Plan. Because the Project would not be developed without an approved SPA Plan, and consideration of such a plan will occur during Project consideration by the City Council, the Project would be consistent with these requirements of the GMO.

In addition, the GMO requires that a project meet GMO quality of life threshold standards related to traffic, police and fire services, parks, schools, libraries, sewers, storm drainage, air quality, and water. The Project could potentially be inconsistent with GMO threshold standards with respect to traffic, public services, and utilities without implementation of the mitigation measures identified in other sections of this EIR. Therefore, a potentially significant impact related to land use could occur (Impact 5.1-3).

The City standard for air quality is an annual report from the San Diego Air Pollution Control District (SDACPD) on the impact of growth on air quality. The Project would not interfere with the SDACPD's ability to prepare its annual report. As discussed in Section 5.4, the Project would reduce its construction and operational air quality emissions to the maximum extent feasible. The

City standard for schools is an annual report to evaluate school districts' ability to accommodate new growth. The Project would not interfere with the City's or the school districts' ability to prepare this report. Project planning has integrated the High Tech K-12 School campus located within the University and RTP land planning acreage. As the Project would be consistent with the standards through implementation of mitigation measures included in this EIR, land use impacts with respect to this ordinance would be less than significant. Therefore, for the reasons listed above, the Project would not interfere or conflict with the Chula Vista GMO.

6. Park Land Dedication Ordinance

Section 17.10.040 of the Chula Vista Municipal Code, the Park Land Dedication Ordinance, and the GDP require the dedication of three acres of parkland per 1,000 residents. The Ordinance applies a per-unit park demand factor for single-family and multi-family homes to achieve this park standard. Each single-family home is required to dedicate 431 square feet of parkland and each multi-family home is required to dedicate 337 square feet of parkland.

The park requirements for the Project would be different from the typical city park requirements and would not be required to serve student housing because the CVMC (Chapter 17.10) requires parkland to be dedicated with the development of single- and multiple-family residential but not for planned student housing, such as dormitories. As such, this parkland requirement would apply to the 2,000 stand-alone units and would be specifically identified during the future review of single- and multi-family residential projects. Acreage devoted to Sector O-2: Common Open Space and Sector O-3: Pedestrian Walk provides recreational amenities and can be considered parks for the purpose of the GDP and Quimby Act. The Sectors O-2 and O-3 amenities could include gathering places that are flexible and can be used for multiple functions such as farmer's markets, art shows, and other events. They may also include gardens and urban spaces for quiet reflection. As such, appropriate amenities and facilities may include play areas, academic sports facilities, seating areas, flex spaces, public plazas, dog parks, and open areas and focal points (e.g., water features, statues, etc.). Using this innovative and development-responsive series of park and recreation areas, the Project would be consistent with the Park Land Dedication Ordinance and land use impacts would be less than significant.

7. Greenbelt Master Plan

The segment of the Greenbelt Master Plan applicable to the UID SPA Plan is the Otay Ranch Village Greenway segment. This segment presents opportunities for multi-use trails that would provide mobility for residents between several villages and connectivity between their recreation areas and other future parks along the Greenbelt. The UID SPA Plan establishes greenway and greenbelt linkages between Villages 9 and 10, the Millenia development, and existing Village 11 to surrounding open spaces.

A major regional trail is planned along the northern edges of the Project site along Hunte Parkway. Segments would continue easterly along that roadway, as well as northerly along Eastlake Parkway and westerly into and through Millenia. The Salt Creek Sewer Interceptor/Greenbelt trail trends south of future Villages 9 and 10 and turns northerly through Preserve area to join Hunte Parkway, as well as other points northerly to the east. Chula Vista Greenbelt Trail sections more closely edge

the development boundary of the UID Main Campus on the south and east, and also trend northerly along the western edge of Lower Otay Lake, immediately adjacent to the Lake Property.

Under the Otay Ranch SPA Plans and respective TMs, a multi-purpose recreational regional trail also would traverse Villages 9 and 10 along Otay Valley Road that would connect to a village pathway, dedicated bike lane and bike path along Eastlake Parkway in the Project site that would further disperse travelers along pedestrian pathways and bike lanes located on other Project internal roadways. At its southwestern extent, the trail would also extend southerly to ultimately connect to the Greenbelt Trail and the Otay Valley Regional Park trail system east of SR-125. The trail would be open to bicycles, pedestrians, and other non-motorized modes of transportation.

Pedestrian walks, rural trail segments, jeep trails, and other paths would connect use areas, recreation locations and open space. As depicted in Figure 3-4 in Chapter 3.0, *Project Description,* which show the planned bicycle and pedestrian components of the SPA Plan, the Project would be consistent with the standards of the Greenbelt Master Plan and would provide a greenbelt trail connecting Village 9 to the Greenbelt trail system. Therefore, land use impacts would be less than significant.

8. Brown Field Airport Land Use Compatibility Plan

The Project is subject to consistency with the Brown Field ALUCP. The ALUCP designates the airport influence area and contains projected noise contours, flight activity zones, a land use compatibility matrix and plan recommendations for areas surrounding the Brown Field Municipal Airport. A portion of the Project site is within Review Area 2 of the airport influence area. The Project site is not located within the 60 CNEL noise level contour for Brown Field and is compatible with noise levels generated by the airport.

As discussed above and shown on Figure 5.1-1, the Project site is located within the FAA height notification boundary, Part 77 Airspace Surfaces, and Airport Overflight Notification Area for residential development, and Review Area 2 of the Airport Influence Area, where development could potentially obstruct the flight approach paths for Brown Field (refer to SPA Plan Figure 10A: *Brown Field Airport Influence Area*). Height limitations established in the UID SPA Plan regulate most buildings to a maximum of either 50 feet or 92 feet, and it is not anticipated that development of these structures would result in an obstruction to air traffic. While the T-6: Gateway District identifies the future development of a signature tower between 200 and 250 feet in height near the northern-central portion of the Main Campus Property, this area is not within Review Area 2. However, proper disclosure to future residents and notification in compliance with the Brown Field ALCUP is required to ensure land use compatibility. Airport Influence Area compliance is gained by the City through submittal of SPA documents to the Airport Land Use Commission (ALUC). Based on a determination by ALUC, additional requirements may be imposed. The UID SPA Plan requires that subsequent submittals and development comply with Part 77 of Federal Aviation Regulations.

In summary, the Project would include development within the Overflight Notification Area and the Project's inconsistency with the Brown Field ALUCP would be a potentially significant impact (Impact 5.1-2).

9. Otay Valley Regional Park Concept Plan

The Otay River is the main east-west habitat linkage in the Project vicinity. The Project development area is located generally north of the "Heritage Road (Paseo Ranchero) to Otay Lakes Vicinity" segment and west of the "Otay Lakes Vicinity" segments of the park of the OVRP Concept Plan. The concept plan encourages private development that occurs within or adjacent to the regional park to provide linkages with regional park trails and, as appropriate, to provide open space, recreational facilities, staging and viewing areas in conjunction with the park. Although the Project site is not directly adjacent to the Otay Valley Regional Park, it does propose a series of trails that extend south from the Project development areas and would (especially with development of adjacent villages), eventually connect to the proposed regional trail system. OVRP Concept Plan policies include (continued) creation of the Otay Ranch Preserve and preservation of wildlife corridors into Otay Valley Regional Park. Preserve areas would be dedicated as part of Project approval and implementation of the Project would not interfere with wildlife movement over the long-term. Therefore, implementation of the Project would be compatible with the applicable portions of the OVRP Concept Plan, and land use consistency impacts would be less than significant.

C. Threshold 3: Conflict with any applicable habitat conservation plan or natural community habitat conservation plan.

Overall, Otay Ranch projects would directly and indirectly significantly impact biological resources, and also would result in long-term, potentially significant impacts related to biological resources management unless Otay Ranch regional open space is preserved proportionally and concurrently with development. The Otay Ranch RMP, therefore, established performance standards for achieving 13,000-acre Otay Ranch Preserve. The Chula Vista MSCP Subarea Plan and the Otay Ranch RMP are the habitat conservation and community habitat conservation plans applicable to the Project. For development projects located within Otay Ranch, the MSCP Subarea Plan relies on the preserve design and policies contained in the Otay Ranch RMP as the framework for conservation and management of biological resources within the Preserve. The Preserve Edge provides a buffer between the Project and the MSCP area. Development in and adjacent to the Preserve Edge are controlled by the SPA Plan and the accompanying Preserve Edge Plan (Appendix D to the SPA Plan) to limit potential impacts to sensitive plant and animal species within the MSCP area. Ultimate compliance relies on progressive acquisition, or funding for acquisition, of the designated Preserve areas with each development approval.

The Project site, including both the Main Campus Property and the Lake Property, is situated within the planned development area of the City's MSCP Subarea Plan. Development on the Main Campus Property is associated with an Otay Ranch Covered Project[1] (i.e., Otay Ranch/University Project) under the City's MSCP Subarea Plan. Such planned development areas assume that development-related impacts will be sufficiently mitigated by hard-line conserved areas added to the Preserve as part of Project approval. Therefore, impacts to MSCP-covered species and sensitive

[1] "Covered Projects" are those projects involving land use development within the City of Chula Vista for which hard-line Preserve boundaries have been established pursuant to the approved Chula Vista MSCP Subarea Plan, and where conservation measures consistent with the MSCP Subregional Plan and Chula Vista MSCP Subarea Plan have been or will be specified as binding conditions of approval in such Project's plans and approvals.

upland habitats on the Main Campus Property do not require compensatory mitigation as specified in the City's Habitat Loss and Incidental Take (HLIT) ordinance, but are subject to specific conditions in the Otay Ranch and University Project approvals. Areas proposed to be preserved (100 percent conservation areas) would be dedicated to the City as a preserve, as part of the development approval process for covered projects. As it pertains to the Project, lands will be conveyed to the Preserve in accordance with the RMP. UID design as proposed for covered projects would be consistent with the Chula Vista MSCP Subarea Plan and the Otay Ranch RMP through specific adherence to conditions of coverage and mitigation/conveyance requirements, as defined in Section 7.6 of the Chula Vista MSCP, and the Otay Ranch RMP.

The Lake Property is not currently part of the Covered Projects. The City's HLIT ordinance is applicable to campus development on the Lake Property and associated off-site areas, as it would occur outside of the Covered Projects category in the Plan, thereby requiring mitigation for impacts to sensitive resources.

In addition, impacts to sensitive resources could occur as a result of the proposed off-site facilities within 100 percent conserved areas of a Covered Project. Land uses within the Preserve (including access roads and infrastructure) would be considered compatible with the Chula Vista MSCP Subarea Plan if they would be compatible with the Facilities Siting Criteria contained in Section 6.3.3.4 of the Chula Vista MSCP Subarea Plan. Compliance with the Facilities Siting Criteria ensures that the facilities located within the Preserve have been located within the least environmentally sensitive areas and that impacts to the Preserve have been minimized to the maximum extent practical. Implementation of the Project would result in potentially significant impacts related to consistency with the Chula Vista MSCP Subarea Plan (Impact 5.1-4). An analysis of these proposed off-site facilities pursuant to Preserve siting criteria is provided in Section 5.6.

Only the RTP portion of the Project (and future final maps) would be required to convey open space in accordance with the RMP at a rate of 1.188 acres for each acre of development area. The anticipated conveyance obligation for the current project is approximately 155.63 acres; however, final conveyance calculations shall be determined by the City Engineer based on final map design. All off-site facilities located within the preserve are designed to minimize impacts to covered habitats and species by following the MSCP Siting Criteria. Additionally, implementation of the Preserve Edge Plan, Agricultural Plan, and Fire Protection Plan would ensure that the Project and associated facilities development would be consistent with the Otay Ranch RMP. Therefore, potential land use plan consistency impacts related to the Otay Ranch RMP would be less than significant.

5.1.4 Level of Significance Prior to Mitigation

A. Land Use Compatibility

Impact 5.1-1: Potentially significant land use incompatibilities could occur for the issues of air quality, operational noise, biological resources, hydrology/water quality, and hazards and hazardous materials.

No impacts would occur related to division of an existing community. In addition, Project impacts to community character would be less than significant.

B. Conflicts with Land Use Plans, Policies, and Regulations

Impact 5.1-2: The Project would include development within the Overflight Notification Area and the Project's inconsistency with the Brown Field ALUCP would be potentially significant.

Impact 5.1-3: The Project could potentially be inconsistent with the GMO quality of life threshold standards with respect to traffic, public services, and utilities, which would result in a significant land use impact.

The Project would comply with the applicable objectives, policies, and/or regulations from the Chula Vista General Plan, Otay Ranch GDP, Chula Vista Zoning Code, GMO, Park Land Dedication Ordinance, Greenbelt Master Plan, and OVRP Concept Plan. Conflicts with these plans, codes, and ordinances would be less than significant.

Consistency with the MSCP and RCP is addressed below, under heading C, *Conflicts with HCPs or NCCPs*.

C. Conflicts with HCPs or NCCPs

Impact 5.1-4: Implementation of the Project would result in potentially significant impacts related to consistency with the Chula Vista MSCP Subarea Plan.

5.1.5 Mitigation Measures

A. Land Use Compatibility

Potentially significant land use incompatibilities could occur for the issues of air quality, operational noise, biological resources, hydrology/water quality, and hazards and hazardous materials (Impact 5.1-1). No additional mitigation measures are required other than 5.4-1a and 5.4-1b (to reduce air quality impacts during construction), 5.5-1a through 5.5-1e (to reduce potential noise impacts), 5.6-8e (implementation of the Preserve Edge Plan), 5.11-1a through 5.11-1f (to protect the Preserve from storm water runoff), and 5.13-2a and 5.13-2b (which requires notification regarding nearby airports) would be required.

B. Conflicts with Land Use Plans, Policies, and Regulations

The Project's inconsistency with the Brown Field ALUCP would be potentially significant (Impact 5.1-2). No additional mitigation measures are required other than 5.13-2a and 5.13-2b (which requires FAA approval before development of the Overflight Notification Area).

The Project could potentially be inconsistent with the GMO quality of life threshold standards with respect to traffic, public services, and utilities (Impact 5.1-3). No additional mitigation measures are required other than 5.3-24, 5.9.1-1a, 5.9.2-1b, 5.9.3-1, 5.9.4-1, 5.9.5-1, and 5.15.2-1.

C. Conflicts with HCPs or NCCPs

Implementation of the Project would result in potentially significant impacts related to consistency with the Chula Vista MSCP Subarea Plan (Impact 5.1-4). No additional mitigation measures are required other than the mitigation measures in Section 5.6, *Biological Resources* (Mitigation Measures 5.6-1a through 5.6-11), as well as Mitigation Measure 5.11-1a (development and implementation of a SWPPP and monitoring plan), would be required. These measures would implement the conservation strategies of the Chula Vista MSCP Subarea Plan.

5.1.6 Level of Significance After Mitigation

A. Land Use Compatibility

Potentially significant land use incompatibilities could occur for the issues of air quality, operational noise, biological resources, hydrology/water quality, and hazards and hazardous materials (Impact 5.1-1). With implementation of Mitigation Measures 5.4-1a and 5.4-1b (to reduce air quality impacts during construction), 5.5-1a through 5.5-1e (to reduce potential noise impacts), 5.6-8e (implementation of the Preserve Edge Plan), 5.11-1a through 5.11-1f (to protect the Preserve from storm water runoff), and 5.13-2a and 5.13-2b (which requires notification regarding nearby airports), impacts would be reduced to less than significant levels; with mitigation, the Project would not be incompatible with adjacent and surrounding uses.

B. Conflicts with Land Use Plans, Policies, and Regulations

The Project would include development within the Overflight Notification Area and Area 2 of Brown Field, which limits maximum structure heights to 200 feet. The Project's inconsistency with the Brown Field ALUCP would be potentially significant (Impact 5.1-2). With implementation of Mitigation Measures 5.13-2a and 5.13-2b (which requires notification to Project residents of aircraft flight patterns in area), the FAA would review and approve, as required, and impacts would be less than significant.

The Project could potentially be inconsistent with the GMO quality of life threshold standards with respect to traffic, public services, and utilities (Impact 5.1-3). With the implementation of Mitigation Measures 5.3-24, 5.9.1-1a, 5.9.2-1b, 5.9.3-1, 5.9.4-1, 5.9.5-1, and 5.15.2-1, the Project would ensure that the GMO quality of life threshold standards are met, and impacts would be less than significant.

C. Conflicts with HCPs or NCCPs

Implementation of the Project would result in potentially significant impacts related to consistency with the Chula Vista MSCP Subarea Plan (Impact 5.1-4). Implementation of all mitigation measures in Section 5.6, *Biological Resources* (Mitigation Measures 5.6-1a through 5.6-11), as well as Mitigation Measure 5.11-1a (development and implementation of a SWPPP and monitoring plan), would implement the conservation strategies of the Chula Vista MSCP Subarea Plan and eliminate the Project's conflicts with the Chula Vista MSCP Subarea Plan and impacts would be less than significant.

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5.2 AESTHETICS/LANDFORM MODIFICATION

This section describes the visual setting of the Project site, pertinent regulations related to aesthetics and visual resources, and evaluates the potential for impacts to aesthetic resources due to implementation of the SPA Plan. The analysis includes the consideration of scenic resources, visual character and quality, light and glare, and sensitive landforms as they relate to Project implementation. Additional discussion regarding indirect impacts of lighting on biological resources is discussed in Section 5.6, *Biological Resources*.

This EIR tiers from the Previous Environmental Review Documents, as described in Chapter 2.0, *Introduction*. Section 5.2, *Landform Alteration/Visual Quality*, of the 2013 SEIR analyzed the existing conditions, potential impacts, and mitigation measures related to the proposed land uses for the GPA/GDPA area, including the Main Campus Property. The SEIR identified a significant and unavoidable impact related to visual character because the existing characteristic rolling hills would be altered. The SEIR concluded that the impact would remain significant until SPA plans are adopted to apply design specifications to promote protection of the visual character of the area. Section 4.5, *Landform Alteration/Visual Quality*, of the 2001 SEIR evaluated potential impacts resulting from development of the Lake Property and concluded that impacts would be less than significant with additional visual quality impact assessment and incorporation of landscape and grading considerations. The analysis and discussion of aesthetics and landform alteration contained in the SEIRs are incorporated by reference, including Mitigation Measure 5.2.5-1 from the 2005 GPU EIR and 2013 SEIR.

5.2.1 Existing Conditions

A. Regulatory Framework

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 officially designated or eligible for designation as scenic highways by the California Department of Transportation (Caltrans). 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 human-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. The Caltrans Scenic Highway Mapping System lists 15 designated and eligible highways within San Diego County, including six officially

designated and nine eligible highways. Portions of State Routes (SR-) 52, 75, 78, 125, and 163 are designated as scenic highways and portions of Interstates (I-) 5, 8, and 15, and SR-75, 76, 78, 79, and 94 are eligible. Designated and eligible routes nearest to the Project site are at the junction of the SR-125 and SR-94, which is about 10 miles north of the Project site. A portion of SR-125 beginning at SR-94 is officially designated as a state scenic highway and a portion of SR-94 at the SR-125 is listed as eligible. Southern-facing views toward the Project from the junction of SR-125/SR-94 include the San Miguel Mountains and Otay Mountain; views onto the Project site are not available from any officially designated or eligible scenic highways.

2. Regional

a. County of San Diego Code of Regulatory Ordinances Sections 59.101-59.115, Light Pollution Code

The Light Pollution Code (LPC), or the Dark Sky Ordinance (Sections 59.101-59.115), was adopted "to minimize light pollution for the enjoyment and use of property and the night environment by the citizens of San Diego County and to protect the Palomar and Mount Laguna observatories from the effects of light pollution that have a detrimental effect on astronomical research by restricting the permitted use of outdoor light fixtures on private property." The LPC regulates outdoor light fixtures. The LPC designates all areas within a 15-mile radius of each observatory as Zone A, with all other areas designated as Zone B. Zone A has more stringent lighting restrictions due to its proximity to the observatories, including limits on decorative lighting. The Project site is not located within either zone A or B and is outside the jurisdiction of the County of San Diego; however, the GDP requires compliance with the County's LPC, which applies to the Project.

3. Local

a. City of Chula Vista General Plan

The Chula Vista General Plan Land Use and Transportation Element addresses the preservation, promotion, and enhancement of aesthetic resources and designates scenic open space resources, gateway areas, and Scenic Roadways throughout Chula Vista. A description of these resources and where they occur in relation to the Project is included below.

Scenic open space resources in the Project vicinity include Lower Otay Lake and the Otay River Valley, which is part of the Chula Vista Greenbelt. The Chula Vista Greenbelt is a 28-mile open space system encircling the city and is the backbone of the City's open space and park system (see General Plan Figure 5-5, which depicts the City's open space network). These resources are valued in Chula Vista as they provide visual relief from urban development and provide connections to the City's existing and future public parks. The Otay River Valley is located directly south of both the Main Campus Property and Lake Property, and stretches in an east-west direction from Lower Otay Lake to San Diego Bay. Lower Otay Lake is located adjacent and directly east of the Lake Property.

The Chula Vista General Plan designates gateway areas throughout the City, which include Primary and Secondary Gateways, Gateway Streets, and Overall Entryways (see Figure 5-6 of the General Plan, Entryways and Greenways, for the locations of these designated areas). The

designation of gateway areas is intended to guide the future design of public areas throughout the City. LUT Policy 9.2 states that gateway areas are designated to ensure certain areas are well-designed, attractive, and exhibit a special character to enhance the City's image and pride. Gateway areas include special consideration related to the design of sidewalks, landscaping, signage, and building design standards. Of the Primary and Secondary Gateways, Gateway Streets, and Overall Entryways designations, only Gateway Streets are designated within or near the Project site. There are no Primary Gateways, Secondary Gateways, or Overall Entryways on or adjacent to the Project site.

Main Street/Hunte Parkway is designated as a Gateway Street and includes most of Main Street east of I-805. Main Street becomes Hunte Parkway east of Eastlake Parkway, and Hunte Parkway is designated as a Gateway Street along the northern boundary of the Main Campus Property. Unnamed Gateway Streets internal to the Project site are also shown on General Plan Figure 5-6. Development within the SPA Plan would be required to incorporate the City's intended design features associated with Gateway Streets along Hunte Parkway and unnamed Gateway Streets internal to the Project site.

The nearest designated Primary Gateway to the Project site is the Main Street Gateway at the intersection of SR-125 and the planned extension of Main Street (about 0.5 mile west of the Main Campus Property near Village 9). The nearest Secondary Gateway to the Project site occurs along Third Avenue in southwestern Chula Vista, more than six miles southwest of the Project site. The nearest Overall Entryway occurs about 1.5 miles south of the Main Campus Property at the City limit along SR-125. None of the requirements related to the implementation of Primary Gateways, Secondary Gateways, or Overall Entryways would apply to the Project site.

Scenic roadways, where views of unique natural features and roadway characteristics, including enhanced landscaping, adjoining natural slopes, or special design features make traveling a pleasant visual experience, are also designated in the General Plan (see General Plan Figure 5-4, *Designated Scenic Roadways*). Hunte Parkway is designated as a Scenic Roadway, including the portion that occurs along the northern Project boundary of the Main Campus Property. Wueste Road is also designated as a Scenic Roadway that occurs along the eastern Project boundary of the Lake Property and the Lower Otay Reservoir. General Plan Policy LUT 13.4 provides guidance for projects located adjacent to scenic routes and requires that any discretionary projects adjacent to scenic routes, with the exception of single-family dwellings, shall be subject to design review to ensure that the design of the development would enhance the scenic quality of the route.

b. Otay Ranch General Development Plan

According to the Otay Ranch GDP, the major Otay Ranch visual elements include the Otay Lakes, which are human-made reservoirs, canyons, and steep mountain peaks. Otay Mountain, Jamul Mountain, and San Miguel Mountain are prominent peaks located on and off site that are visible from the Otay Ranch Area. Otay Mountain and San Miguel Mountain are located outside of the Otay Ranch area. GDP policies mirror the aesthetic policies of the General Plan and require that activities should flow out from buildings onto public spaces to create vitality and excitement along the street front. In addition, GDP policies encourage the incorporation of public art into individual buildings or building clusters.

The GDP includes objectives to retain the natural character of landforms in Otay Ranch and the Otay Valley Regional Park, preserve steep slopes, relate development to topography and natural features, and preserve views of major physical features. The GDP includes design standards addressing architectural massing, grading, landscaping, and retaining walls to minimize adverse visual effects. The Otay Ranch GDP also includes a goal to preserve dark skies to allow for continued astronomical research and exploration to be carried out at the County's two observatories. Policies supporting this goal require compliance with the City lighting standards and outdoor lighting fixtures to be shaded on top so that all light will shine downward.

c. Otay Ranch Phase II Resource Management Plan

The GDP and RMP established a community-wide standard that requires preservation of at least 83 percent of the steep slopes (slopes with gradients of 25 percent or greater) within Otay Ranch, including the Otay Valley Parcel (City of Chula Vista) and the Proctor Valley/San Ysidro Parcels (County of San Diego).

The Phase 2 RMP requires that the community-wide preservation standard be reviewed and monitored as additional Otay Ranch villages are processed to ensure that the 83 percent community-wide goal of steep slopes preservation is maintained. While maintaining consistency with the Otay Ranch GDP standard for steep slopes, flexibility regarding the acreages cited in the RMP is allowed provided that each SPA Plan demonstrate that the Project's actual impacts to steep slopes will not preclude subsequent entitlements from achieving the Ranch-wide preservation standard. As stated in RMP 2, deviations from the acreages cited in the RMP are permissible provided that "…the SPA demonstrates that the excess encroachment will not jeopardize the ability of all subsequent entitlements to achieve the Ranch-wide 83 percent preservation standard." (p. 160, Otay Ranch Phase 2 RMP, Ranch-wide Studies, Plans, and Programs). A Ranch-wide analysis performed in 2012 to verify current conditions and the accuracy of the steep slope assumptions contained in the in the Otay Ranch GDP PEIR identified 9,821 acres of land with gradients of 25 percent or greater. To date, development entitlements approved within Otay Ranch have impacted approximately 255 acres of steep slopes (approximately 3 percent) within the Otay Valley Parcel; approximately 97 percent (9,566 acres) of steep slopes remain in Otay Ranch. No impacts to steep slopes have occurred within the Proctor Valley/San Ysidro Parcels.

d. City of Chula Vista Municipal Code Chapter 17.28, Unnecessary Lights

The Chula Vista Unnecessary Lights Ordinance outlines restrictions and limitations on the use of lighting in or near the residential zones to prevent lighting from creating a nuisance to residents. The ordinance recognizes that lighting is widely used in commercial or industrial zones for the purpose of advertising and security and that such lighting is essential to the conduct of many commercial or industrial enterprises. The ordinance requires light shielding on commercial and industrial lighting near residences; 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. Lighting from any use which is unshielded or so directed as to focus the beams directly upon adjacent residential property is prohibited at all times.

e. City of Chula Vista Municipal Code Section 19.66.100, Glare

The City performance standard for glare prohibits direct and sky-reflected glare, whether from floodlights or from high-temperature processes (such as combustion or welding), that is visible at the lot line of the use producing the glare.

B. Existing Aesthetic Character

1. Landform and Drainages

The landform within the Project site is characterized by open rolling hills on the Main Campus Property and Lake Property with several canyons and drainages generally in the southern and eastern portions of the Main Campus Property. The elevation of the Main Campus Property ranges from about 340 to 620 feet AMSL and generally slopes southward from Hunte Parkway towards the Otay River Valley. Typical elevations in the southern portion of the site are around 340 feet AMSL; however, the Main Campus Property includes three unnamed drainage features, two of which are tributaries to Salt Creek and one is a tributary to the Otay River. The Lake Property is generally flat with steep slopes along the western edge of the site and elevations range from north to south between 500 – 560 feet AMSL.

Views of key landform features, such as the Otay River Valley to the south, and the Otay, Jamul, and San Miguel mountains to the north and east, are available from both properties that comprise the proposed Project. The Otay River is located approximately one mile south of the site and also is visible from within the Project area. Areas to the east and west consist of similar rolling hills and drainages; however, areas immediately west of the Project site have been modified and partially graded for development associated with the Village 9 SPA Plan. A steep canyon is located to the west of the site, and bluffs abutting the Otay River Valley are located to the south. Elevations immediately south of the Main Campus Property reach their lowest point in the river valley at around 250 feet AMSL, and then slope back up across the valley toward the Project site. The Otay Valley Regional Park (OVRP) is oriented in an east-west direction that links south San Diego Bay with the Otay, San Miguel, and Jamul Mountains, and is located south of the proposed Project. A park and recreational area is planned just east of SR-125, approximately 0.6 mile south of the Main Campus Property and approximately 1.9 miles southwest of the Lake Property. Topography at the Project site is between 120 and 400 feet higher than the elevations at the planned park and recreational area at the OVRP (220 to 240 feet AMSL). Under existing conditions, views onto the Project site are unavailable due to intervening topography between the proposed Project and the planned park and recreational area at the OVRP. The peak of the San Miguel Mountains is located about 5.25 miles north of the Project site, the peak of the Jamul Mountains is located about 4.5 miles northeast of the Project site, and the peak of the Otay Mountains is located about 5.5 miles southeast of the Project site.

2. Vegetation

Non-native grassland, chaparral, coastal sage scrub, and maritime succulent scrub vegetation is found on the Project site and in the surrounding areas. Along the river alignment, vegetation consists of larger shrubs and is more riparian in nature. Areas are developed north of

Hunte Parkway and north of the Project site. Vegetation in these developed areas consists of landscaping, such as trees along roadways and lawns.

3. Steep Slopes

The GDP considers steep slopes to be visual resources. Steep slopes within the Main Campus Property and Lake Property consist of about 82.5 acres and 3.5 acres of natural slopes with gradients greater than 25 percent, respectively. The Main Campus Property slopes to the south; however, the steepest slopes are located in the southeastern portions of the site along drainages.

4. Development

Partially developed areas are located to the northwest and northeast. Areas to the north are generally developed as part of Village 11 with the exception of a graded and undeveloped area abutting Hunte Parkway between Eastlake Parkway and Discovery Falls Drive. In accordance with the General Plan and Otay Ranch GDP, future development is planned in the west, north, and southwest. Plans include mixed-use and residential development in Villages 9 and 10 and mixed-use development in the Millenia property. The area south of the Project site and east of Village 10 will be preserved as open space.

5. Lighting and Glare

Two astronomical observatories are located within 50 miles of the Project site: Mount Laguna Observatory, located approximately 20 miles from the Project site and Palomar Mountain Observatory, located approximately 37 miles north. Both of these observatories use large telescopes and conduct astronomical and other related research. These observatories are located in the unincorporated County of San Diego. Light pollution within a 15-mile radius of these observatories is strictly controlled through implementation of the County of San Diego's Light Pollution Code (Title 5, Division 9), which includes less restrictive measures for areas outside of the 15-mile radius. The Project site is outside the jurisdiction of the County of San Diego; however, the Chula Vista Unnecessary Lights Ordinance outlines restrictions and limitations on the use of lighting in or near the residential zones to prevent lighting from creating a nuisance to residents. These lighting restrictions also benefit the observatories.

Currently, the Project site and the areas adjacent to the Project site are within partially developed areas that are lit at night related to residential and commercial development. Additionally, these areas contain expanses of material that would result in glare. The City of Chula Vista, including the Otay Ranch area, is urbanized and currently generates night lighting. The buildings in the surrounding area include windows and other glass or metal expanses that can result in localized glare.

C. Viewers

Viewer exposure is typically assessed by measuring the number of views exposed to the resource, type of viewer activity, duration of their view, the speed at which the viewer moves, and the position of the viewer. Viewers that are exposed to the visual resources on and around the Project site include pedestrians, cyclists, and motorists.

The main group of off-site viewers includes residents of the Otay Ranch community. The UID is visible from the residences to the north in Village 11 in areas east of the existing High Tech K-12 School because areas to the west include steep slopes that preclude further views onto the site. The Lake Property is not visible from surrounding areas due to intervening topography and landscaping. Views from SR-125, which runs parallel and about 0.75-mile west of the Main Campus Property, are limited somewhat due to intervening topography; however, fleeting views are available from portions of the SR-125 that occur north of the Main Campus Property. Motorists along Eastlake Parkway and Hunte Parkway are able to partially view the site. Distant views of the Project site are available looking north from Otay Mesa.

D. Key Views

Because it is not feasible to analyze all the locations from which the Project would be seen, it is necessary to select a number of key public view points (KVP) that would most clearly display the visual effects of the Project. The consideration of KVP locations also considers areas where residents and visitors are likely to view the proposed changes to the existing environment. Figure 5.2-1, *Key View Point Locations*, illustrates the locations of six representative views of the Project. KVPs 1 through 4 are from within the Project site and illustrate existing on-site conditions. KVPs 5 and 6 are from nearby off-site locations that depict views of the site from surrounding public areas.

5.2.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines and the 1993 Program EIR for the GDP (EIR 90-01), impacts regarding aesthetics and landform alteration would be significant if the Project would:

- **Threshold 1:** Have a substantial adverse effect on a scenic vista.
- **Threshold 2:** Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State Scenic highway.
- **Threshold 3:** Substantially degrade the existing visual character or quality of the site and its surroundings.
- **Threshold 4:** Create a new source of substantial light, glare, or shadow which would adversely affect day or nighttime views in the area.
- **Threshold 5:** Alter areas of sensitive landforms and grade steep slopes that may be visible from future development and roadways that negatively detract from the prevailing aesthetic character of the site or surrounding area.

5.2.3 Impact Analysis

A. Threshold 1: Have a substantial adverse effect on a scenic vista.

The analysis of the Project's potential impacts on views considers the changes in key views to and from the Project site, as further discussed below. The analysis focuses on anticipated changes to

key views along with a determination of whether those changes would result in a significant impact and also includes an evaluation of changes anticipated from along Hunte Parkway and Wueste Road, both of which are designated locally as Scenic Roadways. Due to distance and intervening topography, views of the Project from SR-125 are generally unavailable and are not specifically analyzed below.

1. On-site Views

a. Key View Point 1

KVP 1 depicts southern views near the intersection of Hunte Parkway and Eastlake Parkway, into the northwestern portion of the Main Campus Property. Views from KVP 1 are shown in Figure 5.2-2, *Key View 1*. As shown, existing views from KVP 1 include the rolling hills of the Main Campus Property that continue off-site to the south towards the Otay River Valley and west into Village 9. Foreground views are characterized by low-lying vegetation and rolling terrain on the Main Campus Property as it slopes southward toward the Otay River. Middleground views include mowed grasses on the Project site and partially graded areas in the adjacent Village 9 area to the west. Middleground views also include a drainage that runs southward toward the Otay River Valley between the Main Campus Property and Village 9. In the background are distant southern views towards Mexico, which include a portion of the foothills of Otay Mountain.

This view was selected for analysis because it provides expansive southern-sloped views of mostly undeveloped and rolling hillsides and is located near Hunte Parkway, a designated Scenic Roadway. Typical viewers from KVP 1 include pedestrians, visitors, residents, bicyclists, and motorists in the area. For pedestrians, visitors, and residents, views are experienced while walking along the sidewalk on the south side of Hunte Parkway until it ends at Eastlake Parkway. Views are characterized as brief as there are no public gathering areas, parks, or other public amenities such as benches near KVP 1 that provide prolonged southern views for these viewers. While motorists and bicyclists travelling south on Eastlake Parkway experience southern views of the undeveloped Main Campus Property, once eastbound onto Hunte Parkway, southern views are unavailable due to the roadway orientation to the east and existing topography along the northern Main Campus Property boundary. Hunte Parkway currently terminates at Eastlake Parkway, and as such, there are no existing views from this designated Scenic Roadway west of Eastlake Parkway.

Implementation of the Project would result in the development of most of the Project's frontage along Hunte Parkway as part of the District Gateway Transect T-6, which is the densest transect included as part of the UID SPA Plan. Once constructed, KVP 1 would occur at proposed Block 6B and would include buildings between 42 and 92 feet in height. The existing hillside that occurs along Hunte Parkway near KVP 1 along the northern Project boundary would be graded to street level and would include a 20-foot-wide pedestrian walk with formal street tree landscaping and other streetscape features to create a formal arrival statement. Eastlake Parkway would be extended south through the Project site and onto Village 10, south of the Project site. As such, existing foreground views from KVP 1 of undeveloped rolling hills and grasses would be replaced with a mix of ornamental landscaping, pedestrian amenities, an extended Eastlake Parkway, and multi-story buildings between 42 and 92 feet in height. Existing middleground views of mowed grasses and portions of graded areas at Village 9 would be similarly replaced by development associated



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Key View Point Locations

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0 2,000 Feet

Figure 5.2-1



Key View 1: View south from the northwestern portion of the Main Campus Property, near the intersection of Eastlake Parkway and Hunte Parkway.

Source: HELIX 2016

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Key View 1

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Figure 5.2-2

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with the proposed Project and visual changes would be noticeable within KVP 1. Background views that include portions of the Otay Mountain foothills would be precluded by the proposed development; however, the focus of the view from KVP 1 includes the drainage that runs southward toward the Otay River Valley between the Main Campus Property and Village 9, which would be replaced by development.

Views of the Otay River Valley/Chula Vista Greenbelt are not available from KVP 1 under existing conditions due to intervening topography and would not be affected by the proposed Project. Southern views from KVP 1 as they relate to pedestrians, visitors, residents, bicyclists, and motorists would change from mostly undeveloped rolling hills to a developed and urbanized area; however, due to the brevity of views under existing conditions as a result of a lack of public viewing areas for pedestrian, visitors, and residents, and the orientation of Hunte Parkway (a designated Scenic Roadway) in an east-west direction, prolonged views are not currently experienced by viewers. As a result, while views from KVP 1 would change from mostly undeveloped to developed as a result of the Project, impacts as they relate to scenic vistas would be less than significant.

b. Key View Point 2

KVP 2 provides views across the Main Campus Property northeastward from the southern boundary. Views include internal northeastern-facing views of low-lying grasses in the foreground and middleground. Background views include portions of the Otay Mountain foothills, Jamul Mountain, and San Miguel Mountain, which appear as strong visual elements due to their size combined with a lack of other visual element between the mountain features and the Project site. Background views to areas north of the Project are precluded by a northern-sloping hillside that limits views to open sky. The existing view from KVP 2 towards the northeast is depicted on Figure 5.2-3, *Key View 2*.

KVP 2 is not located along a public trail or sidewalk and as such, does not represent views that residents or visitors would experience under current conditions; however, this KVP was included in order to document existing views across the Main Campus Property and describe the anticipated changes with Project approval.

Project approval would permit the Project site to be developed with a variety of uses as part of the UID, with buildings up to 92 feet in height. The location of KVP 2 would be within the T-1 transect, which allows for limited development that would serve as a transitional area between the urban and natural environment. Per the development standards in the UID SPA Plan, development in the vicinity of KVP 2 would be stepped down towards the southern Project boundary and would consider slope, access, and view considerations in the final design of the area. Post-Project views from KVP-2 would consist of limited development in the foreground, followed by more intense development in terms of size and scale in the middleground of the view. The KVP 2 views to the northeast would be modified from foreground and middleground views of open rolling hills with low-lying grasses to views of urbanized development, streets, and recreational areas. Background views onto the Otay Mountain foothills and the Jamul mountains would be mostly obscured by the proposed built development associated with the UID SPA Plan. Northeastern views are oriented away from the Otay River Valley and no changes would be experienced from KVP 2.

While existing scenic views of the Otay Mountain foothills and the Jamul mountains would be altered in a noticeable way as a result of Project development from KVP 2, there are no public trails or opportunities for residents or visitors to experience existing views and as such, the public would not notice any changes to existing views from KVP 2. Impacts would be less than significant.

c. Key View Point 3

KVP 3 is located at the southwestern corner of the existing High Tech K-12 School, located near the center of the Main Campus Property along Hunte Parkway. The view southeastward from KVP 3, as shown on Figure 5.2-4, *Key View 3*, includes a view across the Project site; including foreground views of the rolling hills that are characteristic of the site and surrounding areas. Shrubs and grasses fill the majority of the foreground views. A wire fence is visible and there are narrow trails extending from the foreground to the middleground. Southeastern views include portions of Otay Mountain and associated valleys and hillsides that extend across the background to the west that led into the Otay River Valley. Views into the Otay River Valley itself are not directly available from KVP 3 due to the rolling terrain on the Main Campus Property and distance from KVP 3 to the Otay River Valley, which is located about one mile away.

This view was included in the analysis because KVP 3 includes expansive views of mostly undeveloped and rolling hillsides, similar to the views experienced at KVP 1; however, this view is much more frequently experienced because it is from an existing school site (i.e., High Tech K-12 School). KVP 3 also includes direct views onto Otay Mountain, which is identified in the Otay Ranch GDP as a prominent peak in the area and the GDP aims to preserve views of major physical features. Typical viewers from KVP 3 include students, employees, parents, and other visitors to the High Tech K-12 School. While there are no public gathering areas, parks, or other public amenities such as benches or picnic tables at or near KVP 3 that would attract viewers or provide prolonged public views, KVP 3 is visited often and unobstructed views of Otay Mountain from KVP 3 are experienced frequently.

Following Project construction, KVP 3 would be located near the intersection of Discovery Falls Drive and proposed Street C, within Transect 3: Campus Commons. Development in this area would consist of a mixture of development, roadways, common space, and conservation areas and the proposed development would mostly restrict views of rolling hills and Otay Mountain. Buildings that would be visible from KVP 3 would not exceed 50 feet in height as seen from KVP 3 and some of the existing habitat would be conserved within the Project site. Due to the length of existing views from KVP 3, foreground, middleground, and background views would be noticeably different with the Project. Project implementation would replace an undeveloped and unmodified terrain and direct and unobstructed views onto Otay Mountain would be replaced with urban development and multi-story buildings. A pavilion feature would be located directly east of KVP 3 and would be up to 50 feet in height and include up to 5,000 square feet of developed area and would likely further preclude views.

Due to the availability of views from KVP 3 to the public as they access and leave the existing school, the frequency of these viewers' visits to the school, and the extensive background views of portions of Otay Mountain, which is identified in the Otay Ranch GDP as a major visual element



Key View 2: View northeast from the southern-central portion of the Main Campus Property.

Source: HELIX 2016

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Key View 2

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Figure 5.2-3

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Key View 3: View southeast from the northern-central portion of the Main Campus Property, near the existing High Tech Middle and High School at the end of Discovery Falls Drive.

Source: HELIX 2016

Key View 3

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Figure 5.2-4

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in the area, the Project would obstruct these existing views and impacts on scenic resources would be considered significant (Impact 5.2-1).

d. Key View Point 4

KVP 4 includes southern views and is located along a pedestrian path adjacent to Hunte Parkway near the northeastern portion of the Main Campus Property, as shown on Figure 5.2-5, *Key View 4*. The foreground view from KVP 4 includes a steep downward-facing slope that is vegetated with non-native iceplant (*Aptenia cordifolia*). Middleground views include the sloping Main Campus Property and the High Tech K-12 School is visible to the west of KVP 4. Middleground views onto the Project site also include an access road along a low point between two mild slopes. The access road is lined on the western edge with medium-sized vegetation about six feet in height. There is limited vegetation elsewhere within middleground views from KVP 4. Partial background views are also available of Otay Mountain.

This view was selected for analysis because it provides expansive southern views of undeveloped hillsides and is located along Hunte Parkway, a designated Scenic Roadway. This view was also selected to show a large portion of the Main Campus Property and to depict its relationship to the High Tech K-12 School. While existing viewer groups from KVP 4 are similar to those described above for KVP 1 and also include pedestrians, visitors, residents, bicyclists, and motorists, more existing viewers are expected to be affected at KVP 4 compared to KVP 1 due to the proximity to more residences in Village 11 and the proximity to the High Tech K-12 School. However, similar to the discussion for KVP 1, the duration of views from KVP 4 is brief as there are no public areas available for extended views by any viewer groups. Also, Hunte Parkway is oriented in an east-west direction and southern views would also be brief or unavailable to motorists and bicyclists.

Project implementation per the proposed UID SPA Plan would develop a majority of the Main Campus Property with multi-story urban development and foreground, middleground, and background views would be replaced by urban development associated with Transects 1C, 2A, and 3B. Development within these transects would be up to 50 feet in height. Sectors O-1A, which would include habitat conservation, would also be visible and would remain undeveloped, and would include the existing access road and adjacent areas, similar to existing conditions. As a result, some foreground views of vegetation would be similar to existing conditions; however, middleground and background views would be replaced by development associated with the Project.

Views of the Otay River Valley/Chula Vista Greenbelt are not available from KVP 4 under existing conditions due to intervening topography and would not be impacted by the proposed Project. Southern views from KVP 4 as they relate to pedestrians, visitors, residents, bicyclists, and motorists would change from mostly undeveloped rolling hills to a developed and urbanized area; however, prolonged views do not occur under existing conditions because of a lack of public viewing areas for pedestrian, visitors, and residents, and the orientation of Hunte Parkway (a designated Scenic Roadway) in an east-west direction. While views would be noticeably altered by the proposed Project, impacts as they relate to scenic vistas would be less than significant from KVP 4.

2. Off-site Views

a. Key View Point 5

KVP 5 includes western-facing views from Wueste Road, directly east of and adjacent to the Lake Property, at the entrance to the Otay Reservoir parking area and dock. As shown on Figure 5.2-6 (*Key View 5*), KVP 5 is located at a lower elevation than the Lake Property. The foreground view includes Wueste Road and a low natural earth bank that separates the Lake Property from the road. The middle ground view of the Lake Property includes a short bank along the western side of Wueste Road, followed by a barbed wire fence and short to medium height vegetation, including several eucalyptus trees. No background views of areas further west of the Lake Property are available from KVP 5 due to the topography of the Lake Property.

This view was selected for analysis to document existing views of the Lake Property in order to analyze potential visual impacts associated with this portion of the Project. The specific location of KVP 5 was selected at the entrance to the Otay Reservoir parking area and dock because views of the Lake Property from Wueste Road are generally unavailable and are focused to the east onto Lower Otay Lake. As such, this location represents the most likely location for the public to have views onto the Lake Property and to notice any future visual changes. Based on a desktop analysis evaluating existing views onto the Lake Property from Wueste Road, views are available southbound near the southern edge of the existing Olympic Training Center for an estimated 700 feet. Views headed northbound on Wueste Road do not include views of the Lake Property due to topography and vegetation. While Wueste Road is designated as a Scenic Roadway, its designation is due to eastern views of Lower Otay Lake. Views of the Lake Property are also unavailable from Otay Lake Park, located about 0.5 mile to the southeast. Typical viewers from KVP 5 would include visitors to Lower Otay Lake, specifically, people who are presumably fishing or boating. Views from KVP 5 would be experienced when leaving Lower Otay Lake as they turn onto Wueste Road. The duration of views from KVP 5 would be brief as they would be viewed from a vehicle in motion.

Adoption of the proposed UID SPA Plan would permit up to 150,000 square feet of development with a maximum building height of 50 feet on the Lake Property, near the center of the site. Most of the Lake Property would not be developed. A preserve edge would be maintained along the northern and western edges of the Lake Property, neither of which is visible from KVP 5. Some development at the Lake Property would be visible from KVP 5; however, areas between the Lake Property and Wueste Road would be conserved as part of the habitat conservation area around the Lake Property and existing foreground views are not expected to change. Middleground views would change from undeveloped hillside to development up to 50 feet in height; however, views of this visual change from KVP 5 would be brief and would be a less than significant environmental impact.

b. Key View Point 6

KVP 6 is taken from about 0.25 mile north of the Main Campus Property along Crossroads Street between Discovery Falls Drive and Eastlake Parkway. As shown on Figure 5.2-7, *Key View 6*, most of the area between KVP 6 and the Project site consists of undeveloped but disturbed and graded areas, which dominate the foreground and middleground. Middleground views onto the



Key View 4: View south from the northeastern portion of the Main Campus Property along Hunte Parkway.

Source: HELIX 2016

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Key View 4

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Figure 5.2-5

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Key View 5: View west from Wueste Road, adjacent to the Lake Property.

Source: HELIX 2016

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Key View 5

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Figure 5.2-6

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Key View 6: View southeast from adjacent Village 11 along Crossroads Street, north of the Main Campus Property.

Source: HELIX 2016

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Key View 6

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Figure 5.2-7

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Project site are mostly limited to the hillside along Hunte Parkway, due to the drop in elevation to the south on the Project site. Background views include parts of Otay Mountain, south of the Project site and faint views into Mexico to the southwest.

This view was selected to depict views of the site from an existing neighboring residential area and to provide a representative view from a surrounding area that is not internal or directly adjacent to the Project site. Viewers from KVP 6 are pedestrians and bicyclists that live near the Main Campus Property as the area is currently mostly residential. There is some existing commercial development north of KVP 6; however, it is not expected that commercial users generally travel to KVP 6 unless they are residents and therefore, most viewers from KVP 6 are residents of the area. There are no public gathering areas, parks, or other public amenities such as benches near KVP 6 that currently provide prolonged or focused views of the Project site or attract other visitors to the area.

Buildout of the Project per the UID SPA Plan would not be highly visible from KVP 6 due to a change in elevation and distance from the Project site. The most noticeable change would be the regrading of the site, which would result in the removal of the slope that is visible in the middle of the view from KVP 6 and the addition of buildings up to 92 feet in height along Hunte Parkway. The estimated elevation from KVP 6 is about 600 feet and the estimated elevation at the Project site at Hunte Parkway is about 550 feet (Google Earth 2016). As such, up to about 42 feet of the proposed buildings along Hunte Parkway would be visible from KVP 6 when compared to the existing conditions illustrated in Figure 5.2-7. Southeastern and eastern views of Otay Mountain are not expected to be obscured by the Project as a result of the anticipated development south of the existing high school as elevation differences are estimated at about 65 feet (Google Earth 2016). Buildings south of the existing high school would not exceed 50 feet and; therefore, views onto these buildings would not be available from KVP 6. Impacts would remain less than significant and views onto portions of Otay Mountain would remain similar to the existing condition.

c. Hunte Parkway (Scenic Roadway)

Hunte Parkway is an east-west roadway identified as a designated Scenic Roadway in the City's General Plan between Eastlake Parkway and Proctor Valley Road due to eastern and southern views of the surrounding mountains (e.g., the Jamul and Otay mountains). These scenic views are experienced while driving eastbound. Development associated with the UID SPA Plan would occur south of Hunte Parkway, and while future Project-related development would be visible to motorists traveling along Hunte Parkway, eastern views toward the Jamul Mountains would not be interrupted and would continue to be available. Views of Otay Mountain by motorists traveling eastbound along Hunte Parkway would be somewhat interrupted by development associated with the Project; however, most existing southern views of Otay Mountain are currently blocked under existing conditions. An existing hillside occurs between Eastlake Parkway and the High Tech K-12 School and prohibits any existing views of Otay Mountain. Further east along Hunte Parkway, the existing High Tech K-12 School further blocks southern views of Otay Mountain. Adoption of the UID SPA Plan would result in development up to 50 feet in height along Hunte Parkway within Block 3B where there is no existing development, and would block some views of Otay Mountain, otherwise, no other existing views of Otay Mountain as seen from Hunte Parkway headed east

would be affected. As a result, views along Hunte Parkway of scenic resources would be similarly unavailable under existing and proposed conditions and impacts would be less than significant.

d. Wueste Road (Scenic Roadway)

Wueste Road generally is a winding north-south roadway identified as a designated Scenic Roadway in the City's General Plan due to the views of Lower Otay Lake. These scenic eastern-facing views are experienced by motorists travelling northbound and southbound. Both the Main Campus Property and the Lake Property are located west of Wueste Road, and do not occur between Wueste Road and Lower Otay Lake. Further, none of the Main Campus Property is visible from Wueste Road due to distance and intervening topography. As such, none of the proposed improvements or proposed development associated with the Project could impede existing scenic views from Wueste Road. Impacts on scenic views from Wueste Road would not occur.

e. Otay Valley Regional Park

As described above under existing conditions and shown on Figure 5.2-8, *Line of Sight from Otay Valley Regional Park*, views of the Project site from the planned park and recreational area in the OVRP are unavailable, mostly due to intervening topography between the planned park and recreational area and the Project site. As shown on Figure 3-13, *Maximum Cut and Fill Plan*, grading and site preparation associated with the proposed Project would involve areas of cut and fill that would alter the elevation and topography of the Project site, and grading would generally make the site level to facilitate future development. While elevations on the Project site would be altered, there would be no changes to the intervening topography between the site and the OVRP. As a result, northern-facing views from the planned park and recreational area in the OVRP would not extend onto the Project site. Therefore, impacts on views from the planned park and recreational area in the OVRP would not occur.

B. Threshold 2: Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway.

Scenic resources within the vicinity of the Project site include the Otay River Valley, the San Miguel, Jamul, and Otay mountains, and two designated Scenic Roadways: Hunte Parkway and Wueste Road. There are no rock outcroppings or historic buildings in or near the Project site, and there are no significant or visually prominent trees on the site. As stated above in Section 5.2.1.A, there are no state scenic highways within the vicinity of the Project site that would have altered views from the Project due to distance and intervening topography. The Otay River Valley occurs south of the Project site, and due to the rolling hills and change in elevation from the Project site to the valley, views of the river valley are generally not available to motorists traveling east or west along designated Scenic Roadways Hunte Parkway or Wueste Road. The Project would result in off-site visual changes in the valley associated with drainage infrastructure south of the Project site. Disturbances would be limited as the alignment would be within existing disturbed dirt roads. Views of the proposed drainage infrastructure would include a detention basin and associated underground pipes would not be visible. No other changes to the Otay River Valley are proposed and the majority of the valley would remain undisturbed by the Project. While some visual changes to the Otay River Valley could occur with the development of the proposed drainage infrastructure



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Line of Sight from Otay Valley Regional Park

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Figure 5.2-8

south of the Project site, impacts would not significantly impact views of the valley as a whole and are considered to be less than significant.

C. Threshold 3: Substantially degrade the existing visual character or quality of the site and its surroundings.

In the short-term, the presence of heavy machinery (e.g., large trucks, cranes, bulldozers, etc.) during construction activities would be visible from surrounding areas and would involve earthmoving activities and construction of structures. As visual impacts during construction are temporary by their nature, short-term construction impacts are deemed to be less than significant. The focus of this analysis is on the long-term physical changes that are permanent in nature. The following discussion includes an analysis of the extent of the proposed development prescribed in the UID SPA Plan in relation to the surrounding areas and consistency with applicable regulatory policies.

As discussed under Threshold 1, KVPs 1 through 4 show on-site views of the Project site and KVPs 5 and 6 include two off-site views from nearby areas towards the Lake Property and the Main Campus Property, respectively. Overall, Project implementation would result in the development of a mostly vacant Project site that consists of rolling hills and natural open space. Most of the undeveloped areas of the Main Campus Property would be developed with a mix of academic and retail/office/residential uses that would make up an academic-institutional mixed-use district with common open space and habitat conservation areas. The Lake Property, which is vacant and undeveloped under existing conditions, would include limited development towards the center of the property, and the remaining areas would be undisturbed and set aside for habitat conservation and a preserve edge that transitions to the open space beyond the Lake Property.

The proposed SPA Plan includes form-based codes to allow for a variety of architectural styles while maintaining strong urban form. The form-based code would encourage coherent and harmonious massing, street walls, and public spaces without dictating specific styles or limiting the choices of colors or materials. All buildings would reinforce street edges, squares, and public spaces and would be associated with a variety of academic and non-academic uses. Building façades would be architecturally interesting, and a series of plazas and connected spaces would be implemented. Uses would include a mix of academic, corporate, and residential buildings. Buildings would be arranged within a series of transects intended to provide connectivity between buildings and with adjacent planned Villages 9, 10, 11, and the Millenia development.

The 2005 GPU EIR and the 2013 SEIR for the GPA/GDPA concluded that impacts to existing visual quality and character of the Project site would be significant and unmitigable due to the lack of specific design standards for development in the GDP/GDPA area. In both EIRs, impacts were characterized as significant until subsequent SPA plans are developed to dictate specific design specifications to ensure that significant changes to the existing visual character or quality of the site and its surroundings would be less than significant. Because future SPA plans were not developed at the time the 2013 SEIR was prepared, the same mitigation measures were provided as in the 2005 GPU EIR. The 2013 SEIR carried over Mitigation Measure 5.2.5-1 from the 2005 GPU EIR to reduce impacts related to visual character, which requires building and grading plans to protect visual character to the extent feasible (refer to Section 5.2.5.A of this EIR for the

mitigation language). The UID SPA Plan implements these requirements, including a grading plan that conforms to the City grading ordinance; grading standards that ensure manufactured slopes are contoured, blend with, and mimic adjacent natural slopes; and landscape performance standards and landscape plans that maintain views, are consistent with open space areas, and addresses streetscapes, provide landscape intensity zones, greenbelt edge treatments, and slope treatment for erosion control.

Development Codes in Chapter 3 of the UID SPA Plan specify development standards for the entire Project area, specific transect zones, as well as individual development types. Chapter 7 of the SPA Plan, *Design Guidelines*, establishes design guidelines for the Project area. The Design Guidelines would create a unique identity that would balance a unified scale and character with a variety of architectural styles and expressions with well-defined open spaces and iconic placemaking. Campus entries and signage would be designed to avoid separating areas from the rest of the site. Streetscapes would include pedestrian and bike zones with unique lighting and street furniture, along with landscaping, trees, storm water swales, and public art. Also, in response to the dramatic slopes that exist on the site, the design of the site would utilize these slopes to create unique places, and grading would mostly follow the natural contours and maintain three existing canyons to maximize available southern views. In order to ensure that the design intent of the UID SPA Plan would be met as individual projects are developed, all building and landscape development proposals would be required to submit an architectural and site review application to the City of Chula Vista Planning Department. Architectural and site plan review would also include City review of future development along the southern edge of Hunte Parkway and to internal streets within the SPA Plan boundary because they are designated as Gateway Streets on the City's General Plan Figure 5-6. Future improvements along the southern edge of Hunte Parkway along the Main Campus Property would need to be consistent with LUT Policy 9.2, which requires the design of sidewalks, landscaping, signage, and building design standards to be consistent with any prepared or required gateway master plans. While careful planning and design review would ensure that applicable design requirements are implemented and that future development is consistent with the UID SPA Plan, the change from existing undeveloped open space and rolling hills to an urban academic-institutional mixed-use district with common open space and habitat conservation areas as a result of the project would represent a substantial change to the existing visual character and quality of the Project site, and this would be a potentially significant impact (Impact 5.2-2).

D. Threshold 4: Create a new source of substantial light, glare, or shadow which would adversely affect day or nighttime views in the area.

1. Lighting

Most of the Project site is undeveloped, with the exception of the existing High Tech K-12 School site along Hunte Parkway on the Main Campus Property, which includes the only existing source of light on the Project site. Existing lighting sources in the Project vicinity include lighting improvements associated with the Otay Ranch Town Center and Village 11 developments, as well as surrounding roadways including Hunte Parkway, Eastlake Parkway, Discovery Falls Drive, Exploration Falls Drive, and Wueste Road. Artificial light sources associated with surrounding development are provided for security, parking, architectural highlighting, landscape lighting, and signage. Planned uses in the Project vicinity as part of the Otay Ranch GDP include Village 9 to

the west and Village 10 to the south. The Millenia development, north and west of the site, is currently under construction. Development of these nearby areas would further increase urban lighting conditions.

The Project would similarly include additional interior and exterior lighting as existing and planned uses in the vicinity. The UID SPA Plan addresses lighting improvements throughout the site to minimize impacts to surrounding open space areas while providing some lighting for security and safety purposes. Lighting guidelines are included in the UID SPA Plan in Chapter 5, *Parks, Recreation, and Open Space*, Chapter 7, *Design Guidelines*, as part of the Non-Renewable Energy Conservation Plan (Appendix C of the SPA Plan) and as part of the Preserve Edge Plan (Appendix D of the SPA Plan). Lighting associated with the Project would include energy-efficient LED lighting for streets, parks, and other public spaces. All street lighting needs would be required to meet or exceed the City standards and shall be approved by the City Engineer. Lighting for community facilities and recreation areas would be considered as an element of the site plan review. Lighting would also be subject to the MSCP, which suggests that lighting be directed away from the preserve and shielding, and low-pressure sodium lighting be considered when installing exterior lighting adjacent to the preserve. These requirements would apply to future permit reviews within the proposed Preserve Edge and lighting plans, along with a photometric analysis would be required to illustrate the location of proposed lighting standards and the type of shielding measures. The Lighting Plan must demonstrate that light spillage into the preserve would be avoided to the extent possible.

In addition, compliance with City and state energy conservation measures, and the City Unnecessary Light Ordinance currently in place would limit the amount of unnecessary exterior illumination during evening and nighttime hours. Based on adherence to the lighting requirements in the SPA Plan, it is anticipated that lighting would be prevented from casting illumination onto light-sensitive properties in adjacent developments (i.e., residences in Village 9 and 10).

The UID SPA Plan includes some lower intensity development near the Preserve within T-1 Future Development transects along the southern boundary of Project site and these areas could include minimal nighttime lighting for security. The UID SPA Plan includes a Preserve Edge Plan that restricts active uses and lighting within 100 feet of the Preserve. As discussed in Section 5.6, implementation of the Preserve Edge Plan would reduce indirect impacts to the Preserve to a less than significant level, including lighting.

The Project would include additional lighting associated with common spaces, mixed-use areas, and academic-related uses and would require development-specific photometric analyses for lighting proposed in developed areas to ensure that future projects comply with all applicable regulations and are compatible with surrounding land uses. Impacts related to nighttime lighting would be potentially significant (Impact 5.2-3).

2. Glare

The UID SPA Plan does not include any requirements that would limit glare; however, future development would be required to incorporate variety into building facades, which would break up expanses of reflective materials and reduce glare. Any glare experienced by nearby commercial or residential uses or the occupants of vehicles on nearby streets within the Project would be

temporary, changing with the movement of the sun throughout the course of the day and the seasons of the year. Additionally, the City performance standard for glare prohibits glare beyond the lot line of the source. Therefore, the Project would not create a substantial new source of glare that would adversely affect day or nighttime views in the area and as such, glare impacts would be less than significant.

3. Shade and Shadow

Shade and shadow impacts are associated with the placement of buildings and other development that may block direct sunlight and affect areas where sunlight is desired, such as residences, parks, outdoor areas, and schools. Shade is influenced by seasons, time of day, weather, building height, bulk, and scale, spacing between buildings, and tree cover.

Development within the UID SPA Plan would occur over multiple years and specific building footprints and sizes are not known. Per the SPA Plan, maximum building heights would not exceed 92 feet, with the exception a single pavilion feature up to 250 feet in height in the T-6 transect. Because the exact placement of these buildings is not known, it is possible that streets, structures, and other outdoor public places within the UID SPA Plan area could be shaded or shadowed by adjacent buildings. Specifically, due to the proposed build-to line along Hunte Parkway within the T-6 transect and the proposed sculpted building edges along various transects, shade, and shadow impacts could occur and are potentially significant (Impact 5.2-4).

E. Threshold 5: Alter areas of sensitive landforms and grade steep slopes that may be visible from future development and roadways.

A total of about 86 acres of steep slopes occur within the Project site and an additional 1.3 acres occurs in the off-site improvement areas, for a total of 87.3 areas of steep slopes. The Project would result in impacts to 74.5 acres of steep slopes (including 73.2 acres in the Project site and 1.3 acres in the off-site improvement areas), resulting in impacts to 85.3 percent of the steep slopes in the Project site and off-site improvement areas. Therefore, the Project would include the preservation of 12.8 acres of steep slopes.

As previously stated, the Otay Ranch GDP and RMP establish a ranch-wide standard for landform modification that 83 percent of steep slopes shall be preserved within Otay Ranch. Based on current data collection and updated modeling results, Otay Ranch contains 9,821 acres of steep slopes. Therefore, a total of 1,670 acres of steep slopes can be impacted in Otay Ranch.

Future buildout projections for remaining SPA Plan areas in the Otay Valley, Proctor Valley, and San Ysidro Parcels estimate that 1,160.4 acres of steep slopes will be impacted Ranch-wide, including the 74.5 acres on- and off-site of the UID. Combined with existing steep slope impacts (approximately 445.0 acres from approved plans), Ranch-wide impacts are estimated at 1,605.4 acres, which equates to the preservation of approximately 84 percent of steep slopes in Otay Ranch, which is above the 83 percent preservation standard in the RMP. Therefore, impacts to steep slopes would be less than significant.

5.2.4 Level of Significance Prior to Mitigation

A. Scenic Vistas

Impact 5.2-1: The Project would permanently alter views from KVP 3 near the High Tech K-12 School from open, rolling topography and views of Otay Mountain to urban development.

B. Scenic Resources

No significant impacts to scenic resources were identified, and impacts would remain less than significant.

C. Visual Character or Quality

Impact 5.2-2: The Project would permanently alter the character of the Project site from open, rolling topography to urban development.

D. Lighting, Glare, and Shadow

Impact 5.2-3: New sources of nighttime lighting may be incompatible with surrounding development and inconsistent with applicable regulations.

Impact 5.2-4: Potential impacts associated with light and shadow cannot be determined until the location, size, and orientation of future buildings are established.

E. Landform Alteration

Project impacts to steep slopes would be less than significant.

5.2.5 Mitigation Measures

Development of the Project site would occur as future applicants apply for various permits. The measures below identify that a future applicant would be responsible for the implementation of the mitigation measures.

A. Scenic Vistas

To reduce impacts to the undeveloped character of the site or views of Otay Mountain from KVP 3 (Impact 5.2-1), the Project would implement Mitigation Measure 5.2.5-1 from the 2005 GPU EIR and 2013 SEIR:

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

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

B. Scenic Resources

No mitigation measures are required.

C. Visual Character or Quality

To reduce impacts related to visual character (Impact 5.2-2), the Project would implement Mitigation Measure 5.2.5-1 identified in the 2005 GPU EIR and 2013 SEIR (also see above under Section 5.2.5.A, *Scenic Vistas*, for the mitigation language).

D. Lighting, Glare, and Shadow

To reduce impacts related to nighttime lighting (Impact 5.2-3), the Project would implement Mitigation Measures 5.2-3a and 5.2-3b:

5.2-3a **Lighting Plan and Photometric Analysis - Parks**. Concurrent with the preparation of site-specific plan(s) for outdoor public areas within the O-2 and O-3 sectors and prior to issuance of a building permit for any park, the applicant shall prepare, or in the case of the City being the lead on the preparation of the site-specific plan, the applicant shall fund the preparation of a lighting plan and photometric analysis. The plan shall be prepared to the satisfaction of the Development Services Director and evaluate the proposed height, location, and intensity of all exterior lighting for compliance with the City's performance standards for light, and glare (Chula Vista Municipal Code 19.66.100).

5.2-3b **Lighting Plan and Photometric Analysis – New Structures**. Concurrent with design review and prior to the issuance of building permits for any structures, the applicant shall prepare a lighting plan and photometric analysis. The plan shall be prepared to the satisfaction of the Development Services Director (or their designee) and evaluate the proposed height, location, and intensity of all exterior lighting for compliance with the City's performance standards for light, and glare (Chula Vista Municipal Code 9.66.100).

To reduce shade and shadow impacts (Impact 5.2-4), the Project would implement Mitigation Measure 5.2-4:

5.2-4 **Shadow Analysis**. Prior to design review approval for any structure three stories and above, the applicant shall prepare to the satisfaction of the Development Services

Director (or their designee), a shadow analysis demonstrating that adjacent shadow-sensitive uses are not permanently shadowed.

E. Landform Alteration

No mitigation measures are required.

5.2.6 Level of Significance After Mitigation

A. Scenic Vistas

No mitigation is available to maintain the undeveloped character of the site or views of Otay Mountain from KVP 3 (Impact 5.2-1), other than ~~Mitigation Measure 5.2-1 (~~Mitigation Measure 5.2.5-1 from the 2005 GPU EIR and 2013 SEIR~~)~~. Because the Project would result in development on the site, it would permanently alter the character of the existing site from open, rolling hills to urban development. Impacts would remain significant and unavoidable.

B. Scenic Resources

Impacts to scenic resources would be less than significant without mitigation.

C. Visual Character or Quality

No mitigation is available to maintain the undeveloped character of the Project site (Impact 5.2-2), other than Mitigation Measure 5.2.5-1 from the 2005 GPU EIR and 2013 SEIR. Consistent with the conclusion of the 2005 GPU EIR and 2013 SEIR, because the Project would result in development on the site, it would permanently alter the character of the existing site from open, rolling hills to urban development and impacts would remain significant and unavoidable.

D. Lighting, Glare, and Shadow

Impacts related to lighting (Impact 5.2-3) would be reduced to less than significant levels with implementation of Mitigation Measures 5.2-3a and 5.2-3b because the mitigation would require lighting plans to be prepared to demonstrate compliance with applicable municipal code requirements related to lighting.

Impacts related to shadows (Impact 5.2-4) would be reduced to less than significant levels with implementation of Mitigation Measure 5.2-4, which requires a shadow analysis for buildings three stories and above to avoid creating permanent shadowing on adjacent shadow-sensitive uses.

E. Landform Alteration

Impacts to landform alteration would be less than significant without mitigation.

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5.3 TRANSPORTATION/TRAFFIC

This section describes existing traffic conditions and evaluates potential impacts to transportation and traffic due to implementation of the UID SPA Plan. This EIR tiers from the Previous Environmental Review Documents, as described in Chapter 2.0, *Introduction*. Both documents identified significant but mitigable impacts to roadway and freeway segments in the City of Chula Vista with the payment of fees (SEIR 09-01) for the Main Campus Property and with the requirement for a future detailed traffic analysis for the Lake Property (SEIR 01-01). Unmitigable impacts were identified in SEIR 09-01 for impacts on City of San Diego roadway segments.

The traffic analysis contained in this section is primarily based on the Project's Traffic Impact Analysis (TIA) prepared by Linscott, Law & Greenspan, Engineers (LLG; 2017), which is included as Appendix B to this EIR. This report updates the information contained in the 2001 and 2013 SEIRs and includes updated mitigation measures based on current traffic conditions in the Project vicinity that are equivalent to or better than measures included in prior environmental review. The traffic analysis includes both Project-generated traffic and traffic that would be generated by cumulative growth through buildout of the UID SPA Plan. Therefore, the Project's direct and cumulative traffic impacts are addressed in this section in greater detail and briefly summarized in Chapter 6.0, *Cumulative Impacts*.

5.3.1 Existing Conditions

A. Regulatory Framework

1. State

a. Statewide Transportation Improvement Program

The Statewide Transportation Improvement Program (STIP), run by the California Transportation Commission, 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 latest version of the STIP was adopted on March 18, 2014, with the 2016 version currently under review. The STIP is prepared in cooperation with the California Department of Transportation (Caltrans), the metropolitan planning organizations, and the regional transportation planning agencies. In the County of San Diego, the regional transportation planning agency is the San Diego Association of Governments (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.

b. Interregional Transportation Improvement Program

The 2016 Interregional Transportation Improvement Program (ITIP) was approved by Caltrans in December 2015. California Government Code Section 14526 specifies that the purpose of the ITIP is to fund projects that improve interregional movement for people and goods across California on the State Highway System and develop Intercity Passenger Rail corridors of strategic importance. The ITIP is one of many state funding programs that collectively invest in transportation infrastructure, maintenance and operations and is prepared by Caltrans for submittal to the

California Transportation Commission to assist with recommendations for projects in the STIP described above.

c. Congestion Management Program

The Congestion Management Program was enacted by the state legislature in 1989 to improve traffic congestion in urbanized areas. The program became effective with the passage of state Proposition 111 in June 1990, which increased the state gas tax. The increase in funds generated by the tax is advanced to cities and counties for regulating road improvements, provided that a Congestion Management Program is in place. If a city does not comply with the Congestion Management Program, it could lose funding under Proposition III. Under the program, regional agencies within each county are designated to prepare and administer the Congestion Management Program.

The San Diego County Congestion Management Program is a part of SANDAG's Regional Transportation Plan. The purpose of the management program is to monitor the performance of the region's transportation system, develop programs to address near-term and long-term congestion, and better integrate transportation and land use planning. The San Diego region has elected to be exempt from California's Congestion Management Program. As a result, existing monitoring, threshold levels, guidelines and mitigation strategies are incorporated into other SANDAG plans and/or programs.

2. Regional

SANDAG serves as the forum for decision-making on regional issues such as growth, transportation, land use, economy, environment, and criminal justice. SANDAG builds consensus, makes strategic plans, obtains, and allocates resources, and provides information on a broad range of topics pertinent to the region's quality of life. SANDAG is governed by a Board of Directors composed of mayors, council members, and supervisors from each of the San Diego region's 19 local governments.

As the metropolitan planning organization and regional transportation planning agency for the San Diego region, SANDAG has produced the following documents that identify transportation plans and policies in the San Diego area.

a. San Diego Forward – The Regional Plan

San Diego Forward: The Regional Plan (The Regional Plan) was adopted by SANDAG on October 9, 2015. The Regional Plan combines and updates two regional planning documents, the 2004 Regional Comprehensive Plan and the 2011 RTP/SCS, into a unified document to guide regional growth between 2015 and 2050. The Regional Plan unites land use and transportation planning by incorporating local planning efforts with regional transportation planning and also identifies investments in public transportation, bike paths, and pedestrian improvements in the region. The Regional Plan includes a number of elements, one of which is the SCS. Required by state law (SB 375), the primary purpose of the SCS is to show how development patterns and our transportation system will work together to reduce GHG emissions for cars and light trucks, providing a more sustainable future for our region.

The SCS includes five building blocks:

- A land use pattern that accommodates the region's future employment and housing needs, and protects sensitive habitats and resource areas.
- A transportation network of public transit, managed lanes and highways, local streets, bikeways, and walkways built and maintained with reasonably expected funding.
- Management of the demands on the regional transportation system (Transportation Demand Management [TDM]) in ways that reduce or eliminate traffic congestion during peak periods of demand.
- Management of the transportation system (Transportation System Management [TSM]) through measures that maximize the overall efficiency of the transportation network.
- Innovative pricing policies and other measures designed to reduce the number of miles people travel in their vehicles, as well as traffic congestion during peak periods of demand.

b. 2014 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 2014 RTIP is a prioritized program designed to 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 for the region. The 2014 RTIP also incrementally implements the 2011 Regional Transportation Plan. The 2014 RTIP covers fiscal years 2014/2015 to 2018/2019. The 2014 RTIP was adopted on September 26, 2014.

3. Local

a. City of San Diego Facility Benefit Assessment

City Ordinance No. O-15318 was adopted by the San Diego City Council on August 25, 1980 to establish the procedure for implementing a Facilities Benefit Assessment (FBA). Additionally, the FBA is established, increased, imposed, and collected in accordance with the California Government Code section 66000 et seq. The FBA provides funding for public facilities projects that serve a designated area, also known as the area of benefit.

b. City of Chula Vista General Plan

The Chula Vista General Plan, known as Vision 2020, was adopted by the City on December 13, 2005 (Chula Vista 2005a). The Chula Vista General Plan contains objectives and policies in the Land Use and Transportation Element that support transit (Objective LUT 17), encourage alternative transportation measures (Objectives LUT 18 and LUT 23), encourage regional transportation coordination (Objective LUT 19), develop transit-friendly roads (Objective LUT 20), support parking management policies (Objectives LUT 30 through LUT 33), and ensure pedestrian-oriented environments (Objective LUT 63). The 2013 GPA included changes to the adopted Circulation Plan, including road reclassifications, renaming of Rock Mountain Road,

elimination of the southerly extension of La Media Road, and establishing an acceptable level of service for town centers.

c. Chula Vista Municipal Code

The City's Municipal Code establishes a Transportation Development Impact Fee (TDIF) in Chapter 3.54 to pay for transportation improvements and facilities within the Eastern Territories of the City and requires payment prior to the issuance of building permits for development. Section 3.54.030 lists the transportation facilities to be financed by the fees collected and includes a total of 72 roadways within the City.

In addition, Chapter 12.24, *Dedications*, of the City's Municipal Code imposes reasonable requirements upon developers of traffic-generating developments within the City to mitigate potential dangers associated with the (1) lack of sidewalks; (2) moving, high, and stagnant waters during the rainy season; (3) streets of inadequate widths; (4) poor drainage due to the lack of curbs, storm drain facilities and improved alleys; and (5) inadequate street lighting, to the extent reasonably possible.

d. Otay Ranch General Development Plan

The Otay Ranch General Development Plan (GDP), originally adopted on October 28, 1993 and most recently amended on May 26, 2015, includes goals, objectives, and policies to guide development of a circulation system in Otay Ranch. The GDP envisions a safe, efficient, multi-modal transportation network that reduces reliance on the automobile. The GDP encourages development that integrates residential and commercial uses with a mobility system that accommodates alternative modes of transportation and is organized to create a pedestrian friendly community. The GDP includes policies related to transit, street systems within town centers, and parking.

e. City of Chula Vista Traffic Study Guidelines

There are various methodologies used to analyze signalized intersections, unsignalized intersections, and street segments. The measure of effectiveness for intersection and segment operations in the City of Chula Vista is Level of Service (LOS) which denotes the operating conditions which occur at a given intersection or on a given roadway segment under various traffic volume loads. It is a qualitative measure used to describe a quantitative analysis taking into account factors such as roadway geometries, signal phasing, speed, travel delay, freedom to maneuver, and safety. LOS provides an index to the operational qualities of a roadway segment or an intersection. LOS designations range from A to F, with LOS A representing the best operating conditions and LOS F representing the worst. Level of service designation is reported differently for signalized and unsignalized intersections, as well as for roadway segments.

Intersections

In the 2000 Highway Capacity Manual (HCM), Level of Service for signalized intersections is defined in terms of delay. The level of service analysis results in seconds of delay expressed in terms of letters A through F. Delay is a measure of driver discomfort, frustration, fuel consumption, and lost travel time.

In accordance with City requirements, the 2000 HCM methodology for signalized and unsignalized intersections is used to determine the operating level of service of intersections. The methodology in the manual describes the operation of an intersection using a range of LOS A (free-flow conditions) to LOS F (severely congested conditions), based on corresponding average stopped delay per vehicle, as shown in Table 5.3-1, *Intersection LOS and Delay Ranges*.

Table 5.3-1 INTERSECTION LOS AND DELAY RANGES

LOS	Delay (seconds/vehicle)	
	Signalized Intersections	**Unsignalized Intersections**
A	≤ 10.0	≤ 10.0
B	10.1 to 20.0	10.1 to 15.0
C	20.1 to 35.0	15.1 to 25.0
D	35.1 to 55.0	25.1 to 35.0
E	55.1 to 80.0	35.1 to 50.0
F	≥ 80.1	≥ 50.1

Source: 2000 Highway Capacity Manual

Roadway Segments

Roadway segment analyses are based upon roadway classifications and capacity thresholds as defined in the Chula Vista Transportation Element. Roadway segment level of service criteria are shown in Table 5.3-2, *City of Chula Vista Roadway Capacity Standards – Average Daily Vehicle Trips*.

Table 5.3-2 CITY OF CHULA VISTA ROADWAY CAPACITY STANDARDS – AVERAGE DAILY VEHICLE TRIPS

Road	Level of Service				
Roadway Classification	**A (V/C = 0.6)**	**B (V/C = 0.7)**	**C (V/C = 0.8)**	**D (V/C = 0.9)**	**E (V/C = 1.0)**
Expressway	52,000	61,300	70,000	78,800	87,500
Prime Arterial	37,500	43,800	50,000	56,300	62,500
Major Street (6 lanes)	30,000	35,000	40,000	45,000	50,000
Major Street (4 lanes)	22,500	26,300	30,000	33,800	37,500
Class I Collector	16,500	19,300	22,000	24,800	27,500
Class II Collector	9,000	10,500	12,000	13,500	15,000
Class III Collector	5,600	6,600	7,500	8,400	9,400

Source: Chula Vista General Plan (2005)
V/C = volume/capacity ratio

B. Existing Traffic and Circulation Conditions

Intersections and roadway segments throughout the Project vicinity were evaluated as part of the TIA for the Project. A Select Zone Analysis (SZA) was conducted to distribute the project traffic based upon which the extent of the study area was determined (LLG 2017). Intersections and roadways where the Project would contribute 800 or more daily trips or 50 or more peak hour trips

in either direction were included as study intersections for analysis. Freeway segments where the Project would add 2,400 or more daily trips or 150 or more peak hour trips in either direction were also included in the Project study area. The following discussion provides a description of the existing conditions for these roadway segments and intersections, and where applicable, future improvements planned for these roadways or intersections.

1. Roadway Segments

A description of existing and future roadways for the UID is provided below, divided under each jurisdiction (City of Chula Vista, City of San Diego, County of San Diego, and Caltrans). Future roadway conditions are provided in this section to provide context for the analysis of Project impacts under future conditions. Roadway segments can be seen in Figure 5.3-1, *Traffic Study Area.*

a. City of Chula Vista

Bonita Road: Bonita Road is currently a two-lane roadway with a center two-way left turn lane. The posted speed limit along this facility is 40 miles per hour (mph). Curb, gutter, and sidewalks are provided intermittently. Bonita Road is classified as a four-lane Major Road in the City of Chula Vista General Plan Circulation Element.

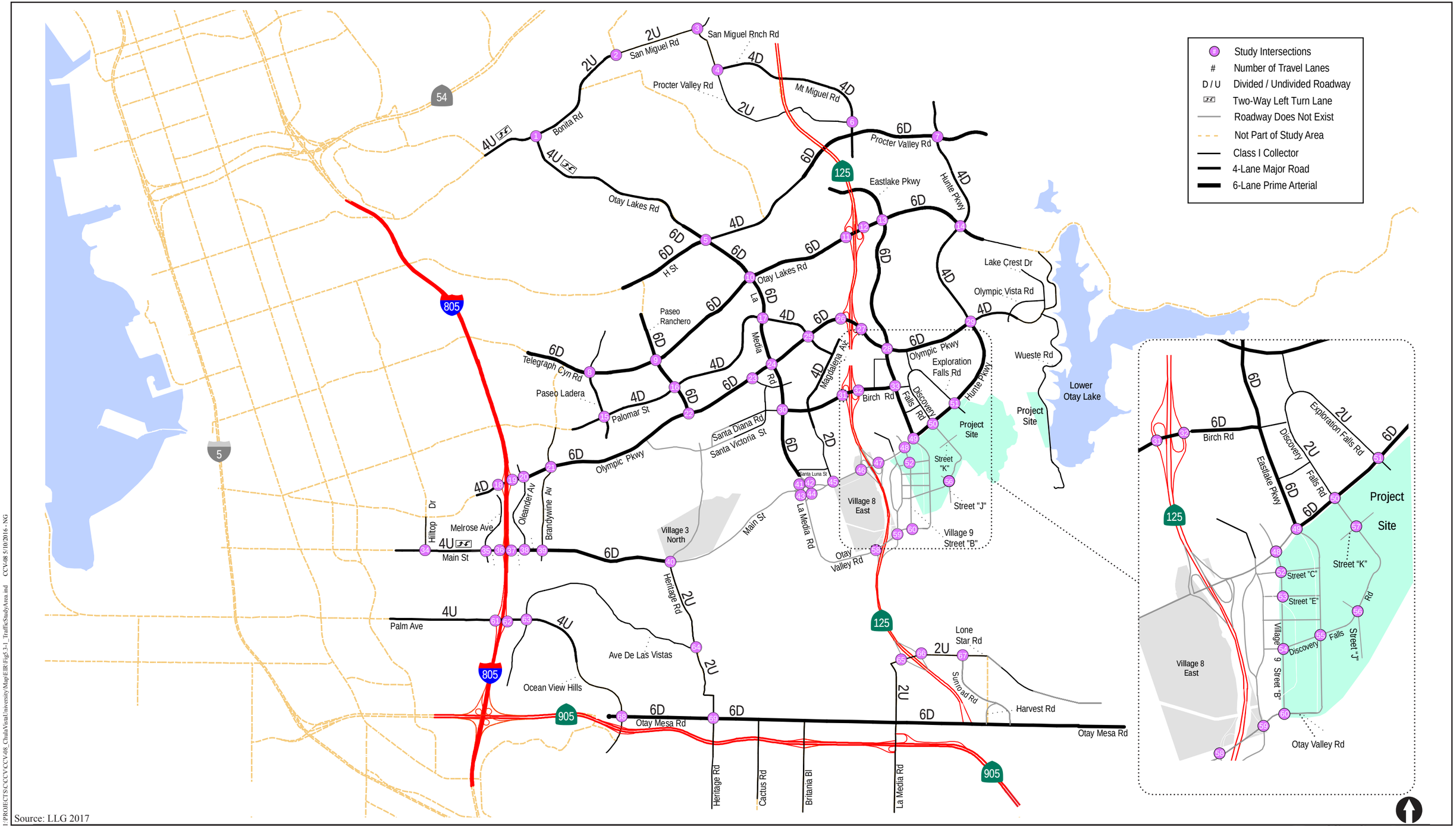
Proctor Valley Road: Proctor Valley Road is currently a two-lane unclassified roadway between San Miguel Road and San Miguel Ranch Road in the County. Between Mt. Miguel Road and Hunte Parkway, Proctor Valley Road is built as a six-lane Prime Arterial in Chula Vista. The posted speed limit along this facility is 35 mph. Curb, gutter, and sidewalks are provided intermittently and includes Class II bike lanes. Proctor Valley Road is classified as a six-lane Prime Arterial in the City of Chula Vista General Plan Circulation Element.

San Miguel Ranch Road: San Miguel Ranch Road is currently a four-lane roadway with a center two-way left turn lane. The posted speed limit along this facility is 35 mph. Curb, gutter, and sidewalks are provided intermittently. San Miguel Ranch Road is classified as a Class I Collector in the City of Chula Vista General Plan Circulation Element and includes Class II bike lanes.

East H Street: East H Street is a six-lane roadway with a raised median, Class II bike lanes and a 50-mph posted speed limit west of Otay Lakes Road, and a four-lane roadway with a raised median, Class II bike lanes and a 35-mph posted speed limit east of Otay Lakes Road. East H Street is classified as a six-lane Prime Arterial west of Otay Lakes Road.

East L Street/Telegraph Canyon Road: L Street is a four-lane roadway west of I-805. L Street becomes Telegraph Canyon Road at I-805, where it is a seven-lane roadway between I-805 and Oleander Avenue, and a six-lane roadway with a raised median and Class II bike lanes between Oleander Avenue and Otay Lakes Road. The posted speed limit is 50 mph. This facility is classified in the City of Chula Vista General Plan Circulation Element as a six-lane Prime Arterial between Oleander Avenue and Otay Lakes Road.

Otay Lakes Road: The east/west portion of Otay Lakes Road runs from Telegraph Canyon Road/ La Media Road to SR-94 in the unincorporated County. Within the study area, this facility is a six-lane roadway with a raised median and is mostly classified as a six-lane Prime Arterial in the



Traffic Study Area

UNIVERSITY INNOVATION PROJECT EIR

Figure 5.3-1

HELIX Environmental Planning

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City of Chula Vista General Plan Circulation Element with a posted speed of 50 mph and Class II bike lanes. The segment of Otay Lakes Road between Bonita Road and East H Street is a four-lane Major Road and the segment between SR-125 and Eastlake Parkway includes a seventh lane which is a trap lane, left-turn only headed westbound.

East Palomar Street: East Palomar Street is currently a four-lane roadway with a raised median and on-street parking on both sides with Class I bike path and Class II bike lane facilities. The posted speed limit along this facility is 35 mph. East Palomar Street east of I-805 is classified as a four-lane Major Road in the City of Chula Vista General Plan Circulation Element. The future South Bay BRT is proposed to travel along the median of East Palomar Street and access I-805 via Direct Access Ramps.

Orange Avenue/Olympic Parkway: Orange Avenue between Melrose Avenue and I-805 is a four-lane roadway with a raised median. Orange Avenue becomes Olympic Parkway at I-805 and widens to a six-lane roadway with a raised median until Hunte Parkway, with the exception of the segment between SR-125 and Eastlake Parkway that carries eight lanes. Between Hunte Parkway and Wueste Drive, Olympic Parkway narrows to a four-lane roadway with a raised median. Orange Avenue is classified as a four-lane Major Road in the Chula Vista General Plan Circulation Element. Olympic Parkway is classified as an eight-lane Prime Roadway between SR-125 and Eastlake Parkway and a six-lane Prime Arterial between I-805 and SR-125 and between Eastlake Parkway and Hunte Parkway.

Birch Road: Birch Road is a six-lane roadway with a raised median, Class II bike lanes, and a posted speed of 45 mph between La Media Road and Eastlake Parkway. This facility is classified as a six-lane Major Road between La Media Road and SR-125, and a six-lane Major Roadway between SR-125 and Eastlake Parkway in the City of Chula Vista General Plan Circulation Element.

Main Street: The existing section of Main Street is a four-lane roadway with a continuous left-turn lane and a 40-mph posted speed limit between 4th Avenue and I-805. East of I-805, Main Street becomes a six-lane roadway with a raised median and Class II bikes. The posted speed limits along this section of the roadway vary between 45 mph and 50 mph. Main Street currently terminates at Heritage Road. This facility is classified as primarily a six-lane Prime Arterial. In the long-term, it is planned to extend Main Street east from its current eastern terminus and connect to Hunte Parkway at Eastlake Parkway. A full diamond interchange will also be constructed at SR-125.

Otay Valley Road: This road is not currently constructed but is classified as a four-lane Major Road in the City of Chula Vista General Plan Circulation Element. As part of this Project, Otay Valley Road between Village 9 Street "B" and Eastlake Parkway is proposed for downgrading from a four-lane Major Road to non-Circulation Element road.

Medical Center Drive/Brandywine Avenue: Medical Center Drive runs north/south between Telegraph Canyon Road and East Palomar Street as a four-lane roadway with a raised median, Class II bike lanes, and no on-street parking on either side. This roadway has a posted speed of 35 mph. Medical Center Drive becomes Brandywine Avenue at East Palomar Street, and continues to Main Street in the south. Brandywine Avenue is a four-lane roadway with a striped median (Class II bike lanes and no on-street parking), and then becomes a two-lane roadway with a striped

median, Class II bikes lanes and on-street parallel parking south of Olympic Parkway. The posted speed on Brandywine Avenue is 35 mph south of Olympic Parkway and 40 mph north of Olympic Parkway. This facility is classified as a Class I Collector in the City of Chula Vista General Plan Circulation Element.

Paseo Ranchero/Heritage Road: Paseo Ranchero runs from East H Street to Telegraph Canyon Road, where it becomes Heritage Road and continues to its current southern terminus south of Olympic Parkway. Paseo Ranchero is a four-lane roadway with a continuous left-turn lane/striped median and Class II bike lanes, and Heritage Road is a six-lane roadway with a raised median and Class II bike lanes. The posted speed limit along this facility is 40 mph. South of Main Street (to Chula Vista city limit), Heritage Road is a two-lane roadway with a continuous left-turn lane, Class II bike lanes, and a posted speed limit of 45 mph. Paseo Ranchero is classified as a Class I Collector, while Heritage Road is classified as a six-lane Prime Arterial in the City of Chula Vista General Plan Circulation Element. As part of the UID Project, Heritage Road is proposed to be realigned within Village 3 North.

Otay Lakes Road/La Media Road: The north/south portion of Otay Lakes Road runs from Bonita Road to Telegraph Canyon Road where it becomes La Media Road. Within the study area, Otay Lakes Road between East H Street and Telegraph Canyon Road is a six-lane roadway with striped/raised median and discontinuous Class II bike lanes. The posted speed limit is 40 mph. Otay Lakes Road is classified as a six-lane Prime Arterial within the study area. La Media Road is a six-lane roadway with a raised median and Class II bike lanes between Telegraph Canyon Road and its current southern terminus at Santa Luna Street. The posted speed limit is 45 mph. La Media Road is classified as a six-lane Prime Arterial in the City of Chula Vista General Plan Circulation Element, with the exception of the couplets (two-lane each direction) at Main Street.

Magdalena Avenue: Magdalena Avenue is generally a four-lane roadway with a raised median between Santa Venetia Street and Main Street, with the exception of the segment between Wolf Canyon Loop and Santa Luna Street, which is a two-lane roadway with a raised median. The posted speed limit is 25 mph. This facility is not classified as a Circulation Element road in the City of Chula Vista General Plan.

Village 9 Street "B": Village 9 Street "B" is a future street running north/south within Village 9, between the planned Main Street and the planned Otay Valley Road. This street will generally have one lane in each direction with the BRT running along the center. No left-turn lanes will be provided at intervening intersections.

Eastlake Parkway: Eastlake Parkway is a four-lane roadway with a raised median and Class II bike lanes between Otay Lakes Road and Clubhouse Drive, and a six-lane roadway with a raised median and Class II bike lanes between Clubhouse Drive and its current southern terminus at Hunte Parkway/Main Street. The posted speed limit is 40 mph. This roadway is classified as a four-lane Major Road between Otay Lakes Road and Clubhouse Drive, a six-lane Prime Arterial between Clubhouse Drive and Olympic Parkway, a six-lane Major Road between Olympic Parkway Main Street, and a four- lane Major Road between Main Street/Hunte Parkway and Otay Valley Road. As part of this Project, the southernmost section of the Eastlake Parkway, south of Main Street/Hunte Parkway, is proposed to be downgraded from a four-lane Major Road to a

Class II Collector between the 1st University/RTP driveway and Discovery Falls Drive, and a non-Circulation Element road within Village 10 boundaries.

Discovery Falls Drive: Discovery Falls Drive is currently a two-lane roadway with on-street parallel parking on both sides. It terminates just south of Hunte Parkway at High Tech K-12 School. Discovery Falls Drive is not classified as a Circulation Element road in the City of Chula Vista General Plan; however, the roadway segment from Hunte Parkway to Street "K" is equivalent to a four-lane Major Road. A separate focused study (mentioned in the previous page) was conducted and determined that the appropriate roadway classification is a Class III Collector to accommodate the forecasted future traffic volumes on Discovery Falls Drive.

Hunte Parkway: Hunte Parkway is currently a four-lane roadway with a raised median and Class II bike lanes between Otay Lakes Road and Olympic Parkway. The posted speed limit along this section of the facility is 45 mph. Hunte Parkway turns into a six-lane roadway with a raised median and Class II bike lanes between Olympic Parkway and Main Street/Eastlake Parkway. The posted speed limit along this section of the facility is 50 mph. Hunte Parkway is classified in the City of Chula Vista General Plan Circulation Element as a four-lane Major Road between Otay Lakes Road and Olympic Parkway, and a six-lane Prime Arterial between Olympic Parkway and Main Street/ Eastlake Parkway.

b. City of San Diego

San Miguel Road: San Miguel Road is currently a two-lane unclassified roadway with street parking permitted on both sides. The posted speed limit along this facility is 25 mph. Curb, gutter and sidewalks are provided intermittently.

Lone Star Road: Lone Star Road is currently an unpaved road and is classified as a four-lane Major Arterial in the City of San Diego's currently adopted Community Plan Circulation Element.

Palm Avenue: Currently three lanes are provided in the eastbound direction and four lanes merging to three lanes in the westbound direction on Palm Avenue between I-805 and Dennery Road. This facility is classified as a seven-lane Prime Arterial in the Otay Mesa Community Plan Circulation Element.

Ocean View Hills Parkway: Ocean View Hills Parkway is currently built as a four-lane Major Road with a raised, landscaped median between Dennery Road and Del Sol Boulevard (Breakers Way), with a posted speed limit of 40 mph. Between Del Sol Boulevard and Otay Mesa Road, Ocean View Hills Parkway is currently a six-lane Major Road with a raised, landscaped median and a posted speed limit of 40 mph. This facility is classified as a seven-lane Prime Arterial in the Otay Mesa Community Plan Circulation Element.

Otay Mesa Road: Otay Mesa Road is improved to six-lane Prime Arterial standards from west of Caliente Avenue to approximately 1,000 feet east of La Media Road. From just east of La Media Road to the international border, Otay Mesa Road (SR-905) is a four-lane Major Arterial.

c. City of San Diego/County of San Diego

Heritage Road: Heritage Road, from the Chula Vista City limit to Otay Mesa Road, is currently a two-lane roadway with a partial continuous left-turn lane. Heritage Road, south of Avenida De Las Vistas, is planned for widening in the City of San Diego Facilities Benefit Assessment. Therefore, this facility is classified as a six-lane Prime Arterial in the City of San Diego's currently adopted Community Plan Circulation Element.

La Media Road: La Media Road is currently a two-lane roadway at 30 mph north of Otay Mesa Road, and a five-lane roadway with striped median south of Otay Mesa Road. This facility is classified as a six-lane Prime Arterial in the City of San Diego's currently adopted Community Plan Circulation Element.

d. Caltrans

Three Caltrans freeway and state highway facilities traverse the study area, as follows:

I-805: I-805 ranges from 8 to 10 lanes between Home Avenue and SR-905 within the study area. Construction of two new HOV lanes on I-805, between Home Avenue and East Palomar Street is completed.

SR-125: SR-125 is a four-lane state highway between East H Street and SR-905. It will operate as a toll road through the year 2035. However, SANDAG has recently purchased this facility and could potentially convert this facility to a freeway sooner than 2035.

SR-905: SR-905 within the Project study area is a six-lane state highway, connecting I-805 and SR-125.

2. Existing Roadway Segment Operations

Existing roadway segment level of service is calculated based on established capacity thresholds defined by roadway classification and Average Daily Trip (ADT) volumes. The existing traffic volumes analyzed in this section are from the University Villages TIA, Otay Ranch Villages 3 North, 8 East, and 10 studies (University Villages TIA; Chen Ryan 2014), and LLG supplemented those counts with some new counts, as necessary (LLG 2017). Table 5.3-3, *Existing Roadway Segment Operations*, presents the results of the existing conditions roadway segment level of service analysis for the UID. As shown in this table, all roadway segments currently operate at acceptable levels of service (i.e., LOS D or better). The functional classification for each roadway segment identifies either the City's segment-type per the City's General Plan or an equivalent classification in the event the General Plan does not classify a specific roadway segment.

Table 5.3-3 EXISTING ROADWAY SEGMENT OPERATIONS

Roadway/Segment	Jurisdiction	Functional Classification	LOS C Capacity	Volume	LOS
Bonita Road					
Otay Lakes Rd to San Miguel Rd	Chula Vista	4-lane Major	30,000	23,700	B
San Miguel Ranch Road					
Bonita Road to Proctor Valley Rd	Chula Vista	Class I Collector	22,000	7,600	A
East H St					
SR-125 to Mt Miguel Rd	Chula Vista	6-lane Prime	50,000	17,800	A
Mt Miguel Rd to Hunte Pkwy	Chula Vista	6-lane Prime	50,000	18,000	A
Telegraph Canyon Road					
Paseo Ladera to Paseo Ranchero	Chula Vista	6-lane Prime	50,000	45,100	C
Paseo Ranchero to Otay Lakes Rd	Chula Vista	6-lane Prime	50,000	36,100	A
Otay Lakes Road					
Bonita Rd to East H St	Chula Vista	4-lane Major	30,000	31,100	D
East H St to Telegraph Canyon Rd	Chula Vista	6-lane Prime	50,000	26,300	C
La Media Road to SR-125	Chula Vista	6-lane Prime	50,000	41,600	B
SR-125 to Eastlake Pkwy	Chula Vista	7-lane Prime	58,330	44,500	C
Eastlake Pkwy to Hunte Pkwy	Chula Vista	6-lane Prime	50,000	21,700	A
East of Hunte Pkwy	Chula Vista	6-lane Prime	50,000	7,400	A
E. Palomar Street					
Paseo Ladera to Heritage Road	Chula Vista	4-lane Major	30,000	13,400	A
Heritage Road to La Media Rd	Chula Vista	4-lane Major	30,000	20,100	A
La Media Rd to Olympic Pkwy	Chula Vista	4-lane Major	30,000	12,400	A
Olympic Parkway					
I-805 NB Ramps to Oleander Ave	Chula Vista	6-lane Prime	50,000	48,500	C
Oleander Ave to Brandywine Ave	Chula Vista	6-lane Prime	50,000	52,300	D
Brandywine Ave to Heritage Rd	Chula Vista	6-lane Prime	50,000	52,700	D
Heritage Rd to Santa Venetia St	Chula Vista	6-lane Prime	50,000	48,200	C
Santa Venetia St to La Media Rd	Chula Vista	6-lane Prime	50,000	45,800	C
La Media Rd to E. Palomar St	Chula Vista	6-lane Prime	50,000	31,000	A
E. Palomar St to SR-125	Chula Vista	6-lane Prime	50,000	35,600	A
SR-125 to Eastlake Pkwy	Chula Vista	8-lane Prime	66,670	35,608	A
Eastlake Pkwy to Hunte Pkwy	Chula Vista	6-lane Prime	50,000	14,700	A
Birch Road					
La Media Rd to SR-125	Chula Vista	6-lane Major	40,000	10,700	A
SR-125 to Eastlake Pkwy	Chula Vista	6-lane Major	40,000	10,700	A
Main St					
Hilltop Dr to Melrose Ave	Chula Vista	6-lane Prime	50,000	24,400	A
Melrose Ave to I-805	Chula Vista	6-lane Prime	50,000	26,900	A
I-805 to Oleander Ave	Chula Vista	6-lane Prime	50,000	31,300	A
Oleander Ave to Brandywine Ave	Chula Vista	6-lane Prime	50,000	23,100	A
Brandywine Ave to Heritage Rd	Chula Vista	6-lane Prime	50,000	10,900	A
Heritage Rd to Otay Valley Rd	Chula Vista	6-lane Prime	50,000	DNE	DNE
Otay Valley Rd to Magdalena Ave	Chula Vista	6-lane Prime	50,000	DNE	DNE
Magdalena Ave to SR-125	Chula Vista	6-lane Prime	50,000	DNE	DNE
SR-125 to Village 9 St "B"	Chula Vista	6-lane Prime	50,000	DNE	DNE
Village 9 St "B" to Eastlake Pkwy	Chula Vista	6-lane Prime	50,000	DNE	DNE

Table 5.3-3 (cont.) EXISTING ROADWAY SEGMENT OPERATIONS

Roadway/Segment	Jurisdiction	Functional Classification	LOS C Capacity	Volume	LOS
Otay Valley Road					
La Media Road to SR-125	Chula Vista	4-lane Major	30,000	DNE	DNE
SR-125 to Village 9 St "B"	Chula Vista	4-lane Major	30,000	DNE	DNE
Hunte Parkway					
Otay Lakes Rd to Olympic Pkwy	Chula Vista	4-lane Major	30,000	7,000	A
Olympic Pkwy to Exploration Falls Dr	Chula Vista	6-lane Prime	50,000	3,200	A
Exploration Falls Rd to Discovery Falls Dr	Chula Vista	6-lane Prime	50,000	3,200	A
Discovery Falls Rd to Eastlake Pkwy	Chula Vista	6-lane Prime	50,000	3,700	A
Heritage Road					
Telegraph Canyon Rd to E. Palomar St	Chula Vista	6-lane Prime	50,000	19,000	A
E. Palomar St to Olympic Pkwy	Chula Vista	6-lane Prime	50,000	12,900	A
Olympic Pkwy to Main St	Chula Vista	6-lane Prime	50,000	DNE	DNE
Main St to Otay Mesa Rd	Chula Vista	6-lane Prime	50,000	8,800	A
La Media Road					
Telegraph Canyon Rd to E. Palomar St	Chula Vista	6-lane Prime	50,000	22,600	A
E. Palomar St to Olympic Pkwy	Chula Vista	6-lane Prime	50,000	14,700	A
Olympic Pkwy to Birch Rd	Chula Vista	6-lane Prime	50,000	DNE	DNE
Eastlake Parkway					
Otay Lakes Rd to Olympic Pkwy	Chula Vista	4-lane Major	30,000	12,100	A
Olympic Pkwy to Birch Rd	Chula Vista	6-lane Major	40,000	11,800	A
Birch Rd to Hunte Pkwy	Chula Vista	6-lane Major	40,000	1,900	A
South of Hunte Pkwy	Chula Vista	Class II Collector	12,000	DNE	DNE
North of Discovery Falls Rd	Chula Vista	Class II Collector	12,000	DNE	DNE
Discovery Falls Rd to Otay Valley Rd	Chula Vista	Class II Collector	12,000	DNE	DNE
Village 9 St "B"					
Hunte Pkwy to Village 9 St "C"	Chula Vista	Class III Collector [a]	7,500	DNE	DNE
Village 9 St "C" to Village 9 St "E"	Chula Vista	Class III Collector [a]	7,500	DNE	DNE
Village 9 St "E" to Discovery Falls Rd	Chula Vista	Class III Collector [a]	7,500	DNE	DNE
Discovery Falls Rd to Otay Valley Rd	Chula Vista	Class III Collector [a]	7,500	DNE	DNE
Discovery Falls Road					
Hunte Pkwy to St "K"	Chula Vista	4-lane Major	30,000	5,600	A
St "K" to Eastlake Pkwy	Chula Vista	Class III Collector [a]	7,500	DNE	DNE
Eastlake Pkwy to Village 9 St "B"	Chula Vista	Class III Collector [a]	7,500	DNE	DNE
Palm Avenue					
I-805 to Dennery Rd	City of San Diego	7-lane Prime	52,500	45,200	C
Ocean View Hills Parkway					
Dennery Rd to Del Sol Blvd	City of San Diego	4-lane Major	30,000	14,900	A
Del Sol Blvd to Otay Mesa Rd	City of San Diego	4-lane Major	40,000	8,800	A
Otay Mesa Road					
Ocean View Hills Pkwy to Heritage Rd	City of San Diego	6-lane Prime	50,000	12,700	A
Lone Star Road					
SR-125 to Harvest Rd	City of San Diego	4-lane Major	30,000	DNE	DNE

Sources: LLG 2017 and Chen Ryan 2014

a. Capacity of Class III Collector is assumed for this street since only one lane is provided in each direction with the Bus Rapid Transit in the center, and no turn lanes at intervening intersections.

DNE = Does not exist; i.e., roadway segment was not built under Existing Conditions.

3. Intersections

As part of the traffic analysis for the UID SPA Plan, 69 intersections were evaluated and are shown in Figure 5.3-1 and Table 5.3-4, *Existing Intersection Operations*. The table summarizes the existing AM and PM peak hour level of service of the study intersections based on the peak hour intersection volumes and intersection geometry. The existing traffic volumes analyzed in this section were obtained from the University Villages TIA (Chen Ryan 2014). As shown in this table, all intersections are currently operating at an acceptable level of service (LOS D or better) during the AM and PM peak hours except for:

- Olympic Pkwy/I-805 SB Ramps (PM – LOS E)
- Olympic Pkwy/I-805 NB Ramps (AM – LOS F)
- Olympic Pkwy/Brandywine Avenue (AM – LOS E)
- Palm Ave/I-805 NB Ramps (AM – LOS E, PM – LOS E)

Table 5.3-4 EXISTING INTERSECTION OPERATIONS

Intersection	Jurisdiction	Traffic Control	Peak Hour	Delay	LOS
Bonita Rd/Otay Lakes Rd	Chula Vista	Signal	AM	25.2	C
			PM	19.7	B
Bonita Rd/San Miguel Rd	County of San Diego	Signal	AM	18.0	B
			PM	17.4	B
Proctor Valley Rd/San Miguel Rd	County of San Diego	MSSC	AM	11.8	B
			PM	13.0	B
Proctor Valley Rd/ San Miguel Ranch Rd	Chula Vista	AWSC	AM	9.3	A
			PM	13.7	B
East H St/Otay Lakes Road/ La Media Rd	Chula Vista	Signal	AM	31.3	C
			PM	35.3	D
Proctor Valley Rd/Mt Miguel Rd	Chula Vista	Signal	AM	28.1	C
			PM	8.0	A
Proctor Valley Rd/Hunte Pkwy	Chula Vista	Signal	AM	18.5	B
			PM	15.1	B
Telegraph Canyon Rd/Paseo Ladera	Chula Vista	Signal	AM	35.5	D
			PM	24.4	C
Telegraph Canyon Rd/Paseo Ranchero	Chula Vista	Signal	AM	32.9	C
			PM	23.4	C
Telegraph Canyon Rd/Otay Lakes Rd/ La Media Rd	Chula Vista	Signal	AM	34.7	C
			PM	33.3	C
Otay Lakes Rd/SR-125 SB Ramps	Chula Vista	Signal	AM	5.1	A
			PM	8.9	A
Otay Lakes Rd/SR-125 NB Ramps	Chula Vista	Signal	AM	2.0	A
			PM	3.2	A
Otay Lakes Rd/Eastlake Pkwy	Chula Vista	Signal	AM	25.7	C
			PM	35.8	D
Otay Lakes Rd/Hunte Pkwy	Chula Vista	Signal	AM	21.5	C
			PM	18.4	B

Table 5.3-4 (cont.) EXISTING INTERSECTION OPERATIONS

Intersection	Jurisdiction	Traffic Control	Peak Hour	Delay	LOS
E. Palomar St/Paseo Ladera	Chula Vista	Signal	AM	19.0	B
			PM	18.2	B
E. Palomar St/Heritage Rd	Chula Vista	Signal	AM	49.9	D
			PM	27.6	C
E. Palomar St/La Media Rd	Chula Vista	Signal	AM	48.9	D
			PM	26.9	C
Olympic Pkwy/I-805 SB Ramps	Chula Vista	Signal	AM	45.4	D
			PM	75.9	E
Olympic Pkwy/I-805 NB Ramps	Chula Vista	Signal	AM	85.3	F
			PM	33.4	C
Olympic Pkwy/Oleander Ave	Chula Vista	Signal	AM	33.2	C
			PM	19.8	B
Olympic Pkwy/Brandywine Ave	Chula Vista	Signal	AM	56.3	E
			PM	52.9	D
Olympic Pkwy/Heritage Rd	Chula Vista	Signal	AM	17.5	B
			PM	11.0	B
Olympic Pkwy/Santa Venetia St	Chula Vista	Signal	AM	13.0	B
			PM	7.2	A
Olympic Pkwy/La Media Rd	Chula Vista	Signal	AM	39.7	D
			PM	28.4	C
Olympic Pkwy/E. Palomar St	Chula Vista	Signal	AM	30.3	C
			PM	26.7	C
Olympic Pkwy/SR-125 SB Ramps	Chula Vista	Signal	AM	9.5	A
			PM	9.7	A
Olympic Pkwy/SR-125 NB Ramps	Chula Vista	Signal	AM	9.3	A
			PM	8.8	A
Olympic Pkwy/Eastlake Pkwy	Chula Vista	Signal	AM	25.7	C
			PM	27.8	C
Olympic Pkwy/Hunte Pkwy	Chula Vista	Signal	AM	29.6	C
			PM	23.8	C
Birch Rd/La Media Rd	Chula Vista	Signal	AM	41.0	D
			PM	31.1	C
Birch Rd/SR-125 SB Ramps	Chula Vista	Signal	AM	12.5	B
			PM	12.3	B
Birch Rd/SR-125 NB Ramps	Chula Vista	Signal	AM	1.9	A
			PM	3.6	A
Birch Rd/Eastlake Pkwy	Chula Vista	Signal	AM	23.5	C
			PM	25.6	C
Main St/Hilltop Drive	Chula Vista	Signal	AM	4.0	A
			PM	4.1	A
Main St/Melrose Ave	Chula Vista	Signal	AM	13.2	B
			PM	13.2	B
Main St/I-805 SB Ramps	Chula Vista	Signal	AM	32.5	C
			PM	52.4	D

Table 5.3-4 (cont.) EXISTING INTERSECTION OPERATIONS

Intersection	Jurisdiction	Traffic Control	Peak Hour	Delay	LOS
Main St/I-805 NB Ramps	Chula Vista	Signal	AM	17.9	B
			PM	25.3	C
Main St/Oleander Ave	Chula Vista	Signal	AM	5.9	A
			PM	6.1	A
Main St/Brandywine Ave	Chula Vista	Signal	AM	27.1	C
			PM	36.9	D
Main St/Heritage Rd	Chula Vista	Signal	AM	14.5	B
			PM	15.2	B
Main St (WB)/La Media Rd (SB)	Chula Vista	AWSC	AM	DNE	N/A
			PM	DNE	N/A
Main St (WB)/La Media Rd (NB)	Chula Vista	AWSC	AM	DNE	N/A
			PM	DNE	N/A
Main St (EB)/La Media Rd (SB)	Chula Vista	AWSC	AM	DNE	N/A
			PM	DNE	N/A
Main St (EB)/La Media Rd (NB)	Chula Vista	AWSC	AM	DNE	N/A
			PM	DNE	N/A
Main St/Magdalena Ave	Chula Vista	MSSC	AM	9.1	A
			PM	8.7	A
Main St/SR-125 SB Ramps	Chula Vista	Signal	AM	DNE	N/A
			PM	DNE	N/A
Main St/SR-125 NB Ramps	Chula Vista	Signal	AM	DNE	N/A
			PM	DNE	N/A
Main St/Village 9 St “B”	Chula Vista	Signal	AM	DNE	N/A
			PM	DNE	N/A
Hunte Pkwy (Main St)/Eastlake Pkwy	Chula Vista	Signal	AM	DNE	N/A
			PM	DNE	N/A
Hunte Pkwy/Discovery Falls Dr	Chula Vista	Signal	AM	15.8	B
			PM	11.4	B
Hunte Pkwy/Exploration Falls Dr	Chula Vista	Signal	AM	15.6	B
			PM	13.1	B
Village 9 St “B”/Village 9 St “C”	Chula Vista	Signal	AM	DNE	N/A
			PM	DNE	N/A
Village 9 St “B”/Village 9 St “E”	Chula Vista	Signal	AM	DNE	N/A
			PM	DNE	N/A
Discovery Falls Rd/Village 9 St “I”	Chula Vista	Signal	AM	DNE	N/A
			PM	DNE	N/A
Discovery Falls Rd/Eastlake Pkwy	Chula Vista	Signal	AM	DNE	N/A
			PM	DNE	N/A
Discovery Falls Rd/St “J”	Chula Vista	Signal	AM	DNE	N/A
			PM	DNE	N/A
Discovery Falls Rd/St “K”	Chula Vista	Signal	AM	DNE	N/A
			PM	DNE	N/A

Table 5.3-4 (cont.) EXISTING INTERSECTION OPERATIONS

Intersection	Jurisdiction	Traffic Control	Peak Hour	Delay	LOS
Otay Valley Rd/SR-125 SB Ramps	Chula Vista	Signal	AM	DNE	N/A
			PM	DNE	N/A
Otay Valley Rd/SR-125 NB Ramps	Chula Vista	Signal	AM	DNE	N/A
			PM	DNE	N/A
Otay Valley Rd/Village 9 St "B"	Chula Vista	Signal	AM	DNE	N/A
			PM	DNE	N/A
Palm Ave/I-805 SB Ramps	City of San Diego/ Caltrans	Signal	AM	27.7	C
			PM	42.5	D
Palm Ave/I-805 NB Ramps	City of San Diego/ Caltrans	Signal	AM	56.6	E
			PM	72.8	E
Palm Ave/Dennery Road	City of San Diego	Signal	AM	42.0	D
			PM	47.1	D
Avenida De Las Vistas/Heritage Road	City of San Diego	Signal	AM	15.2	C
			PM	10.5	B
Lone Star Rd/SR-125 SB Ramps	Caltrans	Signal	AM	DNE	DNE
			PM	DNE	DNE
Lone Star Rd/SR-125 NB Ramps	Caltrans	Signal	AM	DNE	DNE
			PM	DNE	DNE
Lone Star Rd/Harvest Rd	City of San Diego	Signal	AM	DNE	DNE
			PM	DNE	DNE
Ocean View Hills Pkwy/Otay Mesa Rd	City of San Diego	Signal	AM	33.4	C
			PM	29.5	C
Heritage Rd/Otay Mesa Rd	City of San Diego	Signal	AM	22.3	C
			PM	25.9	C

Source: LLG 2017 and Chen Ryan 2014
General Notes:
MSSC = Minor Street STOP Controlled. Minor street delay and level of service reported.
AWSC = All Way STOP Controlled. Overall delay and level of service reported.
DNE = Does not exist; i.e., intersection was not built under Existing Conditions.

Under existing conditions, public transportation is provided by San Diego Metropolitan Transit System (MTS) Routes 703, 707, and 709 serve the nearby area. However, these routes do not currently provide service to the UID. The nearest public transportation stop to the UID is located approximately one mile north of the Project area at the intersection of Olympic Parkway and Eastlake Parkway. The proposed South Bay Bus Rapid Transit (BRT) line (referred to as "South Bay Rapid") would traverse through the UID and include a bus stop on Orion Avenue near Campus Boulevard, creating a regional transit connection from the Otay Mesa border crossing to downtown San Diego. The BRT line is expected to be in service in 2018 (SANDAG 2016).

5.3.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, impacts regarding traffic and circulation would be significant if the Project would:

- **Threshold 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.

- **Threshold 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.

- **Threshold 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.

- **Threshold 4:** Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

- **Threshold 5:** Result in inadequate emergency access.

- **Threshold 6:** Conflict with adopted policies, plans or programs regarding the circulation network, public transit, bicycle or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

A. City of Chula Vista Significance Criteria for Traffic Impacts

Traffic impacts are 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 LOS on freeway segments, roadway segments, or intersections, triggering the need for specific Project-related improvement strategies. Cumulative impacts are those in which the Project trips contribute to a degradation in LOS combined with other planned projects and growth in the region.

The term "horizon year" describes a future period of time in the traffic analysis, which corresponds to SANDAG's traffic model years, and represent conditions in 2020, 2025, and 2030.

Criteria for determining whether the Project results in either direct (Project-specific) or cumulative impacts on freeway segments, roadway segments, or intersections as described below.

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

For purposes of the short-term analysis, roadway sections are 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 Growth Management Oversight Committee (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 HCM methodology of average travel speed based on actual measurements on the segments as listed in the Growth Management Plan Traffic Monitoring Program. As the Project is unlikely to be built within the next four years, the GMOC analysis was not necessary.

a. Intersections

1. The Project would result in a direct (Project-specific) impact if both the following criteria are met:
    a. Level of service is LOS E or LOS F
    b. Project trips comprise five percent or more of entering volume
2. A cumulative impact would occur only if (a) 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, E, or F, the GMOC method should be utilized. The following criteria would then be utilized.

1. The Project would result in a direct (Project-specific) impact if all the following criteria are met:
    a. Level of service is LOS D for more than two hours or LOS E/F for 1 hour
    b. Project trips comprise five percent or more of segment volume
    c. Project adds greater than 800 ADT to the segment
2. A cumulative impact would occur only if (a) is met.

c. Freeways

1. The Project would result in a direct (Project-specific) impact if all the following criteria are met:
    a. Freeway segment LOS is LOS E or LOS F
    b. Project comprises five percent or more of the total forecasted ADT on that freeway segment
2. A cumulative impact would occur only if (a) is met.

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

a. Intersections

1. The Project would result in a direct (Project-specific) impact if all the following criteria are met:

    a. Level of service is LOS E or LOS F

    b. Project trips comprise five percent or more of entering volume

2. A cumulative impact would occur only if (a) is met.

b. Street Links/Segments

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

1. The Project would result in a direct (Project-specific) impact if all the following criteria are met:

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

    b. Project trips comprise five percent or more of total segment volume

    c. Project adds greater than 800 ADT to the segment

2. A cumulative impact would occur only if (a) 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 as not significant since intersection analysis is more indicative of actual roadway system operations than street segment analysis because street segment analysis does not provide as much context compared to intersections. If segment Level of Service is LOS F, impact is significant regardless of intersection LOS.

3. Notwithstanding the foregoing, if the impact identified occurs at study horizon year 10 or later, and is offsite and not adjacent to the Project, the impact is considered cumulative. Study year 10 may be that typical SANDAG model year which is between 8 and 13 years in the future. Study horizon year 10 would correspond to the SANDAG model for year 2010 and would be 8 years in the future. If the model year is less than 7 years in the future, study horizon year 10 would be 13 years in the future.

4. In the event a Project-specific impact is identified at study horizon year 5 or earlier and the impact is off-site and not adjacent to this 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. If the additional analysis concludes that the identified impact is no longer Project-specific, then the impact shall be considered cumulative.

c. Freeway Analysis

1. The Project would result in a direct (Project-specific) impact if all the following criteria are met:

    a. Freeway segment LOS is LOS E or LOS F

    b. Project comprises five percent or more of the total forecasted ADT on that freeway segment

2. A cumulative impact would occur only if (a) is met.

B. City of San Diego Significance Criteria for Traffic Impacts

According to the City of San Diego's Significance Determination Thresholds dated January 2011, a project is considered to have a significant impact if Project traffic would decrease the operations of surrounding roadways by a defined threshold. The City defined thresholds are shown in Table 5.3–5, *City of San Diego Traffic Impact Significance Thresholds*.

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

1. Direct traffic impacts are those projected to occur at the time a proposed development becomes operational, including other developments not presently operational but which are anticipated to be operational at that time (near term).

2. Cumulative traffic impacts are those projected to occur at some point after a proposed development becomes operational, such as during subsequent phases of a project and when additional proposed developments in the area become operational (short-term cumulative) or when affected community plan area reaches full planned buildout (long-term cumulative).

It is possible that a project's near term (direct) impacts may be reduced in the long term, as future projects develop and provide additional roadway improvements (for instance, through implementation of traffic phasing plans). In such a case, the Project may have direct impacts but not contribute considerably to a cumulative impact.

For intersections and roadway segments affected by a project, LOS D or better is considered acceptable under both direct and cumulative conditions.

A significant impact is determined if:

1. Any intersection, roadway segment, or freeway segment affected by a project would operate at LOS E or F under either direct or cumulative conditions, or, if a project would degrade the LOS on a facility from acceptable to unacceptable level, the impact would be significant if the project exceeds the thresholds shown in Table 5.3–5.

2. At any ramp meter location with delays above 15 minutes, the impact would be significant if the project exceeds the thresholds shown in Table 5.3–5.

3. If a project would add a substantial amount of traffic to a congested freeway segment, interchange, or ramp, the impact may be significant.

4. Addition of a substantial amount of traffic to a congested freeway segment, interchange, or ramp as shown in Table 5.3-5.

Table 5.3–5 CITY OF SAN DIEGO TRAFFIC IMPACT SIGNIFICANCE THRESHOLDS

Level of Service with Project[b]	Allowable Increase Due to Project Impacts[a]					
	Freeways		Roadway Segments		Intersections	Ramp Metering[c]
	V/C	Speed (mph)	V/C	Speed (mph)	Delay (sec.)	Delay (min.)
E	0.010	1.0	0.02	1.0	2.0	2.0
F	0.005	0.5	0.01	0.5	1.0	1.0

Footnotes:

a. If a proposed project's traffic causes the values shown in the table to be exceeded, the impacts are determined to be significant. The Project applicant shall then identify feasible improvements (within the Traffic Impact Study) that will restore/and maintain the traffic facility at an acceptable LOS. If the LOS with the proposed Project becomes unacceptable (see note b), or if the Project adds a significant amount of peak-hour trips to cause any traffic queues to exceed on- or off-ramp storage capacities, the Project applicant shall be responsible for mitigating the Project's direct significant and/or cumulatively considerable traffic impacts.

b. All LOS measurements are based upon Highway Capacity Manual procedures for peak-hour conditions. However, V/C ratios for roadway segments are estimated on an ADT/24-hour traffic volume basis (using Table 2 of the City's Traffic Impact Study Manual). The acceptable LOS for freeways, roadways, and intersections is generally "D" ("C" for undeveloped locations). For metered freeway ramps, LOS does not apply. However, ramp meter delays above 15 minutes are considered excessive.

c. The allowable increase in delay at a ramp meter with more than 15 minutes delay and freeway LOS E is 2 minutes. The allowable increase in delay at a ramp meter with more than 15 minutes delay and freeway LOS F is 1 minute.

Delay = Average control delay per vehicle measured in seconds for intersections or minutes for ramp meters
LOS = Level of Service; V/C = Volume to Capacity ratio; Speed = Arterial speed measured in miles per hour

C. County of San Diego Significance Criteria for Traffic Impacts

The following criterion was utilized to evaluate potential significant impacts, based on the County's Guidelines for Determining Significance (County of San Diego 2011a). It is important to note that the County significance criteria typically apply to "land development" projects wherein significant impacts are measured based on the Project's traffic contribution at an intersection or on a road segment.

1. Road Segments

Pursuant to the County's General Plan Mobility Element (Mobility Element) Policy M2.1, new development must provide improvements or other measures to mitigate traffic impacts to avoid:

1. Reduction in LOS below "C" for on-site Mobility Element roads.

2. Reduction in LOS below "D" for off-site and on-site abutting Mobility Element roads; and "significantly impacting congestion" on roads that operate at LOS "E" or "F".

3. If impacts cannot be mitigated, the Project cannot be approved unless a statement of overriding findings is made pursuant to the State CEQA Guidelines. However, the County's General Plan Mobility Element does not include specific guidelines for

determining the amount of additional traffic that would "significantly impact congestion" on such roads.

The County has created the following guidelines to evaluate likely traffic impacts of a proposed project for road segments and intersections serving that project site, for purposes of determining whether the development would "significantly impact congestion" on the referenced LOS E and F roads. The guidelines are summarized in Table 5.3–6, *Measures of Significant Project Impacts to Mobility Element Road Segments (Allowable Increases on Congested Road Segment)*. The thresholds in Table 5.3–6 are based upon average operating conditions on County roadways. It should be noted that these thresholds only establish general guidelines, and that the specific project location must be taken into account in conducting an analysis of traffic impact from new development.

a. On-site County Mobility Element Roads

The Mobility Element states that "new development shall provide needed roadway expansion and improvements on-site to meet demand created by the development, and to maintain a LOS C on Mobility Element Roads during peak traffic hours." Pursuant to this policy, a significant traffic impact would result if the additional or redistributed ADT generated by the proposed land development project will cause on-site Circulation Element Roads to operate below LOS C during peak traffic hours.

Table 5.3-6 MEASURES OF SIGNIFICANT PROJECT IMPACTS TO MOBILITY ELEMENT ROAD SEGMENTS (ALLOWABLE INCREASES ON CONGESTED ROAD SEGMENTS)

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

General Notes:

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

b. Off-site County Mobility Element Roads

The Mobility Element also addresses offsite Mobility Element roads. It states that "new development shall provide off-site improvements designed to contribute to the overall achievement of a Level of Service D on Mobility Element Roads." Implementation Measure 1.1.3 addressed projects that would significantly impact congestion on roads operating at LOS E or F. It states, "new development that would significantly impact congestion on roads operating at LOS E or F, either currently or as a result of the Project, will be denied unless improvements are scheduled to attain a LOS to D or better or appropriate mitigation is provided." The following significance guidelines define a method for evaluating whether or not increased traffic volumes generated or redistributed from a proposed Project will "significantly impact congestion" on County roads, operating at LOS E or F, either currently or as a result of the Project.

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

1. The additional or redistributed ADT generated by the Project will significantly increase congestion on a Mobility Element Road or State Highway currently operating at LOS E or LOS F, or will cause a Mobility Element Road or State Highway to operate at a LOS E or LOS F as a result of the Project as identified in Table 5.3-4; or

2. The additional or redistributed ADT generated by the Project will cause a residential street to exceed its design capacity.

2. Intersections

This section provides guidance for evaluating adverse effects a project may have on signalized and unsignalized intersections. Table 5.3–7, *Measures of Significant Project Impacts to County Intersections (Allowable Increases on Congested Road Segments)*, was obtained from County guidelines and summarizes the allowable increases in delay or traffic volumes at signalized and unsignalized intersections. Exceeding the thresholds in Table 5.3–7 would result in a significant impact.

Table 5.3–7 MEASURES OF SIGNIFICANT PROJECT IMPACTS TO COUNTY INTERSECTIONS (ALLOWABLE INCREASES ON CONGESTED ROAD SEGMENTS)

Level of service	Signalized	Unsignalized
LOS E	Delay of 2 seconds or less	20 or less peak hour trips on a critical movement
LOS F	Either a Delay of 1 second, or 5 peak hour trips or less on a critical movement	5 or less peak hour trips on a critical movement

General Notes:

1. A critical movement is an intersection movement (right-turn, left-turn, and through-movement) that experiences excessive queues, which typically operate at LOS F.
2. By adding proposed Project trips to all other trips from a list of projects, these same tables are used to determine if total cumulative impacts are significant. If cumulative impacts are found to be significant, each project is responsible for mitigating its share of the cumulative impact.
3. The County may also determine impacts have occurred on roads even when a project's traffic or cumulative impacts do not trigger an unacceptable level of service, when such traffic uses a significant amount of remaining road capacity.
4. For determining significance at signalized intersections with LOS F conditions, the analysis must evaluate both the delay ***and*** the number of trips on a critical movement, exceedance of either criteria result in a significant impact.

3. Signalized Intersections

Traffic volume increases from public or private projects that result in one or more of the following criteria will have a significant traffic volume or level of service traffic impact on a County signalized intersection:

1. The additional or redistributed ADT generated by the proposed Project will significantly increase congestion on a signalized intersection currently operating at LOS E or LOS F, or will cause a signalized intersection to operate at a LOS E or LOS F as identified in Table 5.3-7.

2. Based upon an evaluation of existing accident rates, the signal priority list, intersection geometrics, proximity of adjacent driveways, sight distance or other factors, the Project would significantly impact the operations of the intersection.

4. Unsignalized Intersections

The operating parameters and conditions for unsignalized intersections differ dramatically from those of signalized intersections. Very small volume increases on one leg or turn and/or through movement of an unsignalized intersection can substantially affect the calculated delay for the entire intersection. Significance criteria for unsignalized intersections are based upon a minimum number of trips added to a critical movement at an unsignalized intersection.

Traffic volume increases from public or private projects that result in one or more of the following criteria will have a significant traffic impact on an unsignalized intersection as listed in Table 5.3-7 and described as text below:

1. The additional or redistributed ADT generated by the Project will add 21 or more peak hour trips to a critical movement of an unsignalized intersection, and cause an unsignalized intersection to operate below LOS D, or

2. The additional or redistributed ADT generated by the Project will add 21 or more peak hour trips to a critical movement of an unsignalized intersection currently operating at LOS E, or

3. The additional or redistributed ADT generated by the Project will add 6 or more peak hour trips to a critical movement of an unsignalized intersection, and cause the unsignalized intersection to operate at LOS F, or

4. The additional or redistributed ADT generated by the Project will add 6 or more peak hour trips to a critical movement of an unsignalized intersection currently operating at LOS F, or

5. Based upon an evaluation of existing accident rates, the signal priority list, intersection geometrics, proximity of adjacent driveways, sight distance or other factors, the Project would significantly impact the operations of the intersection.

5.3.3 Impact Analysis

A. Threshold 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.

Potential traffic impacts that would result from construction and operation of the Project are discussed below. The construction traffic analysis incorporates the operation analysis; therefore, the operation analysis is discussed first, followed by potential construction impacts.

1. Operation

The TIA for operation of the UID (included as Appendix B to this EIR) evaluated traffic impacts that would occur upon implementation of the Project under the following scenarios: Year 2020, Year 2025, and Year 2030. In addition, an Existing Plus Project scenario was evaluated, which analyzes the traffic associated with full buildout of the Project as if it were to occur on the existing transportation network. The Existing Plus Project scenario is regarded by traffic engineers as a hypothetical scenario when used in connection with a long-range development project such as the UID, which is not anticipated to reach full buildout until after 2030, by which time the transportation network will have changed based on other development and implementation of planned improvements. The following discussion summarizes the results of this analysis for the UID. The operational analysis includes traffic that would potentially be generated by all proposed uses in the SPA Plan, including the development of a 20,000 Full Time Equivalent (FTE) student University along with a research park, retail, and student and market rate housing in the Main Campus property and a Chancellor's residence and Conference Center (University Conference Center) as planned in the Lake Property.

a. Traffic Impact Scenarios

Each of the following scenarios includes certain roadway system assumptions that are discussed in each impact section, as well as on-site access and frontage improvements required by Municipal Code Chapter 12.24.

Traffic Model Methodology and Trip Generation and Distribution

Future year traffic volumes were forecast using the SANDAG Series 11 forecast model as the model has been calibrated and land uses coded specifically for the eastern territories of the City. Traffic model runs accounted for the construction of future roads in order to understand how future traffic patterns may change when new capacity is added to the roadway network.

The SANDAG trip generation rates were utilized to determine daily and peak hour trips to be generated by the Project. Trip reduction factors were applied to the forecasted trip generation for the Project to reflect internally captured trips (trips that do not leave the village), non-motorized trips (pedestrian and bike trips), and transit trips. In addition, a five percent reduction was applied for transit uses for Year 2030 when the BRT line is expected to be operational.

As previously stated, an SZA was conducted to distribute the Project traffic based upon which the extent of the study area was determined. Intersections and roadways where the Project would contribute 800 or more daily trips or 50 or more peak hour trips in either direction were included as study intersections for analysis. Freeway segments where the Project would add 2,400 or more

daily trips or 150 or more peak hour trips in either direction were also included in the Project study area.

Table 5.3-8, *Project-Generated Average Daily Trips at Project Buildout (Year 2030)*, identifies the forecasted Project-generated daily and peak hour trips for buildout of the Project, including internal capture and transit reductions. As shown in this table, at buildout, the Project is forecast to generate a total of approximately 54,360 daily trips with internal capture, including 5,586 AM peak hour trips and 5,541 PM peak hour trips. With transit reductions, the Project is forecast to generate approximately 51,642 trips per day, including 5,307 AM and 5,264 PM peak hour trips. The distribution of these trips is shown on Figure 5.3-2, *Year 2030 Project Traffic Assignment*. The phased daily trips generated by Project development assumed for each scenario year is shown in Table 5.3-9, *Phased Project Trip Generation*.

Also included in Table 5.3-9 is the Equivalent Dwelling Units (EDU) for each scenario. This converts project land uses (university, research, commercial, and housing) into terms of single-family dwelling units with a daily trip rate of 10 trips per unit. The Project ADT divided by 10 daily trips equals the number of EDU. For example, for Year 2020, 13,595 ADT divided by 10 would equal 1,360 EDUs (rounded).

Table 5.3-8 PROJECT-GENERATED AVERAGE DAILY TRIPS AT PROJECT BUILDOUT (YEAR 2030)

Land Use	Size	ADT	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
University	260 acres	26,000	2,080	520	2,600	702	1,638	2,340
Research [a]	1,800,000 SF	12,960	1,867	207	2,074	182	1,633	1,815
Commercial [b]	200,000 SF	6,400	115	77	192	288	288	576
Market Rate Housing [c]	2,000 DU	9,000	144	576	720	567	243	810
Subtotal		**54,360**	**4,206**	**1,380**	**5,586**	**1,739**	**3,802**	**5,541**
Transit Reduction (5 percent)		**-2,718**	**-210**	**-69**	**-279**	**-87**	**-190**	**-277**
TOTAL		**51,642**	**3,996**	**1,311**	**5,307**	**1,652**	**3,612**	**5,264**

Source: LLG 2017

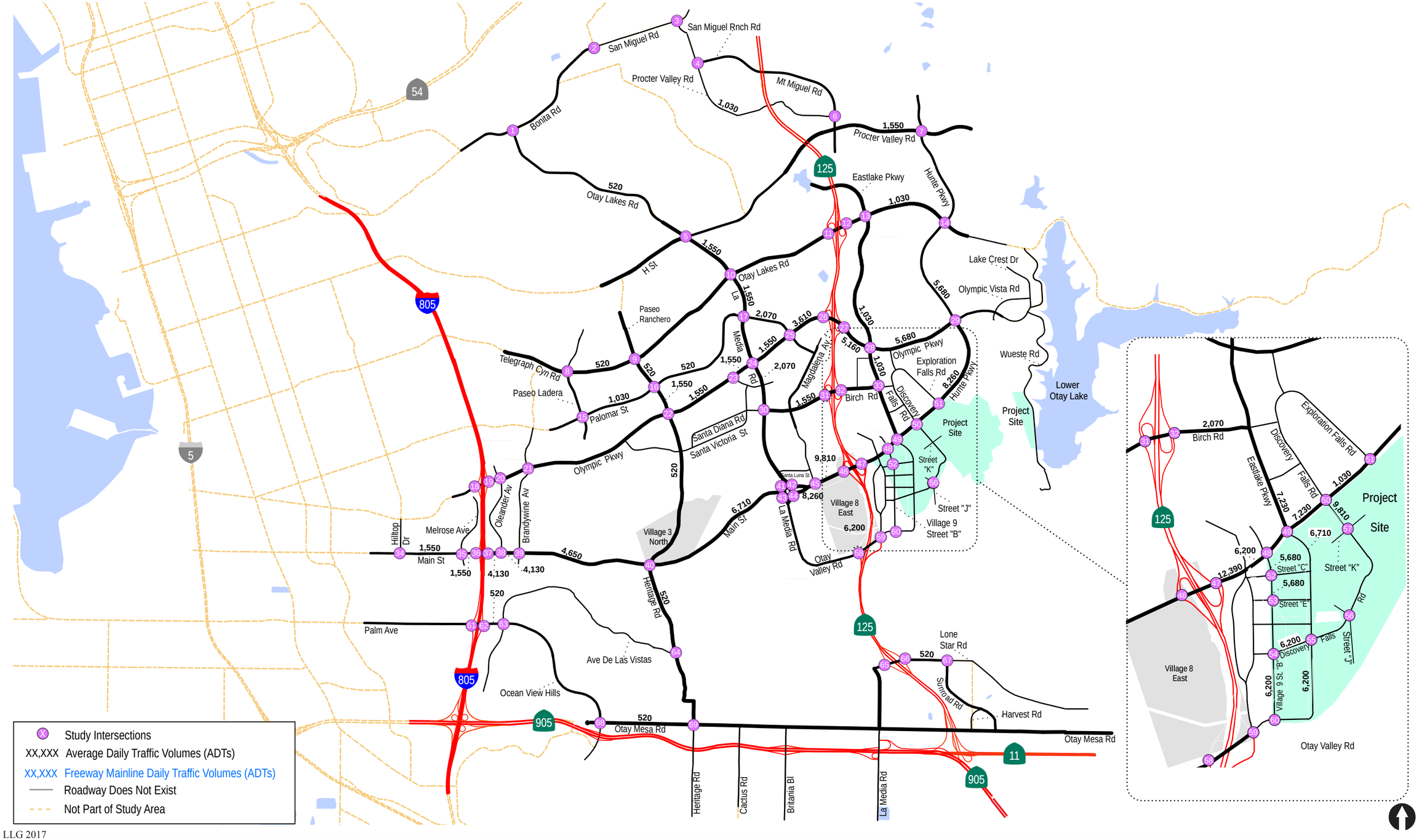
Trip generation rates based on (Not so) Brief Guide of Vehicular Traffic Generation Rates for the San Diego Region, April 2002, by SANDAG.

a. Internal Capture: Traffic to the University that is also destined to the research (students working as interns).

b. Internal Capture: Traffic to the University and research that also patronizes the retail.

c. Internal Capture: The on-campus housing will serve graduate students and staff; therefore, a 25 percent internal capture is assumed.

DU = dwelling unit; SF = square feet.



Source: LLG 2017

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Year 2030 Project Traffic Assignment

UNIVERSITY INNOVATION PROJECT EIR

HELIX Environmental Planning

Figure 5.3-2

Table 5.3-9 PHASED PROJECT TRIP GENERATION

Scenario	ADT	EDU	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Year 2020	13,595	1,360	921	325	1,246	464	886	1,350
Year 2025	35,650	3,565	2,344	864	3,208	1,252	2,316	3,568
Year 2030[a]	51,652	5,164	3,996	1,311	5,307	1,652	3,612	5,264

Source: LLG 2017

a Year 2030 (Buildout) Project trip generation values also apply to the Existing Plus Project scenario.

Existing Plus Project

CEQA mandates the assessment of existing conditions with Project buildout conditions. The Existing Plus Project scenario assumes the existing street network with existing traffic count data as the baseline in order to analyze impacts from the Project at buildout. Under buildout conditions, the Project is forecast to generate 51,652 trips per day. Because of the lack of existing transit service and the isolated nature of the Project in this study scenario, neither internal capture nor transit reductions were applied to the Existing Plus Project analysis. As shown in Table 5.3-10, *Existing Plus Project Intersection Operations*, the following intersections would operate at a deficient LOS under the Existing Plus Project scenario:

- Palomar Street/La Media Road (AM – LOS E)
- East Olympic Parkway/I-805 SB Ramps (PM – LOS F)
- Olympic Parkway/I-805 NB Ramps (AM – LOS F, PM – LOS F)
- Olympic Parkway/Oleander Avenue (AM – LOS F, PM – LOS F)
- Olympic Parkway/Brandywine Avenue (AM – LOS F, PM – LOS F)
- Olympic Parkway/Heritage Road (AM – LOS F, PM – LOS F)
- Olympic Parkway/Santa Venetia Street (AM – LOS F, PM – LOS F)
- Olympic Parkway/La Media Road (AM – LOS F, PM – LOS F)
- Birch Road/La Media Road (AM – LOS F, PM – LOS F)
- Birch Road/Eastlake Parkway (AM – LOS F, PM – LOS F)
- Main Street/I-805 SB Ramps (PM – LOS F)
- Main Street/I-805 NB Ramps (AM – LOS E)
- Hunte Parkway/Discovery Falls Drive (AM – LOS F, PM – LOS E)
- Palm Avenue/I-805 SB Ramps (PM – LOS E)
- Palm Avenue/I-805 NB Ramps (AM – LOS E, PM – LOS E)

Table 5.3-11, *Existing Plus Project Roadway Segment Operations*, presents the results of the Existing Plus Project conditions roadway segment LOS. As shown in this table, the following roadway segments would operate at deficient LOS:

- Otay Lakes Road from Bonita Road to East H Street (LOS D)
- Olympic Parkway from I-805 NB Ramps to Oleander Avenue (LOS F)
- Olympic Parkway from Oleander Avenue to Brandywine Avenue (LOS F)
- Olympic Parkway from Brandywine Avenue to Heritage Road (LOS F)
- Olympic Parkway from Heritage Road to Santa Venetia Street (LOS F)

- Olympic Parkway from Santa Venetia Street to La Media Road (LOS F)
- Eastlake Parkway, south of Hunte Parkway (LOS F)

Table 5.3-10 EXISTING PLUS PROJECT INTERSECTION OPERATIONS

Intersection	Jurisdiction	Traffic Control	Peak Hour	Delay	LOS
Bonita Rd/ Otay Lakes Rd	Chula Vista	Signal	AM	25.8	C
			PM	20.0	B
Bonita Rd/ San Miguel Rd	County of San Diego	Signal	AM	22.5	C
			PM	21.8	C
Proctor Valley Rd/ San Miguel Rd	County of San Diego	MSSC	AM	13.0	B
			PM	8.4	A
Proctor Valley Rd/ San Miguel Ranch Rd	Chula Vista	AWSC	AM	10.5	B
			PM	16.5	C
East H St/Otay Lakes Road/La Media Rd	Chula Vista	Signal	AM	34.4	C
			PM	37.7	D
Proctor Valley Rd/ Mt Miguel Rd	Chula Vista	Signal	AM	36.4	D
			PM	9.1	A
Proctor Valley Rd/ Hunte Pkwy	Chula Vista	Signal	AM	23.0	C
			PM	18.5	B
Telegraph Canyon Rd/ Paseo Ladera	Chula Vista	Signal	AM	35.8	D
			PM	24.5	C
Telegraph Canyon Rd/ Paseo Ranchero	Chula Vista	Signal	AM	33.2	C
			PM	24.3	C
Telegraph Canyon Rd/Otay Lakes Rd/ La Media Rd	Chula Vista	Signal	AM	35.5	D
			PM	34.9	C
Otay Lakes Rd/ SR-125 SB Ramps	Chula Vista	Signal	AM	6.8	A
			PM	9.6	A
Otay Lakes Rd/ SR-125 NB Ramps	Chula Vista	Signal	AM	2.0	A
			PM	3.2	A
Otay Lakes Rd/ Eastlake Pkwy	Chula Vista	Signal	AM	26.1	C
			PM	37.2	D
Otay Lakes Rd/ Hunte Pkwy	Chula Vista	Signal	AM	25.7	C
			PM	22.2	C
E. Palomar Rd/ Paseo Ladera	Chula Vista	Signal	AM	19.0	B
			PM	18.3	B
E. Palomar Rd/ Heritage Rd	Chula Vista	Signal	AM	50.3	D
			PM	28.1	C
E. Palomar Rd/ La Media Rd	Chula Vista	Signal	AM	61.1	E
			PM	33.3	C
Olympic Pkwy/ I-805 SB Ramps	Chula Vista	Signal	AM	17.9	B
			PM	>100.0	F
Olympic Pkwy/ I-805 NB Ramps	Chula Vista	Signal	AM	>100.0	F
			PM	>100.0	F
Olympic Pkwy/ Oleander Ave	Chula Vista	Signal	AM	>100.0	F
			PM	>100.0	F

Table 5.3-10 (cont.) EXISTING PLUS PROJECT INTERSECTION OPERATIONS

Intersection	Jurisdiction	Traffic Control	Peak Hour	Delay	LOS
Olympic Pkwy/ Brandywine Ave	Chula Vista	Signal	AM	>100.0	F
			PM	>100.0	F
Olympic Pkwy/ Heritage Rd	Chula Vista	Signal	AM	>100.0	F
			PM	>100.0	F
Olympic Pkwy/ Santa Venetia St	Chula Vista	Signal	AM	>100.0	F
			PM	>100.0	F
Olympic Pkwy/ La Media Rd	Chula Vista	Signal	AM	>100.0	F
			PM	>100.0	F
Olympic Pkwy/ E. Palomar St	Chula Vista	Signal	AM	34.1	C
			PM	28.7	C
Olympic Pkwy/ SR-125 SB Ramps	Chula Vista	Signal	AM	10.0	A
			PM	10.7	B
Olympic Pkwy/ SR-125 NB Ramps	Chula Vista	Signal	AM	10.0	A
			PM	9.7	A
Olympic Pkwy/ Eastlake Pkwy	Chula Vista	Signal	AM	28.0	C
			PM	32.0	C
Olympic Pkwy/ Hunte Pkwy	Chula Vista	Signal	AM	25.5	C
			PM	34.6	C
Birch Rd/ La Media Rd	Chula Vista	Signal	AM	>100.0	F
			PM	>100.0	F
Birch Rd/ SR-125 SB Ramps	Chula Vista	Signal	AM	48.2	D
			PM	39.7	D
Birch Rd/ SR-125 NB Ramps	Chula Vista	Signal	AM	3.6	A
			PM	3.3	A
Birch Rd/ Eastlake Pkwy	Chula Vista	Signal	AM	>100.0	F
			PM	>100.0	F
Main St/ Hilltop Drive	Chula Vista	Signal	AM	3.7	A
			PM	4.3	A
Main St/ Melrose Ave	Chula Vista	Signal	AM	14.2	B
			PM	13.8	B
Main St/I-805 SB Ramps	Chula Vista	Signal	AM	49.0	D
			PM	>100.0	F
Main St/I-805 NB Ramps	Chula Vista	Signal	AM	63.6	E
			PM	40.2	D
Main St/Oleander Ave	Chula Vista	Signal	AM	8.4	A
			PM	8.2	A
Main St/ Brandywine Ave	Chula Vista	Signal	AM	33.8	C
			PM	46.8	D
Main St/Heritage Rd	Chula Vista	Signal	AM	11.5	B
			PM	15.2	B
Main St (WB)/ La Media Rd (SB)	Chula Vista	AWSC	AM	DNE	N/A
			PM	DNE	N/A
Main St (WB)/ La Media Rd (NB)	Chula Vista	AWSC	AM	DNE	N/A
			PM	DNE	N/A
Main St (EB)/ La Media Rd (SB)	Chula Vista	AWSC	AM	DNE	N/A
			PM	DNE	N/A

Table 5.3-10 (cont.) EXISTING PLUS PROJECT INTERSECTION OPERATIONS

Intersection	Jurisdiction	Traffic Control	Peak Hour	Delay	LOS
Main St (EB)/ La Media Rd (NB)	Chula Vista	AWSC	AM	DNE	N/A
			PM	DNE	N/A
Main St/ Magdalena Ave	Chula Vista	MSSC	AM	8.8	A
			PM	8.7	A
Main St/SR-125 SB Ramps	Chula Vista	Signal	AM	DNE	N/A
			PM	DNE	N/A
Main St/SR-125 NB Ramps	Chula Vista	Signal	AM	DNE	N/A
			PM	DNE	N/A
Main St/Village 9 St "B"	Chula Vista	Signal	AM	DNE	N/A
			PM	DNE	N/A
Hunte Pkwy (Main St)/ Eastlake Pkwy	Chula Vista	Signal	AM	19.3	B
			PM	29.8	C
Hunte Pkwy/ Discovery Falls Dr	Chula Vista	Signal	AM	>100.0	F
			PM	55.7	E
Hunte Pkwy/ Exploration Falls Dr	Chula Vista	Signal	AM	13.5	B
			PM	8.2	A
Village 9 St "B"/ Village 9 St "C"	Chula Vista	Signal	AM	DNE	N/A
			PM	DNE	N/A
Village 9 St "B"/ Village 9 St "E"	Chula Vista	Signal	AM	DNE	N/A
			PM	DNE	N/A
Discovery Falls Rd/ Village 9 St "I"	Chula Vista	Signal	AM	DNE	N/A
			PM	DNE	N/A
Discovery Falls Rd/ Eastlake Pkwy	Chula Vista	Signal	AM	DNE	N/A
			PM	DNE	N/A
Discovery Falls Rd/ St "J"	Chula Vista	Signal	AM	DNE	N/A
			PM	DNE	N/A
Discovery Falls Rd/ St "K"	Chula Vista	Signal	AM	DNE	N/A
			PM	DNE	N/A
Otay Valley Rd/ SR-125 SB Ramps	Chula Vista	Signal	AM	DNE	N/A
			PM	DNE	N/A
Otay Valley Rd/ SR-125 NB Ramps	Chula Vista	Signal	AM	DNE	N/A
			PM	DNE	N/A
Otay Valley Rd/ Village 9 St "B"	Chula Vista	Signal	AM	DNE	N/A
			PM	DNE	N/A
Palm Ave/I-805 SB Ramps	City of San Diego/ Caltrans	Signal	AM	30.2	C
			PM	58.1	E
Palm Ave/I-805 NB Ramps	City of San Diego/ Caltrans	Signal	AM	68.5	E
			PM	77.3	E
Palm Ave/ Dennery Road	City of San Diego	Signal	AM	44.5	D
			PM	48.3	D
Avenida De Las Vistas/ Heritage Road	City of San Diego	Signal	AM	15.2	C
			PM	10.5	B
Lone Star Rd/ SR-125 SB Ramps	Caltrans	Signal	AM	DNE	N/A
			PM	DNE	N/A
Lone Star Rd/ SR-125 NB Ramps	Caltrans	Signal	AM	DNE	N/A
			PM	DNE	N/A

Table 5.3-10 (cont.) EXISTING PLUS PROJECT INTERSECTION OPERATIONS

Intersection	Jurisdiction	Traffic Control	Peak Hour	Delay	LOS
Lone Star Rd/ Harvest Rd	City of San Diego	Signal	AM	DNE	N/A
			PM	DNE	N/A
Ocean View Hills Pkwy/ Otay Mesa Rd	City of San Diego	Signal	AM	32.9	C
			PM	29.6	C
Heritage Rd/ Otay Mesa Rd	City of San Diego	Signal	AM	22.2	C
			PM	25.8	C

Source: LLG 2017
MSSC = Minor Street STOP Controlled. Minor street delay and level of service reported.
AWSC = All Way STOP Controlled. Overall delay and level of service reported.
DNE = Does not exist. i.e., intersection was not built/operational under Existing Conditions.

Table 5.3-11 EXISTING PLUS PROJECT ROADWAY SEGMENT OPERATIONS

Roadway/Segment	Jurisdiction	Functional Classification	LOS C Capacity[a]	Volume	LOS
Bonita Road					
Otay Lakes Rd to San Miguel Rd	Chula Vista	4-lane Major	30,000	23,700	B
San Miguel Ranch Road					
Bonita Road to Proctor Valley Rd	Chula Vista	Class I Collector	22,000	8,630	A
East H St					
SR-125 to Mt Miguel Rd	Chula Vista	6-lane Prime	50,000	18,320	A
Mt Miguel Rd to Hunte Pkwy	Chula Vista	6-lane Prime	50,000	20,070	A
Telegraph Canyon Road					
Paseo Ladera to Paseo Ranchero	Chula Vista	6-lane Prime	50,000	45,620	C
Paseo Ranchero to Otay Lakes Rd	Chula Vista	6-lane Prime	50,000	36,100	A
Otay Lakes Road					
Bonita Rd to East H St	Chula Vista	4-lane Major	30,000	31,620	D
East H St to Telegraph Canyon Rd	Chula Vista	6-lane Prime	30,000	27,850	C
La Media Road to SR-125	Chula Vista	6-lane Prime	50,000	41,600	B
SR-125 to Eastlake Pkwy	Chula Vista	7-lane Prime	58,330	44,500	C
Eastlake Pkwy to Hunte Pkwy	Chula Vista	6-lane Prime	50,000	23,250	A
East of Hunte Pkwy	Chula Vista	6-lane Prime	50,000	7,400	A
E. Palomar Street					
Paseo Ladera to Heritage Road	Chula Vista	4-lane Major	30,000	14,430	A
Heritage Road to La Media Rd	Chula Vista	4-lane Major	30,000	20,620	A
La Media Rd to Olympic Pkwy	Chula Vista	4-lane Major	30,000	14,470	A

Table 5.3-11 (cont.) EXISTING PLUS PROJECT ROADWAY SEGMENT OPERATIONS

Roadway/Segment	Jurisdiction	Functional Classification	LOS C Capacity[a]	Volume	LOS
Olympic Parkway					
I-805 NB Ramps to Oleander Ave	Chula Vista	6-lane Prime	50,000	72,260	F
Oleander Ave to Brandywine Ave	Chula Vista	6-lane Prime	50,000	76,060	F
Brandywine Ave to Heritage Rd	Chula Vista	6-lane Prime	50,000	76,460	F
Heritage Rd to Santa Venetia St	Chula Vista	6-lane Prime	50,000	73,500	F
Santa Venetia St to La Media Rd	Chula Vista	6-lane Prime	50,000	71,100	F
La Media Rd to E. Palomar St	Chula Vista	6-lane Prime	50,000	35,130	A
E. Palomar St to SR-125	Chula Vista	6-lane Prime	50,000	41,800	B
SR-125 to Eastlake Pkwy	Chula Vista	8-lane Prime	66,670	43,868	A
Eastlake Pkwy to Hunte Pkwy	Chula Vista	6-lane Prime	50,000	20,380	A
Birch Road					
La Media Rd to SR-125	Chula Vista	6-lane Major	40,000	37,040	C
SR-125 to Eastlake Pkwy	Chula Vista	6-lane Major	40,000	39,620	C
Main St					
Hilltop Dr to Melrose Ave	Chula Vista	6-lane Prime	50,000	27,500	A
Melrose Ave to I-805	Chula Vista	6-lane Prime	50,000	14,430	A
I-805 to Oleander Ave	Chula Vista	6-lane Prime	50,000	33,370	A
Oleander Ave to Brandywine Ave	Chula Vista	6-lane Prime	50,000	24,130	A
Brandywine Ave to Heritage Rd	Chula Vista	6-lane Prime	50,000	10,900	A
Heritage Rd to Otay Valley Rd	Chula Vista	6-lane Prime	50,000	DNE	DNE
Otay Valley Rd to Magdalena Ave	Chula Vista	6-lane Prime	50,000	DNE	DNE
Magdalena Ave to SR-125	Chula Vista	6-lane Prime	50,000	DNE	DNE
SR-125 to Village 9 St "B"	Chula Vista	6-lane Prime	50,000	DNE	DNE
Village 9 St "B" to Eastlake Pkwy	Chula Vista	6-lane Prime	50,000	DNE	DNE
Otay Valley Road					
La Media Road to SR-125	Chula Vista	4-lane Major	30,000	DNE	DNE
SR-125 to Village 9 St "B"	Chula Vista	4-lane Major	30,000	DNE	DNE
Hunte Parkway					
Otay Lakes Rd to Olympic Pkwy	Chula Vista	4-lane Major	30,000	11,650	A
Olympic Pkwy to Exploration Falls Dr	Chula Vista	6-lane Prime	50,000	13,530	A

Table 5.3-11 (cont.) EXISTING PLUS PROJECT ROADWAY SEGMENT OPERATIONS

Roadway/Segment	Jurisdiction	Functional Classification	LOS C Capacity[a]	Volume	LOS
Hunte Parkway (cont.)					
Exploration Falls Rd to Discovery Falls Dr	Chula Vista	6-lane Prime	50,000	8,880	A
Discovery Falls Rd to Eastlake Pkwy	Chula Vista	6-lane Prime	50,000	10,930	A
Heritage Road					
Telegraph Canyon Rd to E. Palomar St	Chula Vista	6-lane Prime	50,000	19,520	A
E. Palomar St to Olympic Pkwy	Chula Vista	6-lane Prime	50,000	14,450	A
Olympic Pkwy to Main St	Chula Vista	6-lane Prime	50,000	DNE	DNE
Main St to Otay Mesa Rd	Chula Vista	6-lane Prime	50,000	8,800	A
La Media Road					
Telegraph Canyon Rd to E. Palomar St	Chula Vista	6-lane Prime	50,000	24,150	A
E. Palomar St to Olympic Pkwy	Chula Vista	6-lane Prime	50,000	14,700	A
Olympic Pkwy to Birch Rd	Chula Vista	6-lane Prime	50,000	21,690	A
Eastlake Parkway					
Otay Lakes Rd to Olympic Pkwy	Chula Vista	4-lane Major	30,000	14,170	A
Olympic Pkwy to Birch Rd	Chula Vista	6-lane Major	40,000	16,960	A
Birch Rd to Hunte Pkwy	Chula Vista	6-lane Major	40,000	34,950	B
South of Hunte Pkwy	Chula Vista	Class II Collector	12,000	24,270	F
North of Discovery Falls Rd	Chula Vista	Class II Collector	12,000	DNE	DNE
Discovery Falls Rd to Otay Valley Rd	Chula Vista	Class II Collector	12,000	DNE	DNE
Village 9 St "B"					
Hunte Pkwy to Village 9 St "C"	Chula Vista	Class III Collector [b]	7,500	DNE	DNE
Village 9 St "C" to Village 9 St "E"	Chula Vista	Class III Collector [b]	7,500	DNE	DNE
Village 9 St "E" to Discovery Falls Rd	Chula Vista	Class III Collector [b]	7,500	DNE	DNE
Discovery Falls Rd to Otay Valley Rd	Chula Vista	Class III Collector [b]	7,500	DNE	DNE
Discovery Falls Road					
Hunte Pkwy to St "K"	Chula Vista	4-lane Major	30,000	11,880	A
St "K" to Eastlake Pkwy	Chula Vista	Class III Collector	7,500	DNE	DNE
Eastlake Pkwy to Village 9 St "B"	Chula Vista	Class III Collector	7,500	DNE	DNE

Table 5.3-11 (cont.) EXISTING PLUS PROJECT ROADWAY SEGMENT OPERATIONS

Roadway/Segment	Jurisdiction	Functional Classification	LOS C Capacity[a]	Volume	LOS
Palm Avenue					
I-805 to Dennery Rd	City of San Diego	7-lane Prime	52,500	46,230	C
Ocean View Hills Parkway					
Dennery Rd to Del Sol Blvd	City of San Diego	4-lane Major	30,000	15,420	B
Del Sol Blvd to Otay Mesa Rd	City of San Diego	4-lane Major	40,000	8,800	A
Otay Mesa Road					
Ocean View Hills Pkwy to Heritage Rd	City of San Diego	6-lane Prime	50,000	13,220	A
Lone Star Road					
SR-125 to Harvest Rd	City of San Diego	4-lane Major	30,000	DNE	DNE

Source: LLG 2017

Footnotes:

a. Capacity of facility at LOS C (Chula Vista) and LOS E (City of San Diego).

b. Capacity of Class III Collector is assumed for this street since only one lane is provided in each direction with the Bus Rapid Transit in the center, and no turn lanes at intervening intersections.

DNE = Does not exist; i.e., roadway segment was not built/operational under Existing Conditions.

Year 2020

Average Daily Trips

By the Year 2020, the UID would include up to 58.5 acres of university uses, 350,000 sf of research uses, 100,000 sf of commercial uses, and 450 multi-family dwelling units. Table 5.3-9 summarizes Project trip generation for the UID under the Year 2020 scenario. As shown in this table, by Year 2020 the UID is anticipated to result in 13,595 ADT. The EDU for Year 2020 would be 1,360.

No additional network improvements are planned in the Year 2020. However, the SR-125/I-905 interchange is assumed to be built. The major regional access is similar to the existing conditions. I-805 and SR-125 continue to provide north/south access. Access to and from the west is along Telegraph Canyon Road/Olympic Parkway and access to and from the east is along Hunte Parkway.

Traffic Impacts

Access and Frontage. According to Chapter 12.24 of the City's Municipal Code, access related impacts would occur if access and frontage improvements are not provided concurrent with development. Therefore, in 2020, the Project could result in potentially significant impacts related to access and frontage (Impact 5.3-1). To mitigate these potential impacts, the City would impose requirements for the dedication of public right-of-way and installation of public improvements in connection with development.

Intersections. Table 5.3-12, *Year 2020 Intersection Operations,* summarizes the AM and PM peak hour intersection level of service for the Year 2020.

City of Chula Vista

The following Chula Vista intersections would operate at a deficient LOS with implementation of the Project under the Year 2020 scenario:

- Telegraph Canyon Road/Paseo Ranchero (AM – LOS E)
- Telegraph Canyon Road/Otay Lakes Road/La Media Road (PM – LOS E)
- East Palomar Street/Heritage Road (AM – LOS E)
- East Palomar Street/La Media Road (AM – LOS E, PM – LOS E)
- Olympic Parkway/I-805 SB Ramps (AM – LOS F, PM – LOS F)
- Olympic Parkway/I-805 NB Ramps (AM – LOS F, PM – LOS F)
- Olympic Parkway/Oleander Avenue (AM – LOS E, PM – LOS F)
- Olympic Parkway/Brandywine Avenue (AM – LOS F, PM – LOS F)
- Olympic Parkway/Heritage Road (AM – LOS F, PM – LOS F)
- Birch Road/La Media Road (AM – LOS E, PM – LOS F)
- Main Street/I-805 SB Ramps (PM – LOS F)
- Main Street/I-805 NB Ramps (PM – LOS F)
- Main Street/Brandywine Avenue (AM – LOS E, PM – LOS E)

For the Birch Road/La Media Road intersection, the percentage of trips attributable to the Project in Year 2020 would be greater than five percent in both the AM and PM peak hours. Therefore, a significant direct impact to this intersection would occur (Impact 5.3-2).

For the remaining intersections identified above as having a deficient LOS, the percentage of segment trips attributable to the Project in the Year 2020 would be less than five percent. Therefore, direct impacts to these intersections would be less than significant. However, a significant cumulative impact would occur because these intersections would operate at deficient LOS under the Year 2020 scenario (Impacts 5.3-3a through 5.3-3l).

County of San Diego

None of the County of San Diego intersections would operate at a deficient LOS with implementation of the Project under the Year 2020 scenario. Therefore, direct and cumulative impacts to County intersections would be less than significant.

City of San Diego/Caltrans

The following City of San Diego/Caltrans intersections would operate at a deficient LOS with implementation of the Project under the Year 2020 scenario:

- Palm Avenue/I-805 SB Ramps (PM – LOS F)
- Palm Avenue/I-805 NB Ramps (AM – LOS E, PM – LOS F)

Direct impacts to these two City of San Diego/Caltrans intersections would be less than significant because the increase in delay attributable to the Project in the Year 2020 would be less than two seconds. However, a significant cumulative impact would occur because these intersections would operate at deficient LOS under the Year 2020 scenario (Impacts 5.3-4a and 5.3-4b).

City of San Diego

The following City of San Diego intersection would operate at a deficient LOS with implementation of the Project under the Year 2020 scenario:

- Avenida De Las Vistas/Heritage Road (AM – LOS F, PM – LOS F)

Direct impacts to this City of San Diego intersection would be less than significant because the increase in delay attributable to the Project in the Year 2020 would be less than two seconds. However, a significant cumulative impact would occur because this intersection would operate at a deficient LOS under the Year 2020 scenario (Impact 5.3-5).

Table 5.3-12 YEAR 2020 INTERSECTION OPERATIONS

Intersection	Jurisdiction	Traffic Control	Peak Hour	Delay	LOS	Project % of Entering Volume (>5%)	Impact
Bonita Rd/ Otay Lakes Rd	Chula Vista	Signal	AM	27.0	C	0.3%	None
			PM	25.9	C	0.3%	None
Bonita Rd/ San Miguel Rd	County of San Diego	Signal	AM	40.3	D	7 [a]	None
			PM	36.8	D	18 [a]	None
Proctor Valley Rd/ San Miguel Rd	County of San Diego	MSSC	AM	16.6	C	7 [a]	None
			PM	29.0	D	18 [a]	None
Proctor Valley Rd/ San Miguel Ranch Rd	Chula Vista	AWSC	AM	13.5	B	3.3%	None
			PM	44.0	E	2.5%	None [b]
East H St/Otay Lakes Road/ La Media Rd	Chula Vista	Signal	AM	33.9	C	0.9%	None
			PM	39.4	D	0.9%	None
Proctor Valley Rd/ Mt Miguel Rd	Chula Vista	Signal	AM	22.8	C	2.3%	None
			PM	8.2	A	2.8%	None
Proctor Valley Rd/Hunte Pkwy	Chula Vista	Signal	AM	20.4	C	2.4%	None
			PM	16.1	B	3.7%	None
Telegraph Canyon Rd/Paseo Ladera	Chula Vista	Signal	AM	52.4	D	0.2%	None
			PM	32.2	C	0.3%	None
Telegraph Canyon Rd/Paseo Ranchero	Chula Vista	Signal	**AM**	**58.3**	**E**	**0.2%**	**Cumulative**
			PM	46.2	D	0.2%	None
Telegraph Canyon Rd/Otay Lakes Rd/La Media Rd	Chula Vista	Signal	AM	38.7	D	0.7%	None
			PM	**75.8**	**E**	**0.6%**	**Cumulative**
Otay Lakes Rd/ SR-125 SB Ramps	Chula Vista	Signal	AM	5.2	A	0.9%	None
			PM	9.8	A	0.3%	None
Otay Lakes Rd/ SR-125 NB Ramps	Chula Vista	Signal	AM	3.0	A	1.0%	None
			PM	5.1	A	0.9%	None
Otay Lakes Rd/ Eastlake Pkwy	Chula Vista	Signal	AM	30.1	C	0.9%	None
			PM	43.2	D	0.7%	None

Table 5.3-12 (cont.) YEAR 2020 INTERSECTION OPERATIONS

Intersection	Jurisdiction	Traffic Control	Peak Hour	Delay	LOS	Project % of Entering Volume (>5%)	Impact
Otay Lakes Rd/ Hunte Pkwy	Chula Vista	Signal	AM	29.5	C	2.4%	None
			PM	31.6	C	2.4%	None
E. Palomar Rd/ Paseo Ladera	Chula Vista	Signal	AM	24.0	C	0.5%	None
			PM	20.9	C	0.6%	None
E. Palomar Rd/ Heritage Rd	Chula Vista	Signal	**AM**	**60.2**	**E**	**0.7%**	**Cumulative**
			PM	48.8	D	0.8%	None
E. Palomar Rd/ La Media Rd	Chula Vista	Signal	**AM**	**58.3**	**E**	**1.2%**	**Cumulative**
			PM	**70.6**	**E**	**1.2%**	**Cumulative**
Olympic Pkwy/ I-805 SB Ramps	Chula Vista	Signal	**AM**	**99.5**	**F**	**2.7%**	**Cumulative**
			PM	**216.0**	**F**	**2.4%**	**Cumulative**
Olympic Pkwy/ I-805 NB Ramps	Chula Vista	Signal	**AM**	**149.1**	**F**	**3.6%**	**Cumulative**
			PM	**155.1**	**F**	**3.3%**	**Cumulative**
Olympic Pkwy/ Oleander Ave	Chula Vista	Signal	**AM**	**68.6**	**E**	**4.1%**	**Cumulative**
			PM	**98.0**	**F**	**3.7%**	**Cumulative**
Olympic Pkwy/ Brandywine Ave	Chula Vista	Signal	**AM**	**132.1**	**F**	**3.5%**	**Cumulative**
			PM	**130.5**	**F**	**3.4%**	**Cumulative**
Olympic Pkwy/ Heritage Rd	Chula Vista	Signal	**AM**	**115.5**	**F**	**4.1%**	**Cumulative**
			PM	**106.2**	**F**	**4.1%**	**Cumulative**
Olympic Pkwy/ Santa Venetia St	Chula Vista	Signal	AM	23.4	C	5.4%	None
			PM	9.0	A	6.6%	None
Olympic Pkwy/ La Media Rd	Chula Vista	Signal	AM	54.0	D	4.4%	None
			PM	41.4	D	4.5%	None
Olympic Pkwy/ E. Palomar St	Chula Vista	Signal	AM	30.5	C	4.0%	None
			PM	34.9	C	3.6%	None
Olympic Pkwy/ SR-125 SB Ramps	Chula Vista	Signal	AM	9.7	A	5.9%	None
			PM	10.1	B	4.8%	None
Olympic Pkwy/ SR-125 NB Ramps	Chula Vista	Signal	AM	10.3	B	6.3%	None
			PM	10.8	B	5.3%	None
Olympic Pkwy/ Eastlake Pkwy	Chula Vista	Signal	AM	33.3	C	4.6%	None
			PM	36.2	D	4.0%	None
Olympic Pkwy/ Hunte Pkwy	Chula Vista	Signal	AM	34.4	C	6.4%	None
			PM	31.9	C	6.7%	None
Birch Rd/ La Media Rd	Chula Vista	Signal	**AM**	**63.9**	**E**	**6.5%**	**Direct**
			PM	**95.4**	**F**	**5.0%**	**Direct**
Birch Rd/ SR-125 SB Ramps	Chula Vista	Signal	AM	13.7	B	11.2%	None
			PM	10.2	B	9.0%	None
Birch Rd/ SR-125 NB Ramps	Chula Vista	Signal	AM	5.5	A	12.1%	None
			PM	5.8	A	10.7%	None
Birch Rd/ Eastlake Pkwy	Chula Vista	Signal	AM	39.4	D	15.9%	None
			PM	40.7	D	15.2%	None
Main St/ Hilltop Drive	Chula Vista	Signal	AM	22.7	C	1.4%	None
			PM	24.7	C	1.2%	None

Table 5.3-12 (cont.) YEAR 2020 INTERSECTION OPERATIONS

Intersection	Jurisdiction	Traffic Control	Peak Hour	Delay	LOS	Project % of Entering Volume (>5%)	Impact
Main St/ Melrose Ave	Chula Vista	Signal	AM	32.4	C	1.1%	None
			PM	54.5	D	1.0%	None
Main St/ I-805 SB Ramps	Chula Vista	Signal	AM	44.5	D	1.1%	None
			PM	**107.2**	**F**	**1.4%**	**Cumulative**
Main St/ I-805 NB Ramps	Chula Vista	Signal	AM	46.1	D	1.5%	None
			PM	**146.1**	**F**	**1.1%**	**Cumulative**
Main St/ Oleander Ave	Chula Vista	Signal	AM	19.4	B	1.1%	None
			PM	15.4	B	1.0%	None
Main St/ Brandywine Ave	Chula Vista	Signal	**AM**	**57.5**	**E**	**1.0%**	**Cumulative**
			PM	**61.6**	**E**	**0.9%**	**Cumulative**
Main St/ Heritage Rd	Chula Vista	Signal	AM	43.1	D	1.3%	None
			PM	36.1	D	1.3%	None
Main St (WB)/ La Media Rd (SB)	Chula Vista	AWSC	AM	DNE	DNE	N/A	None
			PM	DNE	DNE	N/A	None
Main St (WB)/ La Media Rd (NB)	Chula Vista	AWSC	AM	DNE	DNE	N/A	None
			PM	DNE	DNE	N/A	None
Main St (EB)/ La Media Rd (SB)	Chula Vista	AWSC	AM	DNE	DNE	N/A	None
			PM	DNE	DNE	N/A	None
Main St (EB)/ La Media Rd (NB)	Chula Vista	AWSC	AM	DNE	DNE	N/A	None
			PM	DNE	DNE	N/A	None
Main St/ Magdalena Ave	Chula Vista	MSSC	AM	DNE	DNE	N/A	N/A
			PM	DNE	DNE	N/A	N/A
Main St/ SR-125 SB Ramps	Chula Vista	Signal	AM	DNE	DNE	N/A	None
			PM	DNE	DNE	N/A	None
Main St/ SR-125 NB Ramps	Chula Vista	Signal	AM	DNE	DNE	N/A	None
			PM	DNE	DNE	N/A	None
Main St/ Village 9 St "B"	Chula Vista	Signal	AM	DNE	DNE	N/A	None
			PM	DNE	DNE	N/A	None
Hunte Pkwy (Main St)/ Eastlake Pkwy	Chula Vista	Signal	AM	39.5	D	28.4%	None
			PM	22.6	C	36.2%	None
Hunte Pkwy/ Discovery Falls Dr	Chula Vista	Signal	AM	20.1	C	12.3%	None
			PM	22.8	C	14.6%	None
Hunte Pkwy/ Exploration Falls Dr	Chula Vista	Signal	AM	25.9	C	19.5%	None
			PM	24.8	C	31.4%	None
Village 9 St "B"/ Village 9 St "C"	Chula Vista	Signal	AM	DNE	DNE	N/A	None
			PM	DNE	DNE	N/A	None
Village 9 St "B"/ Village 9 St "E"	Chula Vista	Signal	AM	DNE	DNE	N/A	None
			PM	DNE	DNE	N/A	None
Discovery Falls Rd/ Village 9 St "I"	Chula Vista	Signal	AM	DNE	DNE	N/A	None
			PM	DNE	DNE	N/A	None
Discovery Falls Rd/ Eastlake Pkwy	Chula Vista	Signal	AM	DNE	DNE	N/A	None
			PM	DNE	DNE	N/A	None

Table 5.3-12 (cont.) YEAR 2020 INTERSECTION OPERATIONS

Intersection	Jurisdiction	Traffic Control	Peak Hour	Delay	LOS	Project % of Entering Volume (>5%)	Impact
Discovery Falls Rd/ St "J"	Chula Vista	Signal	AM	DNE	DNE	N/A	None
			PM	DNE	DNE	N/A	None
Discovery Falls Rd/ St "K"	Chula Vista	Signal	AM	DNE	DNE	N/A	None
			PM	DNE	DNE	N/A	None
Otay Valley Rd/ SR-125 SB Ramps	Chula Vista	Signal	AM	DNE	DNE	N/A	None
			PM	DNE	DNE	N/A	None
Otay Valley Rd/ SR-125 NB Ramps	Chula Vista	Signal	AM	DNE	DNE	N/A	None
			PM	DNE	DNE	N/A	None
Otay Valley Rd/ Village 9 St "B"	Chula Vista	Signal	AM	DNE	DNE	N/A	None
			PM	DNE	DNE	N/A	None
Palm Ave/ I-805 SB Ramps	City of San Diego/ Caltrans	Signal	AM	41.0	D	0.3%	None
			PM	**91.8**	**F**	**0.3%**	**Cumulative**
Palm Ave/ I-805 NB Ramps	City of San Diego/ Caltrans	Signal	**AM**	**75.2**	**E**	**0.2%**	**Cumulative**
			PM	**95.7**	**F**	**0.1%**	**Cumulative**
Palm Ave/ Dennery Road	City of San Diego	Signal	AM	47.4	D	0.0%	None
			PM	49.2	D	0.0%	None
Avenida De Las Vistas/ Heritage Road	City of San Diego	Signal	**AM**	**53.6**	**F**	**1.1%**	**Cumulative**
			PM	**64.7**	**F**	**1.1%**	**Cumulative**
Lone Star Rd/ SR-125 SB Ramps	Caltrans	Signal	AM	DNE	N/A	N/A	None
			PM	DNE	N/A	N/A	None
Lone Star Rd/ SR-125 NB Ramps	Caltrans	Signal	AM	DNE	N/A	N/A	None
			PM	DNE	N/A	N/A	None
Lone Star Rd/ Harvest Rd	City of San Diego	Signal	AM	DNE	N/A	N/A	None
			PM	DNE	N/A	N/A	None
Ocean View Hills Pkwy/Otay Mesa Rd	City of San Diego	Signal	AM	32.8	C	-[c]	None
			PM	33.3	C	-[c]	None
Heritage Rd/ Otay Mesa Rd	City of San Diego	Signal	AM	24.8	C	-[c]	None
			PM	50.2	D	-[c]	None

Source: LLG 2017

Footnotes:

[a.] Project traffic in the critical movement at unsignalized intersections in the County of San Diego. Per established criteria if this exceeds 20 peak hour trips, a significant impact is determined.

[b.] Since the Project adds less than 20 trips in the critical movement, this is not a significant impact.

[c.] Increase in delay due to the Project is the significance criteria in the City of San Diego and Caltrans. All impacts in the long term are cumulative.

MSSC = Minor Street STOP Controlled. Minor street delay and level of service reported.

AWSC = All Way STOP Controlled. Overall delay and level of service reported.

DNE = Does not exist; i.e., intersection would not be built/operational in Year 2020.

Roadway Segments. Table 5.3-13, *Year 2020 Roadway Segment Operations,* presents the results of the Year 2020 roadway segment impact analysis under implementation of the Project.

City of Chula Vista

The following six Chula Vista segments were calculated to operate at a deficient LOS under the Year 2020 scenario:

- Telegraph Canyon Road from Paseo Ladera to Paseo Ranchero (LOS E)
- Otay Lakes Road from Bonita Road to East H Street (LOS D)
- Otay Lakes Road from East H Street to Telegraph Canyon Road (LOS D)
- Main Street from Hilltop Drive to Melrose Avenue (LOS E)
- Main Street from Melrose Avenue to I-805 (LOS E)
- Eastlake Parkway from Otay Lakes Road to Olympic Parkway (LOS D)

Direct impacts from the Project to these six Chula Vista roadway segments would be less than significant because the Project would not add more than 800 ADT or contribute more than five percent of the ADT volume on each roadway segment. However, significant cumulative impacts would occur to all six of these segments because they would operate at a deficient LOS under the Year 2020 scenario (Impacts 5.3-6a through 5.3-6f).

City of San Diego

None of the City of San Diego roadway segments would operate at a deficient LOS with implementation of the Project under the Year 2020 scenario. Therefore, direct and cumulative impacts to City of San Diego roadway segments would be less than significant.

Table 5.3-13 YEAR 2020 ROADWAY SEGMENT OPERATIONS

Roadway/ Segment	Jurisdiction	LOS C Capacity[a]	Volume	LOS	Significance Criteria			Impact Type
					Project ADT >800	Project Contribution >5%	Segment Operates at LOS D for More than 2 Hours or LOS E or F for More than 1 Hour	
Bonita Road								
Otay Lakes Rd to San Miguel Rd	Chula Vista	30,000	25,900	B	0	0.0%	Yes	None
San Miguel Ranch Road								
Bonita Road to Proctor Valley Rd	Chula Vista	22,000	17,400	B	270	1.6%	Yes	None

Table 5.3-13 (cont.) YEAR 2020 ROADWAY SEGMENT OPERATIONS

Roadway/ Segment	Jurisdiction	LOS C Capacity[a]	Volume	LOS	Significance Criteria			Impact Type
					Project ADT >800	Project Contribution >5%	Segment Operates at LOS D for More than 2 Hours or LOS E or F for More than 1 Hour	
East H St								
SR-125 to Mt Miguel Rd	Chula Vista	50,000	26,700	A	0	0.0%	Yes	None
Mt Miguel Rd to Hunte Pkwy	Chula Vista	50,000	36,200	A	410	1.1%	Yes	None
Telegraph Canyon Road								
Paseo Ladera to Paseo Ranchero	Chula Vista	**50,000**	**57,100**	**E**	**140**	**0.2%**	**No**	**Cumulative**
Paseo Ranchero to Otay Lakes Rd	Chula Vista	50,000	48,300	C	0	0.0%	Yes	None
Otay Lakes Road								
Bonita Rd to East H St	Chula Vista	**30,000**	**33,500**	**D**	**140**	**0.4%**	**Yes**	**Cumulative**
East H St to Telegraph Canyon Rd	Chula Vista	**30,000**	**30,100**	**D**	**410**	**1.4%**	**Yes**	**Cumulative**
La Media Road to SR-125	Chula Vista	50,000	42,400	B	0	0.0%	Yes	None
SR-125 to Eastlake Pkwy	Chula Vista	58,330	48,600	C	0	0.0%	Yes	None
Eastlake Pkwy to Hunte Pkwy	Chula Vista	50,000	30,900	A	270	0.9%	Yes	None
East of Hunte Pkwy	Chula Vista	50,000	21,500	A	0	0.0%	Yes	None
E. Palomar Street								
Paseo Ladera to Heritage Rd	Chula Vista	30,000	24,600	B	270	1.1%	Yes	None
Heritage Road to La Media Rd	Chula Vista	30,000	22,900	B	140	0.6%	Yes	None

Table 5.3-13 (cont.) YEAR 2020 ROADWAY SEGMENT OPERATIONS

Roadway/ Segment	Jurisdiction	LOS C Capacity[a]	Volume	LOS	Significance Criteria			Impact Type
					Project ADT >800	Project Contribution >5%	Segment Operates at LOS D for More than 2 Hours or LOS E or F for More than 1 Hour	
E. Palomar Street (cont.)								
La Media Rd to Olympic Pkwy	Chula Vista	30,000	22,900	B	540	2.4%	Yes	None
Olympic Parkway								
I-805 NB Ramps to Oleander Ave	Chula Vista	50,000	44,200	C	2,450	5.5%	Yes	None
Oleander Ave to Brandy-wine Ave	Chula Vista	50,000	37,500	A	2,450	6.5%	Yes	None
Brandy-wine Ave to Heritage Rd	Chula Vista	50,000	30,200	A	2,450	8.1%	Yes	None
Heritage Rd to Santa Venetia St	Chula Vista	50,000	44,400	C	2,850	6.4%	Yes	None
Santa Venetia St to La Media Rd	Chula Vista	50,000	34,900	A	2,850	8.2%	Yes	None
La Media Rd to E. Palomar St	Chula Vista	50,000	27,900	A	1,090	3.9%	Yes	None
E. Palomar St to SR-125	Chula Vista	50,000	48,200	C	1,630	3.4%	Yes	None
SR-125 to Eastlake Pkwy	Chula Vista	66,670	53,700	B	2,040	3.8%	Yes	None
Eastlake Pkwy to Hunte Pkwy	Chula Vista	50,000	34,100	A	1,500	4.4%	Yes	None
Birch Road								
La Media Rd to SR-125	Chula Vista	40,000	32,300	B	3,130	9.7%	Yes	None
SR-125 to Eastlake Pkwy	Chula Vista	40,000	36,900	C	5,440	14.7%	Yes	None

Table 5.3-13 (cont.) YEAR 2020 ROADWAY SEGMENT OPERATIONS

Roadway/ Segment	Jurisdiction	LOS C Capacity[a]	Volume	LOS	Significance Criteria			Impact Type
					Project ADT >800	Project Contribution >5%	Segment Operates at LOS D for More than 2 Hours or LOS E or F for More than 1 Hour	
Main St								
Hilltop Dr to Melrose Ave	Chula Vista	**30,000**	**34,900**	**E**	**410**	**1%**	**Yes**	**Cumulative**
Melrose Ave to I-805	Chula Vista	**30,000**	**35,600**	**E**	**410**	**1%**	**Yes**	**Cumulative**
I-805 to Oleander Ave	Chula Vista	50,000	46,200	C	540	1%	Yes	None
Oleander Ave to Brandy-wine Ave	Chula Vista	50,000	37,500	A	540	1%	Yes	None
Brandy-wine Ave to Heritage Rd	Chula Vista	50,000	30,200	A	410	1%	Yes	None
Heritage Rd to Otay Valley Rd	Chula Vista	50,000	26,100	A	410	2%	Yes	None
Otay Valley Rd to Magdalena Ave	Chula Vista	50,000	DNE	DNE	DNE	DNE	DNE	N/A
Magdalena Ave to SR-125	Chula Vista	50,000	DNE	DNE	DNE	DNE	DNE	N/A
SR-125 to Village 9 St "B"	Chula Vista	50,000	DNE	DNE	DNE	DNE	DNE	N/A
Village 9 St "B" to Eastlake Pkwy	Chula Vista	50,000	DNE	DNE	DNE	DNE	DNE	N/A
Otay Valley Road								
La Media Road to SR-125	Chula Vista	30,000	16,700	A	820	5%	Yes	None
SR-125 to Village 9 St "B"	Chula Vista	30,000	DNE	DNE	DNE	DNE	DNE	N/A
Hunte Parkway								
Otay Lakes Rd to Olympic Pkwy	Chula Vista	30,000	16,800	A	1,500	9%	Yes	None

Table 5.3-13 (cont.) YEAR 2020 ROADWAY SEGMENT OPERATIONS

Roadway/ Segment	Jurisdiction	LOS C Capacity[a]	Volume	LOS	Significance Criteria			Impact Type
					Project ADT >800	Project Contribution >5%	Segment Operates at LOS D for More than 2 Hours or LOS E or F for More than 1 Hour	
Hunte Parkway (cont.)								
Olympic Pkwy to Exploration Falls Dr	Chula Vista	50,000	16,500	A	2,180	13%	Yes	None
Exploration Falls Rd to Discovery Falls Dr	Chula Vista	50,000	11,000	A	270	2%	Yes	None
Discovery Falls Rd to Eastlake Pkwy	Chula Vista	50,000	14,700	A	1,900	13%	Yes	None
Heritage Road								
Telegraph Canyon Rd to E. Palomar St	Chula Vista	50,000	24,100	A	140	0.6%	Yes	None
E. Palomar St to Olympic Pkwy	Chula Vista	50,000	45,100	C	410	0.9%	Yes	None
Olympic Pkwy to Main St	Chula Vista	50,000	27,400	A	140	0.5%	Yes	None
Main St to Otay Mesa Rd	Chula Vista	50,000	27,300	A	0	0.0%	Yes	None
La Media Road								
Telegraph Canyon Rd to E. Palomar St	Chula Vista	50,000	26,400	A	410	1.6%	Yes	None
E. Palomar St to Olympic Pkwy	Chula Vista	50,000	20,000	A	0	0.0%	Yes	None
Olympic Pkwy to Birch Rd	Chula Vista	50,000	29,700	A	1,900	6.4%	Yes	None

Table 5.3-13 (cont.) YEAR 2020 ROADWAY SEGMENT OPERATIONS

Roadway/ Segment	Jurisdiction	LOS C Capacity[a]	Volume	LOS	Significance Criteria			Impact Type
					Project ADT >800	Project Contribution >5%	Segment Operates at LOS D for More than 2 Hours or LOS E or F for More than 1 Hour	
Eastlake Parkway								
Otay Lakes Rd to Olympic Pkwy	Chula Vista	**30,000**	**31,300**	**D**	**270**	**0.9%**	**Yes**	**Cumulative**
Olympic Pkwy to Birch Rd	Chula Vista	40,000	26,900	A	950	3.5%	Yes	None
Birch Rd to Hunte Pkwy	Chula Vista	40,000	34,600	B	7,750	22.4%	Yes	None
South of Hunte Pkwy	Chula Vista	12,000	6,800	A	6,800	100.0%	Yes	None
North of Discovery Falls Rd	Chula Vista	12,000	DNE	DNE	DNE	DNE	DNE	N/A
Discovery Falls Rd to Otay Valley Rd	Chula Vista	12,000	DNE	DNE	DNE	DNE	DNE	N/A
Village 9 St "B" [b]								
Hunte Pkwy to Village 9 St "C"	Chula Vista	7,500	DNE	DNE	DNE	DNE	DNE	N/A
Village 9 St "C" to Village 9 St "E"	Chula Vista	7,500	DNE	DNE	DNE	DNE	DNE	N/A
Village 9 St "E" to Discovery Falls Rd	Chula Vista	7,500	DNE	DNE	DNE	DNE	DNE	N/A
Discovery Falls Rd to Otay Valley Rd	Chula Vista	7,500	DNE	DNE	DNE	DNE	DNE	N/A
Discovery Falls Road								
Hunte Pkwy to St "K"	Chula Vista	30,000	11,600	A	2,580	22.2%	Yes	None
St "K" to Eastlake Pkwy	Chula Vista	7,500	DNE	DNE	DNE	DNE	DNE	N/A

Table 5.3-13 (cont.) YEAR 2020 ROADWAY SEGMENT OPERATIONS

Roadway/ Segment	Jurisdiction	LOS C Capacity[a]	Volume	LOS	Significance Criteria			Impact Type
					Project ADT >800	Project Contribution >5%	Segment Operates at LOS D for More than 2 Hours or LOS E or F for More than 1 Hour	
Discovery Falls Road (cont.)								
Eastlake Pkwy to Village 9 St "B"	Chula Vista	7,500	DNE	DNE	DNE	DNE	DNE	N/A
Palm Avenue								
I-805 to Dennery Rd	City of San Diego	65,000	53,900	D	0	0.0%	Yes	None [c]
Ocean View Hills Parkway								
Dennery Rd to Del Sol Blvd	City of San Diego	40,000	19,700	B	0	0.0%	Yes	None
Del Sol Blvd to Otay Mesa Rd	City of San Diego	50,000	15,600	B	0	0.0%	Yes	None
Otay Mesa Road								
Ocean View Hills Pkwy to Heritage Rd	City of San Diego	60,000	11,600	A	140	1.2%	Yes	None
Lone Star Road								
SR-125 to Harvest Rd	City of San Diego	40,000	7,800	A	140	1.8%	Yes	None

Source: LLG 2017

Footnotes:

a. Capacity of facility at LOS C (Chula Vista) and LOS E (City of San Diego).

b. Capacity of Class III Collector is assumed for this street since only one lane is provided in each direction with the Bus Rapid Transit in the center, and no turn lanes at intervening intersections.

c. The Project adds no traffic to this segment operating at LOS D. Therefore, the Project has no significant impact.

DNE = Does not exist; roadway segment would not be built/operational in Year 2020.

Year 2025

Average Daily Trips

By the Year 2025, the UID would include up to 130 acres of university uses, 1,000,000 sf of research uses, 300,000 sf of commercial uses, and 1,300 multi-family dwelling units. Table 5.3-9 summarizes Project trip generation for the UID under the Year 2025 scenario. As shown in this table, by Year 2025 the UID is anticipated to result in 35,650 ADT. The EDU for Year 2025 would be 3,565.

Heritage Road is assumed to be connected between Olympic Parkway and Main Street in this scenario in addition to the SR-125/I-905 interchange. The major regional access is similar to the

existing conditions. I-805 and SR-125 continue to provide north/south access. Access to and from the west is along Telegraph Canyon Road/Olympic Parkway and access to and from the east is along Hunte Parkway.

Traffic Impacts

Access and Frontage. According to Chapter 12.24 of the City's Municipal Code, access related impacts would occur if access and frontage improvements are not provided concurrent with development. Therefore, in 2025, the Project could result in potentially significant impacts related to access and frontage (Impact 5.3-7). To mitigate these potential impacts, the City would impose requirements for the dedication of public right-of-way and installation of public improvements in connection with development.

Intersections. Table 5.3-14, *Year 2025 Intersection Operations*, summarizes the AM and PM peak hour intersection LOS for the Year 2025.

City of Chula Vista

The following Chula Vista intersections would operate at a deficient LOS with implementation of the Project under the Year 2025 scenario:

- Proctor Valley Road/San Miguel Ranch Road (PM – LOS E)
- Telegraph Canyon Road/Paseo Ladera (AM – LOS E)
- Telegraph Canyon Road/Paseo Ranchero (AM – LOS E, PM – LOS E)
- Telegraph Canyon Road/Otay Lakes Road/La Media Road (AM – LOS E, PM – LOS F)
- East Palomar Street/Heritage Road (AM – LOS E)
- East Palomar Street/La Media Road (AM – LOS F, PM – LOS E)
- Olympic Parkway/I-805 SB Ramps (PM – LOS F)
- Olympic Parkway/I-805 NB Ramps (AM – LOS E, PM – LOS E)
- Olympic Parkway/Oleander Avenue (AM – LOS E, PM – LOS F)
- Olympic Parkway/Brandywine Avenue (AM – LOS F, PM – LOS F)
- Olympic Parkway/Heritage Road (AM – LOS F, PM – LOS F)
- Olympic Parkway/La Media Road (AM – LOS F, PM – LOS E)
- Birch Road/La Media Road (AM – LOS F, PM – LOS F)
- Birch Road/Eastlake Parkway (AM – LOS F, PM – LOS F)
- Main Street/Melrose Avenue (PM – LOS E)
- Main Street/I-805 SB Ramps (PM – LOS E)
- Main Street/I-805 NB Ramps (PM – LOS E)
- Main Street/Brandywine Avenue (PM – LOS E)

For the Proctor Valley Road/San Miguel Ranch Road, Birch Road/Eastlake Parkway, and Birch Road/La Media Road intersections, the percentage of trips attributable to the Project in Year 2025 would be greater than the five percent threshold. Therefore, significant direct impacts to these three intersections would occur (Impacts 5.3-8a through 5.3-8c).

For the remaining 15 intersections identified above as having a deficient LOS, direct impacts to these intersections would be less than significant because the percentage of segment trips attributable to the Project in the Year 2025 would be less than five percent. However, significant cumulative impacts would occur because these 15 intersections would operate at a deficient LOS with the Project in Year 2025 (Impacts 5.3-9a through 5.3-9o).

County of San Diego

The following County of San Diego intersections would operate at a deficient LOS with implementation of the Project under the Year 2025 scenario:

- Proctor Valley Road/San Miguel Road (PM – LOS F)

The Proctor Valley Road/San Miguel Road intersection is unsignalized. For unsignalized intersections, if a project contributes more than 20 peak hour trips to a deficient intersection, a significant direct impact would occur. Therefore, because the Project would contribute 72 peak hour trips to this intersection during the PM peak hour, a significant direct impact to this intersection would occur (Impact 5.3-10).

City of San Diego/Caltrans

The following City of San Diego/Caltrans intersections would operate at a deficient LOS with implementation of the Project under the Year 2025 scenario:

- Palm Avenue/I-805 SB Ramps (PM – LOS F)
- Palm Avenue/I-805 NB Ramps (AM – LOS F, PM – LOS F)

Direct impacts to these two City of San Diego/Caltrans intersections would be less than significant because the increase in delay attributable to the Project in the Year 2025 would be less than two seconds. However, significant cumulative impacts would occur because these intersections would operate at a deficient LOS with the Project in Year 2025 (Impacts 5.3-11a and 5.3-11b).

City of San Diego

The following City of San Diego intersections would operate at a deficient LOS with implementation of the Project under the Year 2025 scenario:

- Avenida De Las Vistas/Heritage Road (AM – LOS F, PM – LOS F)
- Heritage Road/Otay Mesa Road (PM – LOS E)

Direct impacts to these two City of San Diego intersections would be less than significant because the increase in delay attributable to the Project in the Year 2025 would be less than two seconds. However, significant cumulative impacts would occur because these intersections would operate at a deficient LOS with the Project in Year 2025 (Impacts 5.3-12a and 5.3-12b).

Table 5.3-14 YEAR 2025 INTERSECTION OPERATIONS

Intersection	Jurisdiction	Traffic Control	Peak Hour	Delay	LOS	Project % of Entering Volume (>5%)	Impact
Bonita Rd/ Otay Lakes Rd	Chula Vista	Signal	AM	27.1	C	0.9%	None
			PM	24.1	C	0.8%	None
Bonita Rd/ San Miguel Rd	County of San Diego	Signal	AM	42.5	D	26 [a]	None
			PM	54.1	D	72 [a]	None
Proctor Valley Rd/ San Miguel Rd	County of San Diego	MSSC	AM	20.7	C	26 [a]	None
			PM	**51.2**	**F**	**72 [a]**	**Direct**
Proctor Valley Rd/ San Miguel Ranch Rd	Chula Vista	AWSC	AM	16.8	C	7.5%	None
			PM	**46.1**	**E**	**5.6%**	**Direct**
East H St/ Otay Lakes Road/La Media Rd	Chula Vista	Signal	AM	36.6	D	2.0%	None
			PM	41.8	D	2.0%	None
Proctor Valley Rd/ Mt Miguel Rd	Chula Vista	Signal	AM	21.8	C	6.2%	None
			PM	8.3	A	7.6%	None
Proctor Valley Rd/ Hunte Pkwy	Chula Vista	Signal	AM	24.3	C	5.0%	None
			PM	18.0	B	8.1%	None
Telegraph Canyon Rd/ Paseo Ladera	Chula Vista	Signal	**AM**	**60.2**	**E**	**0.6%**	**Cumulative**
			PM	34.1	C	0.7%	None
Telegraph Canyon Rd/ Paseo Ranchero	Chula Vista	Signal	**AM**	**73.1**	**E**	**0.5%**	**Cumulative**
			PM	**66.2**	**E**	**0.5%**	**Cumulative**
Telegraph Canyon Rd/ Otay Lakes Rd/ La Media Rd	Chula Vista	Signal	**AM**	**64.1**	**E**	**1.6%**	**Cumulative**
			PM	**85.1**	**F**	**1.4%**	**Cumulative**
Otay Lakes Rd/ SR-125 SB Ramps	Chula Vista	Signal	AM	5.2	A	2.1%	None
			PM	10.2	B	0.8%	None
Otay Lakes Rd/ SR-125 NB Ramps	Chula Vista	Signal	AM	3.0	A	2.4%	None
			PM	5.1	A	2.2%	None

Table 5.3-14 (cont.) YEAR 2025 INTERSECTION OPERATIONS

Intersection	Jurisdiction	Traffic Control	Peak Hour	Delay	LOS	Project % of Entering Volume (>5%)	Impact
Otay Lakes Rd/ Eastlake Pkwy	Chula Vista	Signal	AM	33.5	C	2.1%	None
			PM	49.0	D	1.7%	None
Otay Lakes Rd/ Hunte Pkwy	Chula Vista	Signal	AM	32.6	C	5.6%	None
			PM	36.0	D	6.0%	None
E. Palomar St/ Paseo Ladera	Chula Vista	Signal	AM	24.7	C	1.4%	None
			PM	21.3	C	1.6%	None
E. Palomar St/ Heritage Rd	Chula Vista	Signal	**AM**	**74.6**	**E**	**1.7%**	**Cumulative**
			PM	54.3	D	1.9%	None
E. Palomar St/ La Media Rd	Chula Vista	Signal	**AM**	**84.9**	**F**	**3.0%**	**Cumulative**
			PM	**76.0**	**E**	**2.9%**	**Cumulative**
Olympic Pkwy/ I-805 SB Ramps	Chula Vista	Signal	AM	48.5	D	2.8%	None
			PM	**165.2**	**F**	**1.1%**	**Cumulative**
Olympic Pkwy/ I-805 NB Ramps	Chula Vista	Signal	**AM**	**70.0**	**E**	**3.2%**	**Cumulative**
			PM	**61.4**	**E**	**3.1%**	**Cumulative**
Olympic Pkwy/ Oleander Ave	Chula Vista	Signal	**AM**	**63.0**	**E**	**3.6%**	**Cumulative**
			PM	**87.5**	**F**	**3.4%**	**Cumulative**
Olympic Pkwy/ Brandywine Ave	Chula Vista	Signal	**AM**	**90.4**	**F**	**3.0%**	**Cumulative**
			PM	**107.1**	**F**	**3.0%**	**Cumulative**
Olympic Pkwy/ Heritage Rd	Chula Vista	Signal	**AM**	**83.8**	**F**	**3.3%**	**Cumulative**
			PM	**86.6**	**F**	**3.5%**	**Cumulative**
Olympic Pkwy/ Santa Venetia St	Chula Vista	Signal	AM	50.9	D	4.2%	None
			PM	15.0	B	6.0%	None
Olympic Pkwy/ La Media Rd	Chula Vista	Signal	**AM**	**90.1**	**F**	**3.5%**	**Cumulative**
			PM	**63.1**	**E**	**4.1%**	**Cumulative**
Olympic Pkwy/ E. Palomar St	Chula Vista	Signal	AM	33.5	C	6.4%	None
			PM	34.8	C	6.8%	None

Table 5.3-14 (cont.) YEAR 2025 INTERSECTION OPERATIONS

Intersection	Jurisdiction	Traffic Control	Peak Hour	Delay	LOS	Project % of Entering Volume (>5%)	Impact
Olympic Pkwy/ SR-125 SB Ramps	Chula Vista	Signal	AM	9.9	A	9.9%	None
			PM	10.6	B	8.9%	None
Olympic Pkwy/ SR-125 NB Ramps	Chula Vista	Signal	AM	9.7	A	10.0%	None
			PM	10.8	B	10.5%	None
Olympic Pkwy/ Eastlake Pkwy	Chula Vista	Signal	AM	35.3	D	8.7%	None
			PM	40.8	D	7.5%	None
Olympic Pkwy/ Hunte Pkwy	Chula Vista	Signal	AM	30.2	C	14.2%	None
			PM	41.7	D	11.2%	None
Birch Rd/ La Media Rd	Chula Vista	Signal	**AM**	**>100.0**	**F**	**7.5%**	**Direct**
			PM	**98.7**	**F**	**7.6%**	**Direct**
Birch Rd/ SR-125 SB Ramps	Chula Vista	Signal	AM	15.9	B	17.2%	None
			PM	11.0	B	22.5%	None
Birch Rd/ SR-125 NB Ramps	Chula Vista	Signal	AM	8.3	A	26.3%	None
			PM	8.8	A	31.2%	None
Birch Rd/ Eastlake Pkwy	Chula Vista	Signal	**AM**	**91.3**	**F**	**24.7%**	**Direct**
			PM	**86.1**	**F**	**24.2%**	**Direct**
Main St/ Hilltop Drive	Chula Vista	Signal	AM	25.7	C	3.3%	None
			PM	23.4	C	3.2%	None
Main St/ Melrose Ave	Chula Vista	Signal	AM	25.1	C	2.9%	None
			PM	**62.6**	**E**	**2.7%**	**Cumulative**
Main St/ I-805 SB Ramps	Chula Vista	Signal	AM	31.3	C	2.3%	None
			PM	**75.4**	**E**	**2.2%**	**Cumulative**
Main St/ I-805 NB Ramps	Chula Vista	Signal	AM	44.8	D	2.1%	None
			PM	**61.0**	**E**	**2.0%**	**Cumulative**
Main St/ Oleander Ave	Chula Vista	Signal	AM	10.5	B	2.6%	None
			PM	20.5	C	2.3%	None
Main St/ Brandywine Ave	Chula Vista	Signal	AM	38.5	D	3.1%	None
			PM	**83.5**	**F**	**2.7%**	**Cumulative**
Main St/ Heritage Rd	Chula Vista	Signal	AM	53.5	D	4.6%	None
			PM	30.2	C	5.1%	None

Table 5.3-14 (cont.) YEAR 2025 INTERSECTION OPERATIONS

Intersection	Jurisdiction	Traffic Control	Peak Hour	Delay	LOS	Project % of Entering Volume (>5%)	Impact
Main St (WB)/ La Media Rd (SB)	Chula Vista	AWSC	AM	DNE	N/A	N/A	None
			PM	DNE	N/A	N/A	None
Main St (WB)/ La Media Rd (NB)	Chula Vista	AWSC	AM	DNE	N/A	N/A	None
			PM	DNE	N/A	N/A	None
Main St (EB)/ La Media Rd (SB)	Chula Vista	AWSC	AM	DNE	N/A	N/A	None
			PM	DNE	N/A	N/A	None
Main St (EB)/ La Media Rd (NB)	Chula Vista	AWSC	AM	DNE	N/A	N/A	None
			PM	DNE	N/A	N/A	None
Main St/ Magdalena Ave	Chula Vista	MSSC	AM	25.6	C	9.8%	None
			PM	16.3	B	10.5%	None
Main St/ SR-125 SB Ramps	Chula Vista	Signal	AM	DNE	N/A	N/A	None
			PM	DNE	N/A	N/A	None
Main St/ SR-125 NB Ramps	Chula Vista	Signal	AM	DNE	N/A	N/A	None
			PM	DNE	N/A	N/A	None
Main St/ Village 9 St "B"	Chula Vista	Signal	AM	34.2	C	N/A	None
			PM	DNE	N/A	N/A	None
Hunte Pkwy (Main St)/ Eastlake Pkwy	Chula Vista	Signal	AM	51.7	D	49.9%	None
			PM	25.8	C	51.3%	None
Hunte Pkwy/ Discovery Falls Dr	Chula Vista	Signal	AM	35.2	D	28.3%	None
			PM	43.2	D	26.5%	None
Hunte Pkwy/ Exploration Falls Dr	Chula Vista	Signal	AM	24.8	C	32.3%	None
			PM	43.8	D	48.0%	None
Village 9 St "B"/ Village 9 St "C"	Chula Vista	Signal	AM	DNE	N/A	N/A	None
			PM	DNE	N/A	N/A	None
Village 9 St "B"/ Village 9 St "E"	Chula Vista	Signal	AM	DNE	N/A	N/A	None
			PM	DNE	N/A	N/A	None

Table 5.3-14 (cont.) YEAR 2025 INTERSECTION OPERATIONS

Intersection	Jurisdiction	Traffic Control	Peak Hour	Delay	LOS	Project % of Entering Volume (>5%)	Impact
Discovery Falls Rd/ Village 9 St "I"	Chula Vista	Signal	AM	DNE	N/A	N/A	None
			PM	DNE	N/A	N/A	None
Discovery Falls Rd/Eastlake Pkwy	Chula Vista	Signal	AM	DNE	N/A	N/A	None
			PM	DNE	N/A	N/A	None
Discovery Falls Rd/ St "J"	Chula Vista	Signal	AM	DNE	N/A	N/A	None
			PM	DNE	N/A	N/A	None
Discovery Falls Rd/ St "K"	Chula Vista	Signal	AM	DNE	N/A	N/A	None
			PM	DNE	N/A	N/A	None
Otay Valley Rd/SR-125 SB Ramps	Chula Vista	Signal	AM	DNE	N/A	N/A	None
			PM	DNE	N/A	N/A	None
Otay Valley Rd/ SR-125 NB Ramps	Chula Vista	Signal	AM	DNE	N/A	N/A	None
			PM	DNE	N/A	N/A	None
Otay Valley Rd/ Village 9 St "B"	Chula Vista	Signal	AM	DNE	N/A	N/A	None
			PM	DNE	N/A	N/A	None
Palm Ave/ I-805 SB Ramps	City of San Diego	Signal	AM	44.2	D	0.9% [b]	None
			PM	**97.5**	**F**	**0.8%** [b]	**Cumulative**
Palm Ave/ I-805 NB Ramps	City of San Diego	Signal	**AM**	**80.4**	**F**	**0.7%** [b]	**Cumulative**
			PM	**102.7**	**F**	**0.7%** [b]	**Cumulative**
Palm Ave/ Dennery Road	City of San Diego	Signal	AM	47.7	D	0.0% [b]	None
			PM	50.5	D	0.0% [b]	None
Avenida De Las Vistas/ Heritage Road	City of San Diego	Signal	**AM**	**55.5**	**F**	**3.6%** [b]	**Cumulative**
			PM	**70.5**	**F**	**3.5%** [b]	**Cumulative**
Lone Star Rd/ SR-125 SB Ramps	City of San Diego	Signal	AM	DNE	N/A	N/A	None
			PM	DNE	N/A	N/A	None
Lone Star Rd/ SR-125 NB Ramps	City of San Diego	Signal	AM	DNE	N/A	N/A	None
			PM	DNE	N/A	N/A	None

Table 5.3-14 (cont.) YEAR 2025 INTERSECTION OPERATIONS

Intersection	Jurisdiction	Traffic Control	Peak Hour	Delay	LOS	Project % of Entering Volume (>5%)	Impact
Lone Star Rd/ Harvest Rd	City of San Diego	Signal	AM	DNE	N/A	N/A	None
			PM	DNE	N/A	N/A	None
Ocean View Hills Pkwy/ Otay Mesa Rd	City of San Diego	Signal	AM	38.8	D	-[b]	None
			PM	34.9	C	-[b]	None
Heritage Rd/ Otay Mesa Rd	City of San Diego	Signal	AM	30.9	C	-[b]	None
			PM	**69.9**	**E**	**-[b]**	**Cumulative**

Source: LLG 2017

Footnotes:

[a] Project traffic in the critical movement at unsignalized intersections in the County of San Diego. Per established criteria if this exceeds 20 peak hour trips, a significant direct impact is determined.

[b] Increase in delay due to the Project is the significance criteria in the City of San Diego and Caltrans. All impacts in the long term are cumulative.

MSSC = Minor Street STOP Controlled. Minor street delay and level of service reported.

AWSC = All Way STOP Controlled. Overall delay and level of service reported.

DNE = Does not exist; intersection would not be built/operational in Year 2025.

Roadway Segments. Table 5.3-15, *Year 2025 Roadway Segment Operations*, presents the results of the Year 2025 roadway segment impact analysis under implementation of the Project.

City of Chula Vista

The following Chula Vista segments were calculated to operate at a deficient LOS under the Year 2025 scenario:

- Telegraph Canyon Road from Paseo Ladera to Paseo Ranchero (LOS E)
- Otay Lakes Road from Bonita Road to East H Street (LOS E)
- Otay Lakes Road from East H Street to Telegraph Canyon Road (LOS D)
- Olympic Parkway from Heritage Road to Santa Venetia Street (LOS D)
- Olympic Parkway from East Palomar Street to SR-125 (LOS D)
- Birch Road from SR-125 to Eastlake Parkway (LOS D)
- Main Street from Hilltop Drive to Melrose Avenue (LOS E)
- Main Street from Melrose Avenue to I-805 (LOS E)
- Main Street from Oleander Avenue to Brandywine Avenue (LOS D)
- Eastlake Parkway from Otay Lakes Road to Olympic Parkway (LOS D)

For the roadway segments of Olympic Parkway from Heritage Road to Santa Venetia Street, Olympic Parkway from East Palomar Street to SR-125, and Birch Road from SR-125 to Eastlake Parkway, the Project would contribute more than 800 ADT and more than five percent of the segment traffic, which is the significance threshold for roadway segments in the City of Chula Vista. In addition, the intersections along the segments operate at LOS E or F. Therefore,

significant direct impacts would occur to these three Chula Vista roadway segments (Impacts 5.3-13a through 5.3-13c).

Direct impacts to Telegraph Canyon Road from Paseo Ladera to Paseo Ranchero, Otay Lakes Road from Bonita Road to East H Street, and Eastlake Parkway from Otay Lakes Road to Olympic Parkway would be less than significant because the Project would not contribute more than 800 ADT and more than five percent traffic contribution. Similarly, although the Project would add more than 800 ADT to Otay Lakes Road from East H Street to Telegraph Canyon Road, Main Street from Hilltop Drive to Melrose Avenue, Main Street from Melrose Avenue to I-805, and Main Street from Oleander Avenue to Brandywine Avenue, the Project's traffic contribution would not be more than five percent to these segments; therefore, direct impacts would be less than significant. However, a cumulative impact would occur to these seven roadway segments (Impacts 5.3-14a through 5.3-14g).

City of San Diego

None of the City of San Diego roadway segments would operate at a deficient LOS with implementation of the Project under the Year 2025 scenario. Therefore, direct and cumulative impacts to City of San Diego roadway segments would be less than significant.

Table 5.3-15 YEAR 2025 ROADWAY SEGMENT OPERATIONS

Roadway/ Segment	Jurisdiction	LOS C Capacity[a]	Volume	LOS	Significance Criteria			Impact Type
					Project ADT >800	Project Contribution >5%	Intersections Along Segment Operating at LOS D or better?	
Bonita Road								
Otay Lakes Rd to San Miguel Rd	Chula Vista	30,000	26,600	C	0	0%	Yes	None
San Miguel Ranch Road								
Bonita Road to Proctor Valley Rd	Chula Vista	22,000	19,300	B	710	4%	Yes	None
East H St								
SR-125 to Mt Miguel Rd	Chula Vista	50,000	29,300	A	0	0%	Yes	None
Mt Miguel Rd to Hunte Pkwy	Chula Vista	50,000	41,100	B	1,070	3%	Yes	None
Telegraph Canyon Road								
Paseo Ladera to Paseo Ranchero	Chula Vista	50,000	**58,700**	**E**	**360**	**1%**	**No**	**Cumulative**
Paseo Ranchero to Otay Lakes Rd	Chula Vista	50,000	51,300	D	0	0%	Yes	None [b]

Table 5.3-15 (cont.) YEAR 2025 ROADWAY SEGMENT OPERATIONS

Roadway/ Segment	Jurisdiction	LOS C Capacity[a]	Volume	LOS	Significance Criteria			Impact Type
					Project ADT >800	Project Contribution >5%	Intersections Along Segment Operating at LOS D or better?	
Otay Lakes Road								
Bonita Rd to East H St	Chula Vista	30,000	**35,000**	**E**	**360**	**1%**	**No**	**Cumulative**
East H St to Telegraph Canyon Rd	Chula Vista	30,000	**32,400**	**D**	**1,070**	**3%**	**No**	**Cumulative**
La Media Rd to SR-125	Chula Vista	50,000	44,800	C	0	0%	Yes	None
SR-125 to Eastlake Pkwy	Chula Vista	58,330	52,500	D	0	0%	Yes	None [b]
Eastlake Pkwy to Hunte Pkwy	Chula Vista	50,000	34,500	A	710	2%	Yes	None
East of Hunte Pkwy	Chula Vista	50,000	29,400	A	0	0%	Yes	None
E. Palomar Street								
Paseo Ladera to Heritage Rd	Chula Vista	30,000	26,200	B	710	3%	Yes	None
Heritage Rd to La Media Rd	Chula Vista	30,000	23,200	B	360	2%	Yes	None
La Media Rd to Olympic Pkwy	Chula Vista	30,000	24,900	B	1,430	6%	Yes	None
Olympic Parkway								
I-805 NB Ramps to Oleander Ave	Chula Vista	50,000	47,600	C	1,780	4%	Yes	None
Oleander Ave to Brandywine Ave	Chula Vista	50,000	41,200	B	1,780	4%	Yes	None
Brandywine Ave to Heritage Rd	Chula Vista	50,000	34,700	A	1,780	5%	Yes	None
Heritage Rd to Santa Venetia St	Chula Vista	50,000	**50,100**	**D**	**2,850**	**6%**	**No**	**Direct**
Santa Venetia St to La Media Rd	Chula Vista	50,000	40,200	B	2,850	7%	Yes	None
La Media Rd to E. Palomar St	Chula Vista	50,000	30,100	A	1,780	6%	Yes	None
E. Palomar St to SR-125	Chula Vista	50,000	**51,700**	**D**	**3,210**	**6%**	**No**	**Direct**

Table 5.3-15 (cont.) YEAR 2025 ROADWAY SEGMENT OPERATIONS

Roadway/ Segment	Jurisdiction	LOS C Capacity[a]	Volume	LOS	Significance Criteria			Impact Type
					Project ADT >800	Project Contribution >5%	Intersections Along Segment Operating at LOS D or better?	
Olympic Parkway (cont.)								
SR-125 to Eastlake Pkwy	Chula Vista	66,670	57,200	B	4,280	7%	Yes	None
Eastlake Pkwy to Hunte Pkwy	Chula Vista	50,000	37,500	A	3,920	10%	Yes	None
Birch Road								
La Media Rd to SR-125	Chula Vista	40,000	39,800	C	5,350	13%	Yes	None
SR-125 to Eastlake Pkwy	Chula Vista	40,000	**44,100**	**D**	**11,410**	**26%**	**No**	**Direct**
Main St								
Hilltop Dr to Melrose Ave	Chula Vista	30,000	**36,500**	**E**	**1,070**	**3%**	**No**	**Cumulative**
Melrose Ave to I-805	Chula Vista	30,000	**37,400**	**E**	**1,070**	**3%**	**No**	**Cumulative**
I-805 to Oleander Ave	Chula Vista	50,000	49,100	C	1,070	2%	Yes	None
Oleander Ave to Brandywine Ave	Chula Vista	50,000	**50,500**	**D**	**1,430**	**3%**	**No**	**Cumulative**
Brandywine Ave to Heritage Rd	Chula Vista	50,000	36,300	A	1,430	4%	Yes	None
Heritage Rd to Otay Valley Rd	Chula Vista	50,000	DNE	DNE	DNE	DNE	DNE	N/A
Otay Valley Rd to Magdalena Ave	Chula Vista	50,000	DNE	DNE	DNE	DNE	DNE	N/A
Magdalena Ave to SR-125	Chula Vista	50,000	31,200	A	2,140	7%	Yes	None
SR-125 to Village 9 St "B"	Chula Vista	50,000	13,300	A	2,140	16%	Yes	None
Village 9 St "B" to Eastlake Pkwy	Chula Vista	50,000	13,300	DNE	DNE	DNE	DNE	N/A
Otay Valley Road								
La Media Road to SR-125	Chula Vista	30,000	31,200	D	0	0%	Yes	None
SR-125 to Village 9 St "B"	Chula Vista	30,000	DNE	DNE	DNE	DNE	DNE	N/A

Table 5.3-15 (cont.) YEAR 2025 ROADWAY SEGMENT OPERATIONS

Roadway/ Segment	Jurisdiction	LOS C Capacity[a]	Volume	LOS	Significance Criteria			Impact Type
					Project ADT >800	Project Contribution >5%	Intersections Along Segment Operating at LOS D or better?	
Hunte Parkway								
Otay Lakes Rd to Olympic Pkwy	Chula Vista	30,000	18,600	A	3,920	21%	Yes	None
Olympic Pkwy to Exploration Falls Dr	Chula Vista	50,000	20,500	A	5,700	28%	Yes	None
Exploration Falls Rd to Discovery Falls Dr	Chula Vista	50,000	12,800	A	710	6%	Yes	None
Discovery Falls Rd to Eastlake Pkwy	Chula Vista	50,000	22,600	A	4,990	22%	Yes	None
Heritage Road								
Telegraph Canyon Rd to E. Palomar St	Chula Vista	50,000	17,600	A	360	2%	Yes	None
E. Palomar St to Olympic Pkwy	Chula Vista	50,000	18,300	A	1,070	6%	Yes	None
Olympic Pkwy to Main St	Chula Vista	50,000	33,500	A	360	1%	Yes	None
Main St to Otay Mesa Rd	Chula Vista	50,000	34,800	A	2,850	8%	Yes	None
La Media Road								
Telegraph Canyon Rd to E. Palomar St	Chula Vista	50,000	30,700	A	1,070	3%	Yes	None
E. Palomar St to Olympic Pkwy	Chula Vista	50,000	23,700	A	0	0%	Yes	None
Olympic Pkwy to Birch Rd	Chula Vista	50,000	37,200	A	1,430	4%	Yes	None
Eastlake Parkway								
Otay Lakes Rd to Olympic Pkwy	Chula Vista	30,000	**32,000**	**D**	**710**	**2%**	**No**	**Cumulative**
Olympic Pkwy to Birch Rd	Chula Vista	40,000	30,600	B	1,430	5%	Yes	None
Birch Rd to Hunte Pkwy	Chula Vista	40,000	28,500	A	16,400	58%	Yes	None
South of Hunte Pkwy	Chula Vista	12,000	11,050	C	11,050	100%	Yes	None

Table 5.3-15 (cont.) YEAR 2025 ROADWAY SEGMENT OPERATIONS

Roadway/ Segment	Jurisdiction	LOS C Capacity[a]	Volume	LOS	Significance Criteria			Impact Type
					Project ADT >800	Project Contribution >5%	Intersections Along Segment Operating at LOS D or better?	
Eastlake Parkway (cont.)								
North of Discovery Falls Rd	Chula Vista	12,000	DNE	DNE	DNE	DNE	DNE	N/A
Discovery Falls Rd to Otay Valley Rd	Chula Vista	12,000	DNE	DNE	DNE	DNE	DNE	N/A
Village 9 St "B" [b]								
Hunte Pkwy to Village 9 St "C"	Chula Vista	7,500	DNE	DNE	DNE	DNE	DNE	N/A
Village 9 St "C" to Village 9 St "E"	Chula Vista	7,500	DNE	DNE	DNE	DNE	DNE	N/A
Village 9 St "E" to Discovery Falls Rd	Chula Vista	7,500	DNE	DNE	DNE	DNE	DNE	N/A
Discovery Falls Rd to Otay Valley Rd	Chula Vista	7,500	DNE	DNE	DNE	DNE	DNE	N/A
Discovery Falls Road								
Hunte Pkwy to St "K"	Chula Vista	30,000	27,100	C	6,770	25%	Yes	None
St "K" to Eastlake Pkwy	Chula Vista	7,500	DNE	DNE	DNE	DNE	DNE	N/A
Eastlake Pkwy to Village 9 St "B"	Chula Vista	7,500	DNE	DNE	DNE	DNE	DNE	N/A
Palm Avenue								
I-805 to Dennery Rd	City of San Diego	65,000	55,000	D	360	1%	No	None [c]
Ocean View Hills Parkway								
Dennery Rd to Del Sol Blvd	City of San Diego	40,000	20,300	B	0	0%	Yes	None
Del Sol Blvd to Otay Mesa Rd	City of San Diego	50,000	16,800	B	0	0%	Yes	None

Table 5.3-15 (cont.) YEAR 2025 ROADWAY SEGMENT OPERATIONS

Roadway/ Segment	Jurisdiction	LOS C Capacity[a]	Volume	LOS	Significance Criteria			Impact Type
					Project ADT >800	Project Contribution >5%	Intersections Along Segment Operating at LOS D or better?	
Otay Mesa Road								
Ocean View Hills Pkwy to Heritage Rd	City of San Diego	60,000	31,500	B	360	1%	Yes	None
Lone Star Road								
SR-125 to Harvest Rd	City of San Diego	40,000	7,800	A	360	5%	Yes	None

Source*:* LLG 2017

Footnotes:

a. Capacity of facility at LOS C (Chula Vista) and LOS E (City of San Diego).

b. Capacity of Class III Collector is assumed for this street since only one lane is provided in each direction with the Bus Rapid Transit in the center, and no turn lanes at intervening intersections.

c. The Project adds no traffic to this segment operating at LOS D. Therefore, the Project's impact would be less than significant.

DNE = Does not exist; roadway segment would not be built/operational in Year 2025.

Year 2030

Average Daily Trips

By the Year 2030, the Project would include up to 260 acres of university uses, 1,800,000 sf of research uses, 200,000 sf of commercial uses, and 2,000 multi-family dwelling units. Table 5.3-9 summarizes ADT generation for the Project under the Year 2030 scenario. As shown in this table, by Year 2030 the Project is anticipated to result in 51,642 ADT. The EDU for Year 2030 would be 5,164 EDU.

Long-term (full buildout) Project traffic was included in this scenario. The following additional network improvements are assumed in this scenario:

- Main Street connection between Heritage Road and Eastlake Parkway
- The SR-125/Main Street interchange
- The SR-125/Otay Valley Road interchange
- All internal roads in Village 9 (Street "B")
- All internal roads in the Project

Traffic Impacts

Access and Frontage. According to Chapter 12.24 of the City's Municipal Code, access related impacts would occur if access and frontage improvements are not provided concurrent with development. Therefore, in 2030, the Project could result in potentially significant impacts related to access and frontage (Impact 5.3-15). To mitigate these potential impacts, the City would impose requirements for the dedication of public right-of-way and installation of public improvements in connection with development.

Intersections. Table 5.3-16, *Year 2030 Intersection Operations*, summarizes the AM and PM peak hour intersection level of service for the Year 2030.

City of Chula Vista

The following Chula Vista intersections would operate at a deficient LOS with implementation of the Project under the Year 2030 scenario:

- Main Street/I-805 NB Ramps (PM – LOS E)
- Village 9 Street "B"/Village 9 Street "C" (PM – LOS E)
- Proctor Valley Road/San Miguel Ranch Road (PM – LOS E)
- Telegraph Canyon Road/Paseo Ranchero (AM – LOS E, PM - LOS E)
- Birch Road/La Media Road (AM – LOS E, PM – LOS E)
- Main Street/I-805 SB Ramps (PM – LOS E)

For the intersections of Main Street/I-805 NB Ramps, Village 9 Street "B"/Village 9 Street "C", and Proctor Valley Road/San Miguel Ranch Road, the percentage of trips attributable to the Project in Year 2030 would be greater than five percent. Therefore, significant direct impacts to these three intersections would occur (Impacts 5.3-16a through 5.3-16c).

For the remaining three Chula Vista intersections identified above as having a deficient LOS, the percentage of segment trips attributable to the Project in the Year 2030 would be less than five percent. Therefore, no significant direct impacts to these intersections would occur. Cumulative impacts would occur to the Telegraph Canyon Road/Paseo Ranchero, Birch Road/La Media Road, and Main Street/I-805 SB Ramps intersections (Impacts 5.3-17a through 5.3-17c); however, the University-related TDIF has been accounted for in the TDIF Ordinance and cumulative impacts are considered to be mitigated to a level below significance without any additional TDIF fee payments by the University-related portion of the Project. The non-University, or Innovation District, portion of the Project would be required to pay TDIF fees prior to obtaining building permits.

County of San Diego

The following Chula Vista intersections would operate at a deficient LOS with implementation of the Project under the Year 2030 scenario:

- Bonita Road/San Miguel Road (PM – LOS E)
- Proctor Valley Road/San Miguel Road (PM – LOS E)

The Proctor Valley Road/San Miguel Road intersection is unsignalized. For unsignalized intersections in the County of San Diego, if a project contributes more than 20 peak hour trips to a deficient intersection, a significant direct impact would occur. Therefore, as the Project would contribute 72 peak hour trips to this intersection during the PM, a significant direct impact would occur (Impact 5.3-18).

For the intersection of Bonita Road/San Miguel Road, the percentage of segment trips attributable to the Project in the Year 2030 would be less than five percent. Therefore, no significant direct

impact to this intersection would occur; however, a cumulative impact would occur to this intersection (Impact 5.3-19).

City of San Diego/Caltrans

The following City of San Diego/Caltrans intersections would operate at a deficient LOS with implementation of the Project under the Year 2030 scenario:

- Palm Avenue/I-805 SB Ramps (PM – LOS F)
- Palm Avenue/I-805 NB Ramps (AM – LOS F, PM – LOS F)

Direct impacts to these two City of San Diego/Caltrans intersections would be less than significant because the increase in delay attributable to the Project in the Year 2030 would be less than two seconds. However, significant cumulative impacts would occur because these two intersections would operate at a deficient LOS with the Project in Year 2030 (Impacts 5.3-20a and 5.3-20b).

City of San Diego

The following City of San Diego intersections would operate at a deficient LOS with implementation of the Project under the Year 2030 scenario:

- Avenida De Las Vistas/Heritage Road (AM – LOS F, PM – LOS F)
- Heritage Road/Otay Mesa Road (PM – LOS E)

Direct impacts to these two City of San Diego intersections would be less than significant because the increase in delay attributable to the Project in the Year 2030 would be less than two seconds. However, significant cumulative impacts would occur because these intersections would operate at a deficient LOS with the Project in Year 2030 (Impacts 5.3-21a and 5.3-21b).

Table 5.3-16 YEAR 2030 INTERSECTION OPERATIONS

Intersection	Jurisdiction	Traffic Control	Peak Hour	Delay	LOS	Project % of Entering Volume (>5%)	Impact
Bonita Rd/ Otay Lakes Rd	Chula Vista	Signal	AM	33.2	C	1.4%	None
			PM	30.5	C	1.2%	None
Bonita Rd/ San Miguel Rd	County of San Diego	Signal	AM	48.2	D	26 [a]	None
			PM	**61.3**	**E**	**72 [a]**	**Cumulative**
Proctor Valley Rd/ San Miguel Rd	County of San Diego	MSSC [a]	AM	21.2	C	26 [a]	None
			PM	**46.8**	**E**	**72 [a]**	**Direct**
Proctor Valley Rd/ San Miguel Ranch Rd	Chula Vista	AWSC [c]	AM	18.7	C	12.2%	None
			PM	**46.8**	**E**	**8.0%**	**Direct**
East H St/Otay Lakes Road/La Media Rd	Chula Vista	Signal	AM	35.0	C	3.6%	None
			PM	43.6	D	3.2%	None
Proctor Valley Rd/ Mt Miguel Rd	Chula Vista	Signal	AM	8.1	A	12.9%	None
			PM	3.8	A	10.7%	None

Table 5.3-16 (cont.) YEAR 2030 INTERSECTION OPERATIONS

Intersection	Jurisdiction	Traffic Control	Peak Hour	Delay	LOS	Project % of Entering Volume (>5%)	Impact
Proctor Valley Rd/ Hunte Pkwy	Chula Vista	Signal	AM	23.3	C	8.2%	None
			PM	17.7	B	11.7%	None
Telegraph Canyon Rd/Paseo Ladera	Chula Vista	Signal	AM	53.6	D	1.0%	None
			PM	38.1	D	1.1%	None
Telegraph Canyon Rd/Paseo Ranchero	Chula Vista	Signal	AM	**62.2**	**E**	**0.8%**	**Cumulative**
			PM	**55.6**	**E**	**0.8%**	**Cumulative**
Telegraph Canyon Rd/Otay Lakes Rd/ La Media Rd	Chula Vista	Signal	AM	47.3	D	2.4%	None
			PM	50.0	D	2.2%	None
Otay Lakes Rd/ SR-125 SB Ramps	Chula Vista	Signal	AM	5.3	A	3.6%	None
			PM	9.8	A	1.1%	None
Otay Lakes Rd/ SR-125 NB Ramps	Chula Vista	Signal	AM	3.0	A	4.2%	None
			PM	5.4	A	3.3%	None
Otay Lakes Rd/ Eastlake Pkwy	Chula Vista	Signal	AM	33.0	C	3.5%	None
			PM	43.0	D	2.7%	None
Otay Lakes Rd/ Hunte Pkwy	Chula Vista	Signal	AM	31.1	C	8.8%	None
			PM	20.6	C	9.2%	None
E. Palomar St/ Paseo Ladera	Chula Vista	Signal	AM	20.6	C	2.7%	None
			PM	18.1	B	2.6%	None
E. Palomar St/ Heritage Rd	Chula Vista	Signal	AM	54.6	D	3.1%	None
			PM	35.6	D	3.4%	None
E. Palomar St/ La Media Rd	Chula Vista	Signal	AM	54.7	D	4.8%	None
			PM	44.1	D	5.5%	None
Olympic Pkwy/ I-805 SB Ramps	Chula Vista	Signal	AM	43.4	D	0.0%	None
			PM	73.1	E	0.0%	None
Olympic Pkwy/ I-805 NB Ramps	Chula Vista	Signal	AM	43.8	D	0.0%	None
			PM	26.6	C	0.0%	None
Olympic Pkwy/ Oleander Ave	Chula Vista	Signal	AM	38.6	D	0.0%	None
			PM	20.9	C	0.0%	None
Olympic Pkwy/Brandywine Ave	Chula Vista	Signal	AM	19.5	B	0.0%	None
			PM	23.8	C	0.0%	None
Olympic Pkwy/ Heritage Rd	Chula Vista	Signal	AM	52.6	D	2.4%	None
			PM	44.4	D	2.4%	None
Olympic Pkwy/ Santa Venetia St	Chula Vista	Signal	AM	14.8	B	3.3%	None
			PM	8.2	A	3.4%	None
Olympic Pkwy/ La Media Rd	Chula Vista	Signal	AM	51.8	D	2.5%	None
			PM	34.5	C	2.4%	None
Olympic Pkwy/ E. Palomar St	Chula Vista	Signal	AM	32.5	C	9.3%	None
			PM	37.1	D	6.9%	None

Table 5.3-16 (cont.) YEAR 2030 INTERSECTION OPERATIONS

Intersection	Jurisdiction	Traffic Control	Peak Hour	Delay	LOS	Project % of Entering Volume (>5%)	Impact
Olympic Pkwy/ SR-125 SB Ramps	Chula Vista	Signal	AM	9.6	A	15.4%	None
			PM	10.4	B	9.2%	None
Olympic Pkwy/ SR-125 NB Ramps	Chula Vista	Signal	AM	9.8	A	15.8%	None
			PM	16.9	B	11.7%	None
Olympic Pkwy/ Eastlake Pkwy	Chula Vista	Signal	AM	30.7	C	15.7%	None
			PM	33.2	C	12.3%	None
Olympic Pkwy/ Hunte Pkwy	Chula Vista	Signal	AM	31.7	C	23.2%	None
			PM	29.7	C	21.2%	None
Birch Rd/ La Media Rd	Chula Vista	Signal	AM	**71.1**	**E**	**4.0%**	**Cumulative**
			PM	**61.5**	**E**	**3.6%**	**Cumulative**
Birch Rd/ SR-125 SB Ramps	Chula Vista	Signal	AM	10.7	B	9.2%	None
			PM	12.8	B	7.8%	None
Birch Rd/ SR-125 NB Ramps	Chula Vista	Signal	AM	4.4	A	8.7%	None
			PM	4.4	A	7.4%	None
Birch Rd/ Eastlake Pkwy	Chula Vista	Signal	AM	26.9	C	14.4%	None
			PM	26.5	C	11.1%	None
Main St/Hilltop Drive	Chula Vista	Signal	AM	20.8	C	6.3%	None
			PM	33.7	C	5.0%	None
Main St/Melrose Ave	Chula Vista	Signal	AM	27.2	C	4.6%	None
			PM	37.3	D	3.8%	None
Main St/ I-805 SB Ramps	Chula Vista	Signal	AM	47.8	D	8.0%	None
			PM	**70.0**	**E**	**4.5%**	**Cumulative**
Main St/ I-805 NB Ramps	Chula Vista	Signal	AM	53.8	D	8.7%	None
			PM	**77.1**	**E**	**7.2%**	**Direct**
Main St/ Oleander Ave	Chula Vista	Signal	AM	9.1	A	10.2%	None
			PM	8.1	A	8.3%	None
Main St/ Brandywine Ave	Chula Vista	Signal	AM	29.6	C	11.0%	None
			PM	31.0	C	9.0%	None
Main St/ Heritage Rd	Chula Vista	Signal	AM	42.1	D	10.4%	None
			PM	43.4	D	9.5%	None
Main St (WB)/ La Media Rd (SB)	Chula Vista	AWSC	AM	15.7	B	9.7%	None
			PM	18.7	B	23.3%	None
Main St (WB)/ La Media Rd (NB)	Chula Vista	AWSC	AM	14.7	B	9.7%	None
			PM	15.8	B	23.3%	None
Main St (EB)/ La Media Rd (SB)	Chula Vista	AWSC	AM	18.8	B	36.3%	None
			PM	49.3	D	8.4%	None
Main St (EB)/ La Media Rd (NB)	Chula Vista	AWSC	AM	14.9	B	33.9%	None
			PM	20.7	C	10.7%	None
Main St/ Magdalena Ave	Chula Vista	MSSC	AM	13.9	B	24.7%	None
			PM	17.0	B	22.4%	None

Table 5.3-16 (cont.) YEAR 2030 INTERSECTION OPERATIONS

Intersection	Jurisdiction	Traffic Control	Peak Hour	Delay	LOS	Project % of Entering Volume (>5%)	Impact
Main St/ SR-125 SB Ramps	Chula Vista	Signal	AM	13.8	B	33.1%	None
			PM	13.1	B	25.8%	None
Main St/ SR-125 NB Ramps	Chula Vista	Signal	AM	8.6	A	38.0%	None
			PM	10.8	B	33.2%	None
Main St/ Village 9 St "B"	Chula Vista	Signal	AM	34.1	C	32.2%	None
			PM	49.8	D	30.6%	None
Hunte Pkwy (Main St)/ Eastlake Pkwy	Chula Vista	Signal	AM	34.1	C	38.4%	None
			PM	21.5	C	40.9%	None
Hunte Pkwy/ Discovery Falls Dr	Chula Vista	Signal	AM	22.1	C	34.2%	None
			PM	36.9	D	31.9%	None
Hunte Pkwy/ Exploration Falls Dr	Chula Vista	Signal	AM	50.7	D	44.5%	None
			PM	36.9	D	49.1%	None
Village 9 St "B"/ Village 9 St "C"	Chula Vista	Signal	AM	48.9	D	44.1%	None
			PM	**95.4**	**F**	**41.6%**	**Direct**
Village 9 St "B"/ Village 9 St "E"	Chula Vista	Signal	AM	46.7	D	32.7%	None
			PM	41.9	D	32.5%	None
Discovery Falls Rd/Village 9 St "I"	Chula Vista	Signal	AM	38.3	D	61.4%	None
			PM	36.9	D	54.5%	None
Discovery Falls Rd/Eastlake Pkwy	Chula Vista	Signal	AM	48.3	D	45.7%	None
			PM	47.9	D	36.5%	None
Discovery Falls Rd/ St "J"	Chula Vista	Signal	AM	20.5	C	6.5%	None
			PM	18.1	B	6.0%	None
Discovery Falls Rd/ St "K"	Chula Vista	Signal	AM	23.6	C	47.5%	None
			PM	51.2	D	44.7%	None
Otay Valley Rd/ SR-125 SB Ramps	Chula Vista	Signal	AM	9.2	A	7.4%	None
			PM	49.2	D	13.0%	None
Otay Valley Rd/ SR-125 NB Ramps	Chula Vista	Signal	AM	15.1	B	33.2%	None
			PM	15.7	B	21.8%	None
Otay Valley Rd/ Village 9 St "B"	Chula Vista	Signal	AM	33.0	C	35.0%	None
			PM	51.1	D	22.3%	None
Palm Ave/ I-805 SB Ramps	City of San Diego	Signal	AM	54.0	D	1.4% [b]	None
			PM	**92.4**	**F**	**1.1%** [b]	**Cumulative**
Palm Ave/ I-805 NB Ramps	City of San Diego	Signal	AM	**83.4**	**F**	**1.2%** [b]	**Cumulative**
			PM	**99.3**	**F**	**0.9%** [b]	**Cumulative**
Palm Ave/ Dennery Road	City of San Diego	Signal	AM	35.9	D	2.1% [b]	None
			PM	36.3	D	1.8% [b]	None
Avenida De Las Vistas/Heritage Road	City of San Diego	Signal	AM	**54.6**	**F**	**6.4%** [b]	**Cumulative**
			PM	**52.5**	**F**	**6.0%** [b]	**Cumulative**
Lone Star Rd/ SR-125 SB Ramps	City of San Diego	Signal	AM	14.9	B	- [b]	None
			PM	16.3	B	- [b]	None

Table 5.3-16 (cont.) YEAR 2030 INTERSECTION OPERATIONS

Intersection	Jurisdiction	Traffic Control	Peak Hour	Delay	LOS	Project % of Entering Volume (>5%)	Impact
Lone Star Rd/ SR-125 NB Ramps	City of San Diego	Signal	AM	8.9	A	-[b]	None
			PM	8.9	A	-[b]	None
Lone Star Rd/ Harvest Rd	City of San Diego	Signal	AM	13.1	B	-[b]	None
			PM	5.8	A	-[b]	None
Ocean View Hills Pkwy/Otay Mesa Rd	City of San Diego	Signal	AM	45.7	D	-[b]	None
			PM	34.8	C	-[b]	None
Heritage Rd/ Otay Mesa Rd	City of San Diego	Signal	AM	25.9	C	-[b]	None
			PM	**60.5**	**E**	**-[b]**	**Cumulative**

Source: LLG 2017

Footnotes:

[a] Project traffic in the critical movement at unsignalized intersections in County of San Diego. Per established criteria if this exceeds 20 peak hour trips, a significant impact is determined.

[b] Increase in delay due to the Project is the significance criteria in the City of San Diego and Caltrans. All impacts in the long term are cumulative.

MSSC = Minor Street STOP Controlled. Minor street delay and level of service reported.

AWSC = All Way STOP Controlled. Overall delay and level of service reported.

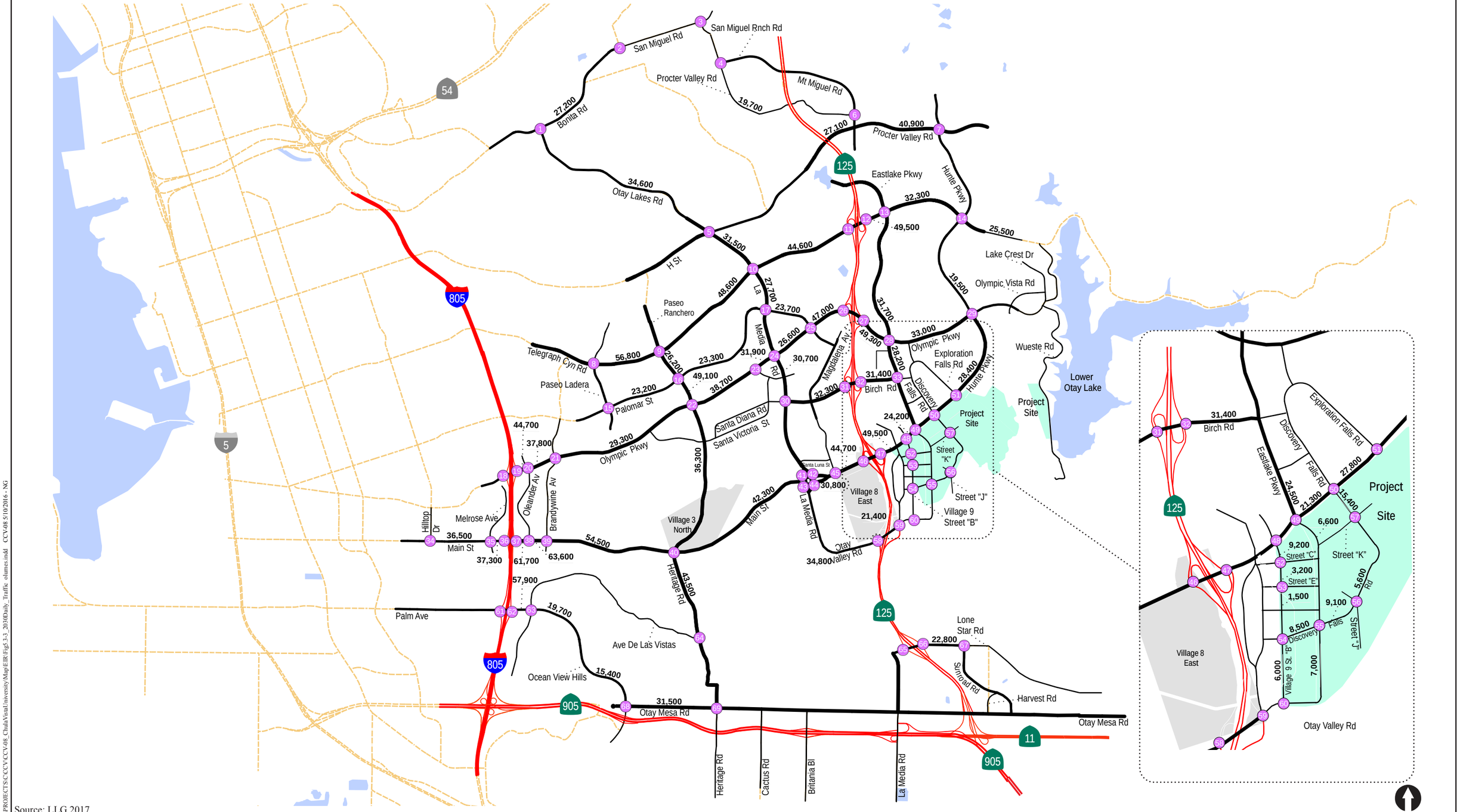
Roadway Segments. Table 5.3-17, *Year 2030 Roadway Segment Operations*, and Figure 5.3-3, *Year 2030 Daily with Project Traffic Volumes*, presents the results of the Year 2030 roadway segment impact analysis under implementation of the Project.

City of Chula Vista

The following Chula Vista segments were calculated to operate at a deficient LOS under the Year 2030 scenario:

- Telegraph Canyon Road from Paseo Ladera to Paseo Ranchero (LOS E)
- Otay Lakes Road from East H Street to Telegraph Canyon Road (LOS D)
- Main Street from Hilltop Drive to Melrose Avenue (LOS E)
- Main Street from Melrose Avenue to I-805 (LOS E)
- Main Street from I-805 to Oleander Avenue (LOS E)
- Main Street from Oleander Avenue to Brandywine Avenue (LOS F)
- Main Street from Brandywine Avenue to Heritage Road (LOS D)
- Eastlake Parkway from Otay Lakes Road to Olympic Parkway (LOS D)

For the roadway segments of Main Street from I-805 to Oleander Avenue and Main Street from Oleander Avenue to Brandywine Avenue, the Project would contribute more than 800 ADT and more than five percent of the segment traffic, which are significance thresholds for roadway segments in the City of Chula Vista. Therefore, a significant direct impact would occur to these two Chula Vista roadway segments (Impacts 5.3-22a and 5.3-22b).



Source: LLG 2017

I:\PROJECTS\CCCV\CCCV-08_ChulaVistaUniversityMap\EIR\Fig5.3-3_2030Daily_TrafficVolumes.indd CCV-08 5/10/2016 - NG

Year 2030 Daily with Project Traffic Volumes

UNIVERSITY INNOVATION PROJECT EIR

HELIX Environmental Planning

Figure 5.3-3

Direct impacts to Telegraph Canyon Road from Paseo Ladera to Paseo Ranchero would be less than significant because the Project would not contribute more than 800 ADT and more than five percent traffic contribution. Similarly, although the Project would add more than 800 ADT to Otay Lakes Road from East H Street to Telegraph Canyon Road, Birch Road from Hilltop Drive to Melrose Avenue, Main Street from Melrose Avenue to I-805, and Eastlake Parkway from Otay Lakes Road to Olympic Parkway, the Project's traffic contribution would not be more than five percent to these segments; therefore, direct impacts would be less than significant. Regarding the roadway segment of Main Street from Brandywine Avenue to Heritage Road, the Project would add more than 800 ADT and would contribute more than 5 percent of the traffic to this segment; however, because the intersections along this segment operate at LOS D or better, the direct impact to this segment would be less than significant. Nonetheless, a significant cumulative impact would occur to these six roadway segments because they would operate at a deficient LOS under the Year 2030 scenario (Impacts 5.3-23a through 5.3-23f).

City of San Diego

None of the City of San Diego roadway segments would operate at a deficient LOS with implementation of the Project under the Year 2030 scenario. Therefore, direct and cumulative impacts to City of San Diego roadway segments would be less than significant.

Table 5.3-17 YEAR 2030 ROADWAY SEGMENT OPERATIONS

Roadway/ Segment	Jurisdiction	LOS C Capacity[a]	Volume	LOS	Significance Criteria			Impact Type
					Project ADT >800	Project Contribution >5%	Intersections Along Segment Operating at LOS D or better?	
Bonita Road								
Otay Lakes Rd to San Miguel Rd	Chula Vista	30,000	27,200	C	0	0.0%	Yes	None
San Miguel Ranch Road								
Bonita Road to Proctor Valley Rd	Chula Vista	22,000	19,700	C	1,030	5.2%	Yes	None
East H St								
SR-125 to Mt Miguel Rd	Chula Vista	50,000	27,100	A	0	0.0%	Yes	None
Mt Miguel Rd to Hunte Pkwy	Chula Vista	50,000	40,900	B	1,550	3.8%	Yes	None
Telegraph Canyon Road								
Paseo Ladera to Paseo Ranchero	Chula Vista	50,000	**56,800**	**E**	**520**	**0.9%**	**No**	**Cumulative**

Table 5.3-17 (cont.) YEAR 2030 ROADWAY SEGMENT OPERATIONS

Roadway/ Segment	Jurisdiction	LOS C Capacity[a]	Volume	LOS	Significance Criteria			Impact Type
					Project ADT >800	Project Contribution >5%	Intersections Along Segment Operating at LOS D or better?	
Telegraph Canyon Road (cont.)								
Paseo Ranchero to Otay Lakes Rd	Chula Vista	50,000	48,600	C	0	0.0%	Yes	None [b]
Otay Lakes Road								
Bonita Rd to East H St	Chula Vista	30,000	34,600	E	520	1.5%	Yes	None
East H St to Telegraph Canyon Rd	Chula Vista	30,000	**31,500**	**D**	**1,550**	**4.9%**	**Yes**	**Cumulative**
La Media Road to SR-125	Chula Vista	50,000	44,600	C	0	0.0%	Yes	None
SR-125 to Eastlake Pkwy	Chula Vista	58,330	49,500	C	0	0.0%	Yes	None
Eastlake Pkwy to Hunte Pkwy	Chula Vista	50,000	32,300	A	1,030	3.2%	Yes	None
East of Hunte Pkwy	Chula Vista	50,000	25,500	A	0	0.0%	Yes	None
E. Palomar Street								
Paseo Ladera to Heritage Rd	Chula Vista	30,000	23,200	B	1,030	4.4%	Yes	None
Heritage Road to La Media Rd	Chula Vista	30,000	23,300	B	520	2.2%	Yes	None
La Media Rd to Olympic Pkwy	Chula Vista	30,000	23,700	B	2,070	8.7%	Yes	None
Olympic Parkway								
I-805 NB Ramps to Oleander Ave	Chula Vista	50,000	44,700	C	0	0.0%	Yes	None
Oleander Ave to Brandywine Ave	Chula Vista	50,000	37,800	B	0	0.0%	Yes	None
Brandywine Ave to Heritage Rd	Chula Vista	50,000	29,300	A	0	0.0%	Yes	None

Table 5.3-17 (cont.) YEAR 2030 ROADWAY SEGMENT OPERATIONS

Roadway/ Segment	Jurisdiction	LOS C Capacity[a]	Volume	LOS	Significance Criteria			Impact Type
					Project ADT >800	Project Contribution >5%	Intersections Along Segment Operating at LOS D or better?	
Olympic Parkway (cont.)								
Heritage Rd to Santa Venetia St	Chula Vista	50,000	38,700	B	1,550	4.0%	Yes	None
Santa Venetia St to La Media Rd	Chula Vista	50,000	31,900	A	1,550	4.9%	Yes	None
La Media Rd to E. Palomar St	Chula Vista	50,000	26,600	A	1,550	5.8%	Yes	None
E. Palomar St to SR-125	Chula Vista	50,000	47,000	C	3,610	7.7%	Yes	None
SR-125 to Eastlake Pkwy	Chula Vista	66,670	49,300	A	5,160	10.5%	Yes	None
Eastlake Pkwy to Hunte Pkwy	Chula Vista	50,000	33,000	A	5,680	17.2%	Yes	None
Birch Road								
La Media Rd to SR-125	Chula Vista	40,000	32,300	B	1,550	4.8%	Yes	None
SR-125 to Eastlake Pkwy	Chula Vista	40,000	31,400	B	2,070	6.6%	Yes	None
Main St								
Hilltop Dr to Melrose Ave	Chula Vista	30,000	**36,500**	**E**	**1,550**	**4.2%**	**Yes**	**Cumulative**
Melrose Ave to I-805	Chula Vista	30,000	**37,300**	**E**	**1,550**	**4.2%**	**No**	**Cumulative**
I-805 to Oleander Ave	Chula Vista	50,000	**61,700**	**E**	**4,130**	**6.7%**	**No**	**Direct**
Oleander Ave to Brandywine Ave	Chula Vista	50,000	**63,600**	**F**	**4,130**	**6.5%**	**Yes**	**Direct**
Brandywine Ave to Heritage Rd	Chula Vista	50,000	**54,500**	**D**	**4,650**	**8.5%**	**Yes**	**Cumulative**

Table 5.3-17 (cont.) YEAR 2030 ROADWAY SEGMENT OPERATIONS

Roadway/ Segment	Jurisdiction	LOS C Capacity[a]	Volume	LOS	Significance Criteria			Impact Type
					Project ADT >800	Project Contribution >5%	Intersections Along Segment Operating at LOS D or better?	
Main St (cont.)								
Heritage Rd to Otay Valley Rd	Chula Vista	50,000	42,300	B	6,710	15.9%	Yes	None
Otay Valley Rd to Magdalena Ave	Chula Vista	50,000	30,800	A	8,260	26.8%	Yes	None
Magdalena Ave to SR-125	Chula Vista	50,000	44,700	C	9,810	21.9%	Yes	None
SR-125 to Village 9 St "B"	Chula Vista	50,000	49,500	C	12,390	25.0%	Yes	None
Village 9 St "B" to Eastlake Pkwy	Chula Vista	50,000	24,200	A	6,200	25.6%	Yes	None
Otay Valley Road								
La Media Road to SR-125	Chula Vista	30,000	34,800	E	0	0.0%	Yes	None [d]
SR-125 to Village 9 St "B"	Chula Vista	30,000	21,400	A	6,200	29.0%	Yes	None
Hunte Parkway								
Otay Lakes Rd to Olympic Pkwy	Chula Vista	30,000	19,500	A	5,680	29.1%	Yes	None
Olympic Pkwy to Exploration Falls Dr	Chula Vista	50,000	28,400	A	8,260	29.1%	Yes	None
Exploration Falls Rd to Discovery Falls Dr	Chula Vista	50,000	21,300	A	1,030	4.8%	Yes	None
Discovery Falls Rd to Eastlake Pkwy	Chula Vista	50,000	27,800	A	7,230	26.0%	Yes	None

Table 5.3-17 (cont.) YEAR 2030 ROADWAY SEGMENT OPERATIONS

Roadway/ Segment	Jurisdiction	LOS C Capacity[a]	Volume	LOS	Significance Criteria			Impact Type
					Project ADT >800	Project Contribution >5%	Intersections Along Segment Operating at LOS D or better?	
Heritage Road								
Telegraph Canyon Rd to E. Palomar St	Chula Vista	50,000	26,200	A	520	2.0%	Yes	None
E. Palomar St to Olympic Pkwy	Chula Vista	50,000	49,100	C	1,550	3.2%	Yes	None
Olympic Pkwy to Main St	Chula Vista	50,000	36,300	A	520	1.4%	Yes	None
Main St to Otay Mesa Rd	Chula Vista	50,000	43,500	B	520	1.2%	Yes	None
La Media Road								
Telegraph Canyon Rd to E. Palomar St	Chula Vista	50,000	27,700	A	1,550	5.6%	Yes	None
E. Palomar St to Olympic Pkwy	Chula Vista	50,000	22,800	A	0	0.0%	Yes	None
Olympic Pkwy to Birch Rd	Chula Vista	50,000	30,700	A	2,070	6.7%	Yes	None
Eastlake Parkway								
Otay Lakes Rd to Olympic Pkwy	Chula Vista	30,000	**31,700**	**D**	**1,030**	**3.2%**	**Yes**	**Cumulative**
Olympic Pkwy to Birch Rd	Chula Vista	40,000	28,200	A	1,030	3.7%	Yes	None
Birch Rd to Hunte Pkwy	Chula Vista	40,000	24,500	A	8,260	33.7%	Yes	None
South of Hunte Pkwy	Chula Vista	12,000	6,600	A	6,200	93.9%	Yes	None
North of Discovery Falls Rd	Chula Vista	12,000	9,100	B	6,200	68.1%	Yes	None
Discovery Falls Rd to Otay Valley Rd	Chula Vista	12,000	7,000	A	1,550	22.1%	Yes	None

Table 5.3-17 (cont.) YEAR 2030 ROADWAY SEGMENT OPERATIONS

Roadway/ Segment	Jurisdiction	LOS C Capacity[a]	Volume	LOS	Significance Criteria			Impact Type
					Project ADT >800	Project Contribution >5%	Intersections Along Segment Operating at LOS D or better?	
Village 9 St "B" [b]								
Hunte Pkwy to Village 9 St "C"	Chula Vista	7,500	9,200	B	5,680	61.7%	Yes	None
Village 9 St "C" to Village 9 St "E"	Chula Vista	7,500	6,000	A	5,680	94.7%	Yes	None
Hunte Pkwy to Village 9 St "C"	Chula Vista	7,500	9,200	B	5,680	61.7%	Yes	None
Village 9 St "C" to Village 9 St "E"	Chula Vista	7,500	6,000	A	5,680	94.7%	Yes	None
Village 9 St "E" to Discovery Falls Rd	Chula Vista	7,500	1,500	A	0	0.0%	Yes	None
Discovery Falls Rd to Otay Valley Rd	Chula Vista	7,500	7,000	A	4,650	66.4%	Yes	None
Discovery Falls Road								
Hunte Pkwy to St "K"	Chula Vista	30,000	15,400	A	9,810	63.7%	Yes	None
St "K" to Eastlake Pkwy	Chula Vista	7,500	5,600	A	0	0.0%	Yes	None
Eastlake Pkwy to Village 9 St "B"	Chula Vista	7,500	12,000	C	10,330	86.1%	Yes	None
Palm Avenue								
I-805 to Dennery Rd	City of San Diego	65,000	57,900	D	520	0.9%	No	None
Ocean View Hills Parkway								
Dennery Rd to Del Sol Blvd	City of San Diego	40,000	19,700	B	0	0.0%	Yes	None
Del Sol Blvd to Otay Mesa Rd	City of San Diego	50,000	15,400	B	0	0.0%	Yes	None

Table 5.3-17 (cont.) YEAR 2030 ROADWAY SEGMENT OPERATIONS

Roadway/ Segment	Jurisdiction	LOS C Capacity[a]	Volume	LOS	Significance Criteria			Impact Type
					Project ADT >800	Project Contribution >5%	Intersections Along Segment Operating at LOS D or better?	
Otay Mesa Road								
Ocean View Hills Pkwy to Heritage Rd	City of San Diego	60,000	31,500	B	520	1.7%	Yes	None
Lone Star Road								
SR-125 to Harvest Rd	City of San Diego	40,000	22,800	C	520	2.3%	Yes	None

Source: LLG 2017

Footnotes:

a. Capacity of facility at LOS C (Chula Vista) and LOS E (City of San Diego).

b. Capacity of Class III Collector is assumed for this street since only one lane is provided in each direction with the Bus Rapid Transit in the center, and no turn lanes at intervening intersections.

c The Project adds no traffic to this segment operating at LOS D. Therefore, the Project's impact would be less than significant.

Lake Property

Use of the Lake Property was analyzed in the 2001 EastLake III Woods and Vistas Replanning Program Subsequent EIR. In the EIR, it was referred to as the "Panhandle Site." The transportation/traffic circulation section of the EIR found that, although detailed development plans had not been prepared for the site, the trips generated from either of the proposed land use options could represent a significant impact. The two land use options proposed in that EIR were uses as a Public/Quasi-Public District (school, public service facility, etc.) or a low-density residential use.

The conclusions of the 2001 EastLake III Woods and Vistas Replanning Program Subsequent EIR are still applicable to the Project site, as the proposed land uses in the 2001 EIR are similar or higher density than the UID SPA Plan's proposed land uses for the site and as detailed development plans are not available for the UID SPA Plan's proposed land uses on the Lake Property, an updated analysis was not included in the TIA. However, based on the conclusions in the 2001 EIR, traffic impacts from the Lake Property are assessed as potentially significant and would require the preparation of a detailed traffic study when development plans are available (Impact 5.3-24).

2. Construction

Construction of the Project would have the potential to generate traffic from worker trips, and building material and equipment deliveries. During grading of the site, cut and fill would be balanced on site; therefore, there will be limited need to haul material to or from the site. Construction traffic is not anticipated to generate enough traffic on its own to result in a significant impact; however, construction within the UID would occur continuously until full buildout. Therefore, construction traffic would result in a temporary addition to operational traffic generated by the Project. As discussed previously, operation of the Project would have the potential to

generate substantial traffic during each traffic scenario (Existing, Year 2020, Year 2025, and Year 2030), and construction traffic would incrementally contribute to these impacts. Therefore, impacts from construction traffic could potentially be significant (Impact 5.3-25).

B. Threshold 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.

The City LOS standards are the applicable standard to determine if the Project would result in traffic that would conflict with regional congestion management plans, such as SANDAG's San Diego Forward: The Regional Plan. Additionally, the UID SPA Plan would result in a conflict with the Regional Plan if it would not encourage uses of alternative forms of transportation and overall reductions in vehicle miles traveled.

The UID would be accessible by bus service through the South Bay BRT. Most UID streets would include dedicated, striped, on-street Class I bicycle facilities (see Figure 4E of the SPA Plan). Sidewalks would also be provided throughout the UID and would include bulb-outs at key locations to reduce pedestrian crossing distances. As discussed under Threshold 1, the proposed transit facilities would reduce total vehicle trips by approximately five percent. Therefore, the Project would not result in any conflicts with the San Diego Forward – The Regional Plan's goals to reduce vehicle trips and vehicle miles traveled.

However, as discussed under Threshold 1, implementation of the UID SPA Plan would have the potential to exceed the City LOS standards, as well as City of San Diego, County of San Diego, and Caltrans standards for intersections and roadways under the Existing Plus Project, Year 2020, Year 2025, and Year 2030 (buildout) scenarios. Therefore, the Project would contribute to regional congestion and a potentially significant impact would occur related to level of service standards (Impact 5.3-26).

C. Threshold 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.

The UID is located approximately 1.9 miles to the northeast of Brown Field Municipal Airport. The UID is located within the approach area for Brown Field Municipal Airport subject to over flights from both Brown Field and the Tijuana Airport, a commercial facility, just over one mile to the south of Brown Field. Aircraft operations at Brown Field would be required to comply with all applicable FAA regulations that are intended to ensure safe operation of aircraft. Flights to and from the Tijuana Airport in U.S. airspace over the site would be required to coordinate with FAA traffic controllers. Additionally, Mexico is rated Category 1, the top category, in FAA's International Aviation Safety Assessment Program (Aviation Safety Network 2010). This program focuses on a country's ability to adhere to international standards and recommended practices for aircraft operations and maintenance established by the United Nation's technical agency for aviation, the International Civil Aviation Organization (ICAO). With continued compliance with safety regulations and standards, it is not reasonably foreseeable that continued operations at Brown Field or the Tijuana Airport would result in a safety hazard to the UID.

As discussed in greater detail in Section 5.13, *Hazards and Hazardous Material*s, and shown on Figure 5.1-1, the Project area is located within the FAA Overflight Notification Area for proposed construction or alteration projects, and Review Area 2 of the Brown Field Airport Influence Area. However, it is not anticipated that the Project would exceed the noted 200-foot height limit and a substantial safety risk would not occur related to air traffic patterns.

D. Threshold 4: Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).

The circulation design for the Project provides roadways within the UID and their connections to the surrounding roads. As part of the design review process, site access and circulation for the UID would be reviewed by the City of Chula Vista's Public Works and Engineering Departments. Traffic calming measures would be included to increase safety. Specific traffic calming measures included as part of the Project design include narrow, multi-modal streets, multiple connections, and on-street parking. Traffic calming measures would also promote pedestrian and bicycle safety as well as vehicle safety by controlling the speed and distribution of vehicles travelling throughout the UID. The streets would also include intersection bulb outs to narrow the through travel way at intersections; narrow, multi-modal streets to slow vehicular traffic; and multiple connections to evenly distribute traffic. Therefore, the Project would not result in significant impacts related to hazards due to a design feature.

As discussed in Section 5.1, *Land Use*, implementation of the Project would not result in any land use incompatibilities with incorporation of the mitigation measures identified for various resources sections, including transportation/traffic, air quality, noise, biological resources, public services, hydrology and water quality, agricultural resources, and hazards and hazardous materials. Currently, vacant land surrounds the Project site on three sides and Hunte Parkway and Village 11 to the north. Future land uses planned for the areas surrounding the Project would be similar to the non-university land uses proposed for the UID and would generate similar types of traffic. As discussed in Section 5.12, *Agricultural Resources*, potential agriculture use in the UID would be required to comply with the Agricultural Plan (Mitigation Measure 5.12-1) to ensure compatibility between university-related crop production for research and small-scale production. Therefore, hazard impacts due to incompatible uses would be less than significant.

E. Threshold 5: Result in inadequate emergency access.

As discussed in Section 5.13, implementation of the Project would not interfere with the city emergency response plans because it does not interfere with any existing roadways or evacuation routes. Evacuation from and emergency response within the UID would be enhanced by the proposed circulation system (see Figure 5.3-3), which provides multiple points of ingress and egress from the site to the surrounding regional circulation system. Individual developments within the UID would be required to demonstrate adequate emergency access as part of the City design review process, including review by the Chula Vista Fire Department. In addition, construction activities including staging would occur in accordance with City requirements (such as Chula Vista Municipal Code Chapter 12.12, which prohibits street obstructions), which would ensure that adequate emergency access would be provided during construction of the Project. Therefore, impacts related to emergency access would be less than significant.

F. Threshold 6: Conflict with adopted policies, plans or programs regarding the circulation network, public transit, bicycle or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

Local and regional plans such as the General Plan, GDP, and SANDAG's San Diego Forward: The Regional Plan emphasize development patterns and transportation systems that work together to reduce the use of automobiles. The Project would be designed to incorporate a future BRT stop, which would allow for the use of public transit to project uses. The Project's high density uses would allow people to live, work, or attend university through the use of the BRT stop. In addition, bike lanes and pedestrian-friendly avenues would be incorporated throughout much of the Project site to encourage non-vehicular circulation to and within the Project area and surrounding villages in Otay Ranch (see Figure 3-4 for proposed pedestrian and bicycle facilities). Therefore, the Project would not conflict with policies, plans or programs regarding the circulation network, public transit, bicycle or pedestrian facilities, or otherwise decrease the performance of safety of such facilities, and impacts would be less than significant.

5.3.4 Level of Significance Prior to Mitigation

A. Traffic and Level of Service Standards

The traffic analysis assumed certain roadway improvements to be in place prior to commencement of each study scenario. These assumed roadways were taken into account due to other Otay Ranch communities planned for development in the Project's study area. If these improvements are not in place prior to each of the respective scenarios, as assumed, additional traffic impacts would occur, resulting in a potentially significant impact.

1. Year 2020

Access and Frontage

Impact 5.3-1: According to Chapter 12.24 of the City's Municipal Code, access related impacts would occur if access and frontage improvements are not provided concurrent with development. Therefore, in 2020, the Project could result in potentially significant impacts related to access and frontage.

Intersections

City of Chula Vista

Impact 5.3-2: Under the Year 2020 scenario, the Project would result in a potentially significant direct impact to the following Chula Vista intersection:

- Birch Road/La Media Road (AM – LOS E, PM – LOS F)

Impacts 5.3-3a through 5.3-3l: Under the Year 2020 scenario, the Project would result in a potentially significant cumulative impact to the following Chula Vista intersections:

- Impact 5.3-3a: Telegraph Canyon Road/Paseo Ranchero (AM – LOS E)
- Impact 5.3-3b: Telegraph Canyon Road/Otay Lakes Road/La Media Road (PM – LOS E)
- Impact 5.3-3c: East Palomar Street/Heritage Road (AM – LOS E)
- Impact 5.3-3d: East Palomar Street/La Media Road (AM – LOS E, PM – LOS E)
- Impact 5.3-3e: Olympic Parkway/I-805 SB Ramps (AM – LOS F, PM – LOS F)
- Impact 5.3-3f: Olympic Parkway/I-805 NB Ramps (AM – LOS F, PM – LOS F)
- Impact 5.3-3g: Olympic Parkway/Oleander Avenue (AM – LOS E, PM – LOS F)
- Impact 5.3-3h: Olympic Parkway/Brandywine Avenue (AM – LOS F, PM – LOS F)
- Impact 5.3-3i: Olympic Parkway/Heritage Road (AM – LOS F, PM – LOS F)
- Impact 5.3-3j: Main Street/I-805 SB Ramps (PM – LOS F)
- Impact 5.3-3k: Main Street/I-805 NB Ramps (PM – LOS F)
- Impact 5.3-3l: Main Street/Brandywine Avenue (AM – LOS E, PM – LOS E)

City of San Diego/Caltrans

Impacts 5.3-4 and 5.3-4b: Under the Year 2020 scenario, the Project would result in a potentially significant cumulative impact to the following City of San Diego/Caltrans intersections:

- Impact 5.3-4a: Palm Avenue/I-805 SB Ramps (PM – LOS F)
- Impact 5.3-4b: Palm Avenue/I-805 NB Ramps (AM – LOS E, PM – LOS F)

City of San Diego

Impact 5.3-5: Under the Year 2020 scenario, the Project would result in a potentially significant cumulative impact to the following City of San Diego intersection:

- Avenida De Las Vistas/Heritage Road (AM – LOS F, PM – LOS F)

Roadway Segments

City of Chula Vista

Impacts 5.3-6a through 5.3-6f: Under the Year 2020 scenario, the Project would result in a potentially significant cumulative impact to the following six Chula Vista roadway segments:

- Impact 5.3-6a: Telegraph Canyon Road from Paseo Ladera to Paseo Ranchero (LOS E)
- Impact 5.3-6b: Otay Lakes Road from Bonita Road to East H Street (LOS D)
- Impact 5.3-6c: Otay Lakes Road from East H Street to Telegraph Canyon Road (LOS D)
- Impact 5.3-6d: Main Street from Hilltop Drive to Melrose Avenue (LOS E)
- Impact 5.3-6e: Main Street from Melrose Avenue to I-805 (LOS E)
- Impact 5.3-6f: Eastlake Parkway from Otay Lakes Road to Olympic Parkway (LOS D)

2. Year 2025

Access and Frontage

Impact 5.3-7: According to Chapter 12.24 of the City's Municipal Code, access related impacts would occur if access and frontage improvements are not provided concurrent with development. Therefore, in 2025, the Project could result in potentially significant impacts related to access and frontage.

Intersections

City of Chula Vista

Impacts 5.3-8a through 5.3-8c: Under the Year 2025 scenario, the Project would result in a potentially significant direct impact to the following three Chula Vista intersections:

- Impact 5.3-8a: Proctor Valley Road/San Miguel Ranch Road (PM – LOS E)
- Impact 5.3-8b: Birch Road/La Media Road (AM – LOS F, PM – LOS F)
- Impact 5.3-8c: Birch Road/Eastlake Parkway (AM – LOS F, PM – LOS F)

Impacts 5.3-9a through 5.3-9o: Under the Year 2025 scenario, the Project would result in a potentially significant cumulative impact to the following Chula Vista intersections:

- Impact 5.3-9a: Telegraph Canyon Road/Paseo Ladera (AM – LOS E)
- Impact 5.3-9b: Telegraph Canyon Road/Paseo Ranchero (AM – LOS E, PM - LOS E)
- Impact 5.3-9c: Telegraph Canyon Road/Otay Lakes Road/La Media Road (AM – LOS E, PM – LOS F)
- Impact 5.3-9d: East Palomar Street/Heritage Road (AM – LOS E)
- Impact 5.3-9e: East Palomar Street/La Media Road (AM – LOS F, PM – LOS E)
- Impact 5.3-9f: Olympic Parkway/I-805 SB Ramps (PM – LOS F)
- Impact 5.3-9g: Olympic Parkway/I-805 NB Ramps (AM – LOS E, PM – LOS E)
- Impact 5.3-9h: Olympic Parkway/Oleander Avenue (AM – LOS E, PM – LOS F)
- Impact 5.3-9i: Olympic Parkway/Brandywine Avenue (AM – LOS F, PM – LOS F)
- Impact 5.3-9j: Olympic Parkway/Heritage Road (AM – LOS F, PM – LOS F)
- Impact 5.3-9k: Olympic Parkway/La Media Road (AM – LOS F, PM – LOS E)
- Impact 5.3-9l: Main Street/Melrose Avenue (PM – LOS E)
- Impact 5.3-9m: Main Street/I-805 SB Ramps (PM – LOS E)
- Impact 5.3-9n: Main Street/I-805 NB Ramps (PM – LOS E)
- Impact 5.3-9o: Main Street/Brandywine Avenue (PM – LOS E)

County of San Diego

Impact 5.3-10: Under the Year 2025 scenario, the Project would result in a potentially significant direct impact to the following County of San Diego intersection:

- Proctor Valley Road/San Miguel Road (PM – LOS F)

City of San Diego/Caltrans

Impacts 5.3-11a and 5.3-11b: Under the Year 2025 scenario, the Project would result in a potentially significant cumulative impact to the following City of San Diego/Caltrans intersections:

- Impact 5.3-11a: Palm Avenue/I-805 SB Ramps (PM – LOS F)
- Impact 5.3-11b: Palm Avenue/I-805 NB Ramps (AM – LOS F, PM – LOS F)

City of San Diego

Impacts 5.3-12a and 5.3-12b: Under the Year 2025 scenario, the Project would result in a potentially significant cumulative impact to the following City of San Diego intersections:

- Impact 5.3-12a: Avenida De Las Vistas/Heritage Road (AM – LOS F, PM – LOS F)
- Impact 5.3-12b: Heritage Road/Otay Mesa Road (PM – LOS E)

Roadway Segments

City of Chula Vista

Impacts 5.3-13a through 5.3-13c: Under the Year 2025 scenario, the Project would result in a potentially significant direct impact to the following Chula Vista roadway segments:

- Impact 5.3-13a: Olympic Parkway from Heritage Road to Santa Venetia Street (LOS D)
- Impact 5.3-13b: Olympic Parkway from East Palomar Street to SR-125 (LOS D)
- Impact 5.3-13c: Birch Road from SR-125 to Eastlake Parkway (LOS D)

Impacts 5.3-14a through 5.3-14g: Under the Year 2025 scenario, the Project would result in a potentially significant cumulative impact to the following Chula Vista roadway segments:

- Impact 5.3-14a: Telegraph Canyon Road from Paseo Ladera to Paseo Ranchero (LOS E)
- Impact 5.3-14b: Otay Lakes Road from Bonita Road to East H Street (LOS E)
- Impact 5.3-14c: Otay Lakes Road from East H Street to Telegraph Canyon Road (LOS D)
- Impact 5.3-14d: Main Street from Hilltop Drive to Melrose Avenue (LOS E)
- Impact 5.3-14e: Main Street from Melrose Avenue to I-805 (LOS E)
- Impact 5.3-14f: Main Street from Oleander Avenue to Brandywine Avenue (LOS D)
- Impact 5.3-14g: Eastlake Parkway from Otay Lakes Road to Olympic Parkway (LOS D)

3. Year 2030

Access and Frontage

Impact 5.3-15: According to Chapter 12.24 of the City's Municipal Code, access related impacts would occur if access and frontage improvements are not provided concurrent with development. Therefore, in 2030, the Project could result in potentially significant impacts related to access and frontage.

Intersections

City of Chula Vista

Impacts 5.3-16a through 5.3-16c: Under the Year 2030 scenario, the Project would result in a potentially significant direct impact to the following Chula Vista intersections:

- Impact 5.3-16a: Main Street/I-805 NB Ramps (PM – LOS E)
- Impact 5.3-16b: Village 9 Street "B"/Village 9 Street "C" (PM – LOS E)
- Impact 5.3-16c: Proctor Valley Road/San Miguel Ranch Road (PM – LOS E)

Impacts 5.3-17a through 5.3-17c: Under the Year 2030 scenario, the Project would result in potentially significant cumulative impacts to the following Chula Vista intersections:

- Impact 5.3-17a: Telegraph Canyon Road/Paseo Ranchero (AM – LOS E, PM - LOS E)
- Impact 5.3-17b: Main Street/I-805 SB Ramps (PM – LOS E)
- Impact 5.3-17c: Birch Road/La Media Road (AM – LOS E, PM – LOS E)

County of San Diego

Impact 5.3-18: Under the Year 2030 scenario, the Project would result in a potentially significant direct impact to the following County of San Diego intersection:

- Proctor Valley Road/San Miguel Road (PM – LOS E)

Impact 5.3-19: Under the Year 2030 scenario, the Project would result in a potentially significant cumulative impact to the following County of San Diego intersection:

- Bonita Road/San Miguel Road (PM – LOS E)

City of San Diego/Caltrans

Impacts 5.3-20a and 5.3-20b: Under the Year 2030 scenario, the Project would result in a potentially significant cumulative impact to the following City of San Diego/Caltrans intersections:

- Impact 5.3-20a: Palm Avenue/I-805 SB Ramps (PM – LOS F)
- Impact 5.3-20b: Palm Avenue/I-805 NB Ramps (AM – LOS F, PM – LOS F)

City of San Diego

Impacts 5.3-21a and 5.3-21b: Under the Year 2030 scenario, the Project would result in a potentially significant cumulative impact to the following City of San Diego intersections:

- Impact 5.3-21a: Avenida De Las Vistas/Heritage Road (AM – LOS F, PM – LOS F)
- Impact 5.3-21b: Heritage Road/Otay Mesa Road (PM – LOS E)

Roadway Segments

City of Chula Vista

Impacts 5.3-22a and 5.3-22b: Under the Year 2030 scenario, the Project would result in a potentially significant direct impact to the following Chula Vista roadway segments:

- Impact 5.3-22a: Main Street from I-805 to Oleander Avenue (LOS E)
- Impact 5.3-22b: Main Street from Oleander Avenue to Brandywine Avenue (LOS F)

Impacts 5.3-23a through 5.3-23f: Under the Year 2030 scenario, the Project would result in a potentially significant cumulative impact to the following Chula Vista roadway segments:

- Impact 5.3-23a: Telegraph Canyon Road from Paseo Ladera to Paseo Ranchero (LOS E)
- Impact 5.3-23b: Otay Lakes Road from East H Street to Telegraph Canyon Road (LOS D)
- Impact 5.3-23c: Main Street from Hilltop Drive to Melrose Avenue (LOS E)
- Impact 5.3-23d: Main Street from Melrose Avenue to I-805 (LOS E)
- Impact 5.3-23e: Main Street from Brandywine Avenue to Heritage Road (LOS D)
- Impact 5.3-23f: Eastlake Parkway from Otay Lakes Road to Olympic Parkway (LOS D)

4. Lake Property

Impact 5.3-24: Based on the conclusions in the 2001 EIR, traffic impacts from the Lake Property are assessed as potentially significant. An updated traffic analysis of the Lake Property was not included in the TIA for the UID because specific development plans are not currently available and uses assumed in the UID SPA Plan are similar or lower in density than those considered in the 2001 EIR. Therefore, a detailed traffic study would need to be prepared when development plans are available.

5. Construction

Impact 5.3-25: Construction within the UID would occur continuously until full buildout. Therefore, construction traffic would result in a temporary addition to operational traffic generated by the Project. As discussed above, operation of the Project would have the potential to generate substantial traffic during each traffic scenario (Year 2020, Year 2025, and Year 2030), and construction traffic would incrementally contribute to these impacts. Therefore, impacts from construction traffic could potentially be significant.

B. Congestion Management

Impact 5.3-26: The Project would have the potential to exceed the City of Chula Vista's LOS standards, as well as the City of San Diego, Caltrans, and the County of San Diego's standards under the Existing Plus Project, Year 2020, Year 2025, and Year 2030 scenarios. Therefore, the Project would contribute to regional congestion and a potentially significant impact would occur related to level of service standards.

C. Air Traffic Patterns

Implementation of the Project would not result in a significant direct impact related to air traffic patterns. Cumulative impacts are addressed in Chapter 6.0, *Cumulative Impacts*.

D. Road Safety

Implementation of the Project would not result in a significant direct impact related to road safety. Cumulative impacts are addressed in Chapter 6.0, *Cumulative Impacts*.

E. Emergency Access

Implementation of the Project would not result in a significant direct impact related emergency access. Cumulative impacts are addressed in Chapter 6.0, *Cumulative Impacts*.

F. Consistency with Transportation Policies

Implementation of the Project would not result in a significant direct impact related to consistency with transportation policies. Cumulative impacts are addressed in Chapter 6.0, *Cumulative Impacts*.

5.3.5 Mitigation Measures

Development of the UID site would occur as future applicants apply for various permits. The measures below identify that a future applicant would be responsible for the implementation of the mitigation measures.

A. Traffic and Level of Service Standards

1. Year 2020

Access and Frontage

According to Chapter 12.24 of the City's Municipal Code, access related impacts would occur if access and frontage improvements are not provided concurrent with development. Therefore, in 2020, the Project could result in potentially significant impacts related to access and frontage (Impact 5.3-1). To mitigate these impacts, the City imposes Mitigation Measures 5.3-1a through 5.3-1d, which require the Project applicant to dedicate public ROW and install the public improvements in connection with development:

5.3-1a **Eastlake Parkway/Hunte Parkway Intersection:** Eastlake Parkway south of Hunte Parkway within the UID will provide primary access to the site. Corresponding improvements to the geometry (as seen in Figure 10-2 in EIR Appendix B) shall be provided by the applicant at the Eastlake Parkway/Hunte Parkway intersection prior to construction. Needed modifications to the traffic signal shall also be made to accommodate the third (south) leg at this intersection. This improvement shall be provided prior to construction of the first building within the University Campus/Innovation District, in accordance with City Ordinances.

5.3-1b Discovery Falls Road Secondary Access: A new secondary access shall be provided by the applicant from Discovery Falls Road, just south of Hunte Parkway. Corresponding improvements to the geometry, as shown in Figure 10-2 of EIR Appendix B (Intersection #57), shall be provided. A traffic signal shall be installed to the satisfaction of the City Engineer. This improvement shall be provided prior to construction of the first building within the UID, in accordance with City Ordinances.

5.3-1c Hunte Parkway/Exploration Falls Road Intersection: The applicant shall be responsible for constructing the fourth (south) leg of the Hunte Parkway/Exploration Falls Road intersection and modifying the signal as needed to accommodate the fourth leg prior to construction of the first building within the UID, in accordance with City Ordinances.

5.3-1d Internal Circulation Roads: Internal circulation roads shall be constructed on-site by the applicant in conformance with City standards. Final design and siting of internal roads will be subject to the approval of the City, including the Development Services Department, Public Works Department, and Fire Department.

Potential Mitigation Measures (if not Completed by Others by the 1,360th EDU)

Anticipated 2020 Roadway Improvements: The traffic analysis assumed certain roadway improvements to be in place prior to commencement of each study scenario. These assumed roadways were taken into account due to other Otay Ranch communities planned for development in the Project's study area. The traffic analysis assumes the following roadway improvements to be in place prior to commencement of the Year 2020 scenario and based on the fact that they are City CIP projects, as further described below. If these improvements are not in place prior to each of the respective scenarios, as assumed, the Project would be required to complete these improvements to ensure to no additional potentially significant impacts (other than those stated in this section) would occur.

- Heritage Road, south of Main Street to Chula Vista city limit: This facility is included in its ultimate classification by 2020. As indicated in the City's currently adopted General Plan Circulation Element, the ultimate classification designation for Heritage Road south of Main Street is a 6-lane Prime Arterial. This improvement project (STM364 – Heritage Road Bridge Replacement) is included in the Chula Vista adopted FY 2012-13 through FY 2016-17 CIP and will be funded by a mix of the Highway Bridge Program, Transportation Development Impact Fees, and other miscellaneous transportation grants.

- Otay Lakes Road, between H Street and Telegraph Canyon Road: This facility is identified for widening from a 4-lane Major Road to a 6-lane Prime Arterial consistent with the classification identified in the City's currently adopted General Plan Circulation Element. This improvement project (STM355 – Otay Lakes Road Widening) is included in the Chula Vista adopted FY 2012-13 through FY 2016-17 CIP and will be funded by the Transportation Development Impact Fees.

  If the first final map or development in the Year 2020 scenario (1,360 EDUs) is submitted for approval prior to the above improvements being constructed and open to traffic, then

one of the following three steps shall be taken to the satisfaction of the City Engineer. The City of Chula Vista or successor in interest will make every effort to coordinate improvements outside of their jurisdiction with the appropriate agencies.

- Development in the UID shall stop until those assumed future roadways are constructed by others; or

- The applicant shall secure or construct the incomplete roadway segments. A number of factors, including changes to the tolling structure at SR-125, may affect the traffic patterns in the Otay Ranch. Additional traffic analysis of the roadway network and levels of service assessment may be necessary to determine if such improvements are necessary and the scope and timing of additional circulation improvements; or

- The City of Chula Vista or successor in interest shall construct the missing roadway links and receive a transportation development impact fee credit for those improvements as applicable.

Intersections

In accordance with the PFFP, the City will monitor traffic conditions and determine the timing of the following improvements as they are needed.

City of Chula Vista

Under the Year 2020 scenario, the Project would result in a significant direct impact to the intersection of Birch Road/La Media Road (Impact 5.3-2). Implementation of Mitigation Measure 5.3-2 would reduce impacts to less than significant levels:

5.3-2 **Birch Road/La Media Road Intersection:** Prior to the issuance of the final map that contains the 1,360th EDU, the applicant shall secure or construct the Main Street connection between Heritage Road and Eastlake Parkway. Since this improvement includes the construction of a 6-lane road and a bridge, it is beyond the scope of a single development project. If this improvement is not in place by the issuance of the final map that contains the 1,360th EDU, the Project would be required to implement the "Anticipated 2020 Roadway Improvements."

Under the Year 2020 scenario, the Project would result in a significant cumulative impact to 13 Chula Vista intersections (Impacts 5.3-3a through 5.3-3l). Implementation of Mitigation Measure 5.3-3 would reduce impacts to less than significant levels:

5.3-3 Cumulative impacts within the City of Chula Vista will be mitigated using Transportation Development Impact Fees (TDIF). The UID-related TDIF has been accounted for in the TDIF Ordinance (for City of Chula Vista intersections) and Western TDIF Program (for City of Chula Vista/Caltrans intersections). Therefore, cumulative impacts within the City of Chula Vista are considered to be mitigated to a level below significance without any additional TDIF fee payments by the UID Project.

City of San Diego/Caltrans

Under the Year 2020 scenario, the Project would result in a significant cumulative impact to two City of San Diego/Caltrans intersections: Palm Avenue/I-805 SB Ramps and Palm Avenue/I-805 NB Ramps (Impacts 5.3-4a and 5.3-4b). Implementation of Mitigation Measures 5.3-4a and 5.3-4b would reduce impacts to less than significant levels:

5.3-4a **Palm Avenue/I-805 SB Ramps Intersection:** The improvement of the Palm Avenue/ I-805 SB Ramps Intersection is included in the FBA in the City of San Diego. If the City of San Diego does not complete this improvement prior to the issuance of the final map that contains the Project's 1,360th EDU, the City of Chula Vista or successor in interest shall coordinate with the City of San Diego to implement this improvement.

5.3-4b **Palm Avenue/I-805 NB Ramps Intersection:** The improvement of the Palm Avenue/ I-805 NB Ramps Intersection is included in the FBA, in the City of San Diego. If the City of San Diego does not complete this Project prior to the issuance of the final map that contains the Project's 1,360th EDU, the City of Chula Vista or successor in interest shall coordinate with the City of San Diego to implement this improvement.

City of San Diego

Under the Year 2020 scenario, the Project would result in a significant cumulative impact to the intersection of Avenida De Las Vistas/Heritage Road (Impact 5.3-5). Implementation of Mitigation Measure 5.3-5 would reduce impacts to less than significant levels:

5.3-5 **Avenida De Las Vistas/Heritage Road Intersection:** The improvement of the Avenida De Las Vistas/Heritage Road Intersection is included in the FBA, in the City of San Diego. If the City of San Diego does not complete this Project prior to the issuance of the final map that contains the Project's 1,360th EDU, the City of Chula Vista or successor in interest shall coordinate with the City of San Diego to implement this improvement.

Roadway Segments

City of Chula Vista

Under the Year 2020 scenario, the Project would result in a significant cumulative impact to six Chula Vista roadway segments (Impacts 5.3-6a through 5.3-6f). Cumulative impacts to roadway segments in Chula Vista in the Year 2020 scenario will be mitigated by implementing Mitigation Measure 5.3-3.

2. Year 2025

a. Access and Frontage

According to Chapter 12.24 of the City's Municipal Code, access related impacts would occur if access and frontage improvements are not provided concurrent with development. Therefore, in 2025, the Project could result in potentially significant impacts related to access and frontage

(Impact 5.3-7). Implementation of Mitigation Measure 5.3-7 would reduce impacts to less than significant levels:

5.3-7 Construction of Street "E" between Village 9 Street "B" and Eastlake Parkway. Prior to the issuance of the final map that contains the 3,565th EDU, the City of Chula Vista or successor of interest shall construct Street "E" between Village 9 Street "B" and Eastlake Parkway, in accordance with City Ordinances.

Potential Mitigation Measures (if not Completed by Others by 3,565th EDU)

Anticipated 2025 Roadway Improvements: The traffic analysis assumed certain roadway improvements to be in place prior to commencement of each study scenario. These assumed roadways were taken into account due to other Otay Ranch communities planned for development in the Project's study area. The traffic analysis assumes the following roadway improvements to be in place prior to commencement of the Year 2025 scenario and based on the fact that they are City CIP projects, as further described below. If these improvements are not in place prior to each of the respective scenarios, as assumed, the Project would be required to complete these improvements to ensure to no additional potentially significant impacts (other than those stated in this section) would occur.

- Eastlake Parkway between Main Street/Hunte Parkway and Discovery Falls Road as a Class II Collector.

- Discovery Falls Drive, between Hunte Parkway and Village 9 Street "B".

As mentioned previously in the Year 2020 mitigation measures, if the first final map or development in the Year 2025 scenario (3,565 EDUs) is submitted for approval prior to the above improvements being constructed and open to traffic, then one of the following three steps shall be taken as determined to the satisfaction of the City Engineer. The City of Chula Vista will make every effort to coordinate improvements outside of their jurisdiction with the appropriate agencies.

- Development in the UID shall stop until those assumed future roadways are constructed by others; or

- The applicant shall secure or construct the incomplete roadway segments. A number of factors, including changes to the tolling structure at SR-125, may affect the traffic patterns in the Otay Ranch. Additional traffic analysis of the roadway network and levels of service assessment may be necessary to determine if such improvements are necessary and the scope and timing of additional circulation improvements; or

- The City of Chula Vista or successor in interest shall construct the missing roadway links and receive a TDIF credit for those improvements as applicable.

Intersections

City of Chula Vista

Under the Year 2025 scenario, the Project would result in a significant direct impact to three Chula Vista intersections (Impacts 5.3-8a through 8c). In addition to Mitigation Measure 5.3-2 identified for 2020, which would mitigate the 2025 impact identified at Birch Road/La Media Road Intersection (Impact 5.3-8c), the following measures would be required:

5.3-8a **Proctor Valley Road/San Miguel Ranch Road Intersection**: Installation of a traffic signal at this intersection will fully mitigate the corresponding impact to less than significant. The City of Chula Vista or successor in interest shall coordinate with the County of San Diego to construct a traffic signal at this intersection, if this improvement has not been built by others, prior to the construction issuance of the final map that contains the of the Project's 3,565th EDU.

5.3-8b **Birch Road/Eastlake Parkway Intersection:** Prior to the issuance of the final map that contains the 3,565th EDU, the applicant shall secure or construct the Main Street connection between Heritage Road and Eastlake Parkway. Since this improvement includes the construction of a major 6-lane road and a 6-lane bridge, it is beyond the scope of a single development project. If this improvement is not in place by the issuance of the final map that contains the 3,565th EDU, the Project would be required to implement the "Anticipated 2025 Roadway Improvements."

Under the Year 2025 scenario, the Project would result in a significant cumulative impact to 15 Chula Vista intersections (Impacts 5.3-9a through 5.3-9o). Implementation of Mitigation Measure 5.3-3 would reduce impacts to less than significant levels.

County of San Diego

Under the Year 2025 scenario, the Project would result in a significant direct impact to Proctor Valley Road/San Miguel Road intersection (Impact 5.3-10). Implementation of Mitigation Measure 5.3-10 would be required to reduce significant impacts:

5.3-10 **Proctor Valley Road/San Miguel Road Intersection:** The City of Chula Vista or successor in interest shall coordinate with the County of San Diego to construct a traffic signal and associated improvements to this intersection prior to the issuance of the final map that contains the Project's 3,565th EDU.

City of San Diego/Caltrans

Under the Year 2025 scenario, the Project would result in a significant cumulative impact to Palm Avenue/I-805 SB Ramps and Palm Avenue/I-805 NB Ramps intersections (Impacts 5.3-11a and 5.3-11b). Implementation of Mitigation Measures 5.3-4a and 5.3-4b above would reduce impacts to less than significant levels.

City of San Diego

Under the Year 2025 scenario, the Project would result in a significant cumulative impact to Avenida De Las Vistas/Heritage Road and Heritage Road/Otay Mesa Road intersections (Impacts 5.3-12a and 5.3-12b). Implementation of Mitigation Measures 5.3-12a and 5.3-12b would reduce impacts to less than significant levels:

5.3-12a **Avenida De Las Vistas/Heritage Road Intersection:** The City of Chula Vista or successor in interest shall coordinate with the City of San Diego to construct a traffic signal and associated improvements to this intersection prior to the issuance of the final map that contains the Project's 3,565th EDU

5.3-12b **Heritage Road/Otay Mesa Road Intersection:** The City of Chula Vista or successor in interest shall coordinate with the City of San Diego to install a WB right-turn overlap phase prior to the construction of the Project's 3,565th EDU.

Roadway Segments

City of Chula Vista

Under the Year 2025 scenario, the Project would result in a significant direct impact to three Chula Vista roadway segments (Impacts 5.3-13a through 5.3-13c). Implementation of Mitigation Measures 5.3-13a through 5.3-13c would reduce impacts to less than significant levels:

5.3-13a **Olympic Parkway from Heritage Road to Santa Venetia Street:** Prior to the issuance of the final map that contains the 3,565th EDU, the applicant shall secure or construct the Main Street connection between Heritage Road and Eastlake Parkway. Since this improvement includes the construction of a major 6-lane road and a 6-lane bridge, it is beyond the scope of a single development project. If this improvement is not in place by the issuance of the final map that contains the 3,565th EDU, the Project would be required to implement the "Anticipated 2025 Roadway Improvements."

5.3-13b **Olympic Parkway from E. Palomar Street to SR-125:** Prior to the issuance of the final map that contains the 3,565th EDU, the applicant shall secure or construct the Main Street connection between Heritage Road and Eastlake Parkway. Since this improvement includes the construction of a major 6-lane road and a 6-lane bridge, it is beyond the scope of a single development project. If this improvement is not in place by the issuance of the final map that contains the 3,565th EDU, the Project would be required to implement the "Anticipated 2025 Roadway Improvements."

5.3-13c **Birch Road from SR-125 to Eastlake Parkway:** Prior to the issuance of the final map that contains the 3,565th EDU, the applicant shall secure or construct the Main Street connection between Heritage Road and Eastlake Parkway Since this improvement includes the construction of a major 6-lane road and a 6-lane bridge, it is beyond the scope of a single development project. If this improvement is not in place by the issuance of the final map that contains the 3,565th EDU, the Project would be required to implement the "Anticipated 2025 Roadway Improvements."

Under the Year 2025 scenario, the Project would result in a significant cumulative impact to seven Chula Vista roadway segments (Impacts 5.3-14a through 5.3-14g). Cumulative impacts to roadway segments in Chula Vista in the Year 2025 scenario will be mitigated by implementing Mitigation Measure 5.3-3.

3. Year 2030

Access and Frontage

According to Chapter 12.24 of the City's Municipal Code, access related impacts would occur if access and frontage improvements are not provided concurrent with development. Therefore, in 2030, the Project could result in potentially significant impacts related to access and frontage (Impact 5.3-15). Implementation of Mitigation Measure 5.3-15 would reduce impacts to less than significant levels:

5.3-15 The City of Chula Vista or successor in interest shall construct Street "C" between Village 9 Street "B" and Eastlake Parkway prior to construction of the 5,164th EDU within the UID.

Potential Mitigation Measures (if not Completed by Others by 5,164th EDU)

Anticipated 2030 Roadway Improvements: The traffic analysis assumed certain roadway improvements to be in place prior to commencement of each study scenario. These assumed roadways were taken into account due to other Otay Ranch communities planned for development in the Project's study area. The traffic analysis assumes the following roadway improvements to be in place prior to commencement of the Year 2030 scenario and based on the fact that they are City CIP projects, as further described below. If these improvements are not in place prior to each of the respective scenarios, as assumed, the Project would be required to complete these improvements to ensure to no additional potentially significant impacts (other than those stated in this section) would occur.

- Main Street, between SR-125 right-of-way (western boundary) and Eastlake Parkway is included as a 6-lane Gateway Street, consistent with the currently adopted Circulation Element.

- SR-125/Main Street interchange is included, consistent with the currently adopted Circulation Element.

- SR-125/Otay Valley Road half interchange (south only) is included.

As mentioned previously in the Year 2020 and 2025 mitigation measures, if the first final map or development in the Year 2030 scenario (5,164 EDUs) is submitted for approval prior to the above improvements being constructed and open to traffic, then one of the following three steps shall be taken as determined to the satisfaction of the City Engineer. The City of Chula Vista or successor in interest will make every effort to coordinate improvements outside of their jurisdiction with the appropriate agencies.

- Development in the UID shall stop until those assumed future roadways are constructed by others; or

- The applicant shall secure or construct the incomplete roadway segments. A number of factors, including changes to the tolling structure at SR-125, may affect the traffic patterns in the Otay Ranch. Additional traffic analysis of the roadway network and levels of service assessment may be necessary to determine if such improvements are necessary and the scope and timing of additional circulation improvements; or

- The City of Chula Vista or successor in interest shall construct the missing roadway links and receive TDIF fee credit for those improvements as applicable.

Intersections

City of Chula Vista

Under the Year 2030 scenario, the Project would result in a significant direct impact to three Chula Vista intersections (Impacts 5.3-16a through 16c). In addition to Mitigation Measure 5.3-10 identified for 2025, which would mitigate the 2030 impact (Impact 5.3-16c) identified at Proctor Valley Road/San Miguel Road Intersection, implementation of Mitigation Measures 5.3-16a and 5.3-16b would reduce impacts to less than significant levels:

5.3-16a **Main Street/I-805 NB Ramps Avenue Intersection:** Improvements at this interchange are included in the Western TDIF program. Therefore, this impact is considered fully mitigated.

5.3-16b **Village 9 Street "B"/Village 9 Street "C" Intersection:** The City of Chula Vista or successor in interest shall construct a westbound right-turn lane on Village 9 Street "C" if this improvement is not in place prior to the construction of the final map that contains the Project's 5,164th DU.

Under the Year 2030 scenario, the Project would result in a significant cumulative impact to three Chula Vista intersections (Impacts 5.3-17a through 5.3-17c). Cumulative impacts to intersections in Chula Vista in the Year 2030 scenario will be mitigated by implementing Mitigation Measure 5.3-3.

County of San Diego

Under the Year 2030 scenario, the Project would result in a significant direct impact to Proctor Valley Road/San Miguel Road (Impact 5.3-18). Mitigation Measure 5.3-10 identified for 2025 would mitigate the 2030 impact to this intersection.

Under the Year 2030 scenario, the Project would result in a significant cumulative impact to Bonita Road/San Miguel Road (Impact 5.3-19). Implementation of Mitigation Measure 5.3-19 would mitigate the impact to this intersection.

5.3-19 The City of Chula Vista or successor in interest shall coordinate with the County of San Diego and provide payment of the San Diego County Traffic Impact Fee (TIF) prior to the issuance of the final map that contains the Project's 5,164th EDU.

City of San Diego/Caltrans

Under the Year 2030 scenario, the Project would result in a significant cumulative impact to two City of San Diego/Caltrans intersections (Impacts 5.3-20a and 5.3-20b). Implementation of Mitigation Measures 5.3-4a and 5.3-4b identified above in 2020 would reduce impacts to the Palm Avenue/I-805 SB Ramps Intersection and the Palm Avenue/I-805 NB Ramps Intersection in 2030, respectively.

City of San Diego

Under the Year 2030 scenario, the Project would result in a significant cumulative impact to the Avenida De Las Vistas/Heritage Road and Heritage Road/Otay Mesa Road intersections (Impacts 5.3-21a and 5.3-21b). Implementation of Mitigation Measures 5.3-21a and 5.3-21b would reduce impacts to less than significant levels:

5.3-21a **Avenida De Las Vistas/Heritage Road:** The City of Chula Vista or successor in interest shall coordinate with the City of San Diego to construct a traffic signal and associated improvements to this intersection prior to the issuance of the final map that contains the Project's 5,164th EDU.

5.3-21b **Heritage Road/Otay Mesa Road:** The City of Chula Vista or successor in interest shall coordinate with the City of San Diego to construct a WB right-turn overlap phase prior to the issuance of the final map that contains the Project's 5,164th EDU.

Roadway Segments

City of Chula Vista

Under the Year 2030 scenario, the Project would result in a significant direct impact to ~~three~~ two Chula Vista roadway segments (Impacts 5.3-22a and 5.3-22b). Implementation of Mitigation Measures 5.3-22a and 5.3-22b would reduce impacts to less than significant levels:

5.3-22a **Main Street from I-805 to Oleander Avenue:** Prior to the issuance of the final map that contains the 5,164th EDU, the applicant shall secure or construct the Main Street/SR-125 interchange. Since this improvement includes the construction of a full interchange, it is beyond the scope of a single development project. If this improvement is not in place by the issuance of the final map that contains the 5,164th EDU, Mitigation Measure 5.3-21 would apply.

5.3-22b **Main Street from Oleander Avenue to Brandywine Avenue:** Prior to the issuance of the final map that contains the 5,164th EDU, the applicant shall secure or construct the Main Street/SR-125 interchange. Since this improvement includes the construction of a full interchange, it is beyond the scope of a single development project. If this

improvement is not in place by the issuance of the final map that contains the 5,164th EDU, Mitigation Measure 5.3-21 would apply.

Under the Year 2030 scenario, the Project would result in a significant cumulative impact to six Chula Vista roadway segments (Impacts 5.3-23a through 5.3-23f). Cumulative impacts to roadway segments in Chula Vista in the Year 2030 scenario will be mitigated by implementing Mitigation Measure 5.3-3.

4. Lake Property

Based on the conclusions in the 2001 EIR, traffic impacts from the Lake Property are assessed as potentially significant (Impact 5.3-24). An updated traffic analysis of the Lake Property was not included in the TIA for the UID because specific development plans are not currently available and uses assumed in the UID SPA Plan are similar or lower in density than those considered in the 2001 EIR. Implementation of Mitigation Measure 5.3-24 below, which is equivalent to Mitigation Measure 4.2.5.15 of the 2001 SEIR, would reduce impacts to less than significant levels:

5.3-24 **Subsequent Traffic Analysis for Lake Property.** Prior to the approval of any detailed development plans for the Lake Property, a detailed traffic study shall be conducted by a City-approved traffic consultant. Specific mitigation measures for traffic impacts associated with the Lake Property shall be required at that time, to the satisfaction of the City Engineer, including any improvements related to any necessary roadway segments, intersections, and ingress-egress to reduce impacts to below a level of significance and to comply with the City's GMOC standards.

5. Construction

Construction within the UID would occur until full buildout. Therefore, construction traffic would result in a temporary addition to operational traffic generated by the Project. As discussed above, operation of the Project would have the potential to generate substantial traffic during each traffic scenario (Year 2020, Year 2025, and Year 2030), and construction traffic would incrementally contribute to these impacts. Therefore, impacts from construction traffic would be significant (Impact 5.3-25). Implementation of Mitigation Measure 5.3-25 would reduce impacts to less than significant levels:

5.3-25 Prior to the commencement of construction activities at the Main Campus Property or Lake Property, a detailed traffic management plan shall be prepared by a City-approved traffic consultant. Specific measures to implement to maintain acceptable traffic conditions during construction shall be reviewed to the satisfaction of the City Engineer.

B. Congestion Management

The Project would have the potential to exceed level of service standards under the Existing Plus Project, Year 2020, Year 2025, and Year 2030 scenarios. Therefore, the Project would contribute to regional congestion and a potentially significant impact would occur related to level of service standards (Impact 5.3-26). Direct and cumulative congestion management impacts would be mitigated to less than significant levels through implementation of Mitigation Measures 5.3-1 through 5.3-25.

C. Air Traffic Patterns

No mitigation measures are required.

D. Road Safety

No mitigation measures are required.

E. Emergency Access

No mitigation measures are required.

5.3.6 Level of Significance After Mitigation

A. Traffic and Level of Service Standards

Impacts related to access and frontage (Impacts 5.3-1, 5.3-7, and 5.3-15) would be reduced to less than significant levels with implementation of Mitigation Measures 5.3-1, 5.3-7, and 5.3-15 because specific improvements would be required to be built or funding shall be secured prior to issuing final map approval at different phases throughout buildout of the Project. If the improvements are not built or if funding is not secured, then development of the Project would stop until they are built.

Direct and cumulative impacts to intersections and roadway segments (Impacts 5.3-2 through 5.3-6f, 5.3-8a through 5.3-14g, and 5.3-16a through 5.3-23f) would be reduced to less than significant levels with implementation of Mitigation Measures 5.3-2 through 5.3-6f, 5.3-8a through 5.3-14g, and 5.3-16a through 5.3-23f because the mitigation would require that specific intersection and roadway improvements be in place prior to issuing final map approval at different phases throughout buildout of the Project.

Potential traffic impacts related to the Lake Property (Impact 5.3-24) would be reduced to less than significant levels with implementation of Mitigation Measure 5.3-24; with mitigation, the Project applicant would be required to analyze and mitigate any traffic impacts associated with the Lake Property.

Potential traffic impacts during Project construction (Impact 5.3-25) would be reduced to less than significant levels with implementation of Mitigation Measure 5.3-25; with mitigation, the Project applicant would be required to obtain a City-reviewed and approved traffic management plan.

B. Congestion Management

Potentially significant impacts related to level of service standards (Impact 5.3-26) would be reduced to less than significant levels with implementation of Mitigation Measures 5.3-1 through 5.3-25 because the mitigation would require that specific improvements be built or funding be secured prior to issuing final map approval at different phases throughout buildout of the Project.

C. Air Traffic Patterns

Impacts associated with air traffic patterns would be less than significant without mitigation.

D. Road Safety

Impacts associated with road safety would be less than significant without mitigation.

E. Emergency Access

Impacts associated with emergency access would be less than significant without mitigation.

5.4 AIR QUALITY

This section describes existing air quality conditions of the Project site and surrounding region and evaluates the potential impacts to air quality due to the Project.

It is noted that, as recently confirmed by the California Supreme Court, impacts of the environment on a project (as opposed to impacts of a project on the environment) are beyond the scope of required CEQA review. (California Building Industry Assn. v. Bay Area Air Quality Management Dist. (2015) 62 Cal.4th 369, 392.) "[T]he purpose of an EIR is to identify the significant effects of a project on the environment, not the significant effects of the environment on the project." (Ballona Wetlands Land Trust v. City of Los Angeles (2011) 201 Cal. App. 4th 455, 473.)

The impacts discussion in this section related to the existing air quality are effects on the Project of pre-existing environmental hazards or conditions, and therefore "do not relate to environmental impacts under CEQA and cannot support an argument that the effects of the environment on the project must be analyzed in and EIR." Ballona, supra, 201 Cal. App. 4th at p. 475.) Nonetheless, an analysis of these impacts is provided for informational purposes and full disclosure.

This EIR tiers from the Previous Environmental Review Documents, as described in Chapter 2.0, *Introduction*. Section 5.5, *Air Quality*, of the 2013 SEIR analyzed the existing conditions, potential impacts, and mitigation measures related to the proposed land uses for the GDA/GDPA area, including a portion of the Main Campus Property. The 2013 SEIR identified a potentially significant and unavoidable impact related to consistency with the Regional Air Quality Strategy (RAQS) because growth assumptions for the GPA/GDPA would exceed the growth projection in the RAQS. A significant impact was also identified related to criteria air pollutant emissions from construction and operations of the proposed land uses. The 2013 SEIR determined that compliance with BMPs would reduce construction impacts to a less than significant level, but additional mitigation would be required at the project level for operational impacts. Section 4.8, *Air Quality*, of the 2001 SEIR addressed air quality impacts related to the Lake Property, and identified potentially significant and unavoidable impacts with mitigation measures. The analysis and discussion of air quality contained in the 2013 SEIR for the Main Campus Property and the 2001 SEIR for the Lake Property are incorporated by reference; however, new mitigation measures that are equivalent to or better than measures included in prior environmental review to address current air quality impacts are identified within this section.

Information contained in this section is based on the Project Air Quality and Greenhouse Gas Emissions Technical Report, prepared by HELIX in April 2016. The Air Quality and Greenhouse Gas Emissions Technical Report is provided as Appendix C to this EIR. The analysis in the air quality technical report also provides the basis for the Project AQIP, included as part of the UID SPA Plan, as it relates to criteria air pollutant emissions. The report updates the applicable information contained in the SEIRs.

5.4.1 Existing Conditions

A. Regulatory Framework

1. Federal

a. Clean Air Act

The Clean Air Act (CAA) of 1970 and the CAA Amendments of 1971 required the U.S. Environmental Protection Agency (USEPA) to establish National Ambient Air Quality Standards (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.

Current air quality standards are listed in Table 5.4-1, *Ambient Air Quality Standards*. 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.

Table 5.4-1 AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	California Standards	Federal Standards	
			Primary[a]	Secondary[b]
O_3	1 Hour	0.09 ppm (180 µg/m^3)	–	–
	8 Hour	0.070 ppm (137 µg/m^3)	0.070 ppm (137 µg/m^3)	Same as Primary
PM_{10}	24 Hour	50 µg/m^3	150 µg/m^3	Same as Primary
	AAM	20 µg/m^3	–	Same as Primary
$PM_{2.5}$	24 Hour	–	35 µg/m^3	Same as Primary
	AAM	12 µg/m^3	12.0 µg/m^3	15 µg/m^3
CO	1 Hour	20 ppm (23 mg/m^3)	35 ppm (40 mg/m^3)	–
	8 Hour	9.0 ppm (10 mg/m^3)	9 ppm (10 mg/m^3)	–
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m^3)	–	–
NO_2	AAM	0.030 ppm (57 µg/m^3)	0.053 ppm (100 µg/m^3)	Same as Primary
	1 Hour	0.18 ppm (339 µg/m^3)	0.100 ppm (188 µg/m^3)	–
SO_2	24 Hour	0.04 ppm (105 µg/m^3)	–	–
	3 Hour	–	–	0.5 ppm (1,300 µg/m^3)
	1 Hour	0.25 ppm (655 µg/m^3)	0.075 ppm (196 µg/m^3)	–
Lead	30-day Avg.	1.5 µg/m^3	–	–
	Calendar Quarter	–	1.5 µg/m^3	Same as Primary
	Rolling 3-month Avg.	–	0.15 µg/m^3	

Table 5.4-1 (cont.) AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	California Standards	Federal Standards	
			Primary[a]	Secondary[b]
Visibility Reducing Particles	8 Hour	Extinction coefficient of 0.23 per km – visibility ≥ 10 miles (0.07 per km – ≥30 miles for Lake Tahoe)	**No Federal Standards**	
Sulfates	24 Hour	25 µg/m^3		
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m^3)		
Vinyl Chloride	24 Hour	0.01 ppm (26 µg/m^3)		

Source: CARB 2015b.

O_3: ozone; ppm: parts per million; µg/m^3: micrograms per cubic meter; PM_{10}: large particulate matter; AAM: Annual Arithmetic Mean; $PM_{2.5}$: fine particulate matter; CO: carbon monoxide; mg/m^3: milligrams per cubic meter; NO_2: nitrogen dioxide; SO_2: sulfur dioxide; km: kilometer; –: No Standard.

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

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

Note: More detailed information in the data presented in this table can be found at the CARB website (www.arb.ca.gov).

The CAA (and its subsequent amendments) requires each state to prepare an air quality control plan referred to as the State Implementation Plan (SIP). The CAA Amendments dictate that states containing areas violating the NAAQS revise their SIPs to include extra control measures to reduce air pollution. The SIP includes strategies and control measures to attain the NAAQS by deadlines established by the CAA. The SIP is 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 EPA has the responsibility to review all SIPs to determine if they conform to the requirements of the CAA.

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 California Air Resources Board (CARB), a part of the California EPA (CalEPA) is responsible for the coordination and administration of both federal and state air pollution control programs within California, including setting the California ambient air quality standards (CAAQS). CARB also conducts research, compiles emission inventories, develops suggested control measures, and provides oversight of local programs.

The CARB 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. It also sets fuel specifications to further reduce vehicular emissions. The CARB also has primary responsibility for the development of California's SIP, for which it works closely with the federal government and the local air districts.

In addition to standards set for the criteria pollutants, the state has set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles (see Table 5.4-1). These standards are designed to protect the health and welfare of the populace with a reasonable margin of safety. Further, in addition to primary and secondary CAAQS, the state has established a set of episode criteria for ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, and particulate matter. These criteria refer to episode levels representing periods of short-term exposure to air pollutants that actually threaten public health.

b. Toxic Air Contaminants

The public's exposure to toxic air contaminants (TACs) is a significant public health issue in California. In 1983, the California Legislature enacted a program to identify the health effects of TACs and to reduce exposure to these contaminants to protect the public health (Assembly Bill [AB] 1807: Health and Safety Code Sections 39650-39674). The Legislature established a two-step process to address the potential health effects from TACs. The first step is the risk assessment (or identification) phase. The second step is the risk management (or control) phase of the process.

Diesel-exhaust particulate matter emissions have since been established as TACs. Following the identification of diesel particulate matter as an air toxic in 1998, the CARB has worked on developing strategies and regulations aimed at reducing the risk from diesel particulate matter. The overall strategy for achieving these reductions is found in the Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel Fueled Engines and Vehicles (CARB 2000). A stated goal of the plan is to reduce the cancer risk statewide arising from exposure to diesel particulate matter by 85 percent by 2020. A number of programs and strategies to reduce diesel particulate matter that have been or are in the process of being developed include:

The Carl Moyer Program: This program, administered by the CARB, was initially approved in February 1999 and is regularly updated. The most recent program guidelines are the 2011 Carl Moyer Program Guidelines, approved in April 2011 and updated in December 2015. It provides grants to private companies, public agencies, or individuals operating heavy-duty diesel engines to cover an incremental portion of the cost of cleaner on-road, off-road, marine, locomotive, and agricultural irrigation pump engines.

California Diesel Fuel Regulations: The California Diesel Fuel Regulations (California Code of Regulations [CCR] Title 13, Sections 2281-2285 and CCR Title 17, Section 93114) set limits on the aromatic hydrocarbon and sulfur content for diesel fuel marketed in California. Under these rules, starting in June 2006 in accordance with the phase-in schedule, vehicular diesel fuel must not have a sulfur content that exceeds 15 parts per million (ppm) by weight. The regulations also specify that on or after October 1, 1993, the aromatic hydrocarbon content of vehicular diesel fuel must not exceed 10 percent by volume.

On-Road Heavy-Duty Diesel New Engine Program: This program develops strategies and regulations to reduce diesel emissions from new on-road diesel-powered equipment. Emission control regulations have been coordinated with the EPA and require that new engines manufactured in and subsequent to 2004 meet new emissions requirements for particulates and other pollutants.

Heavy-Duty Diesel In-Use Strategies Program: The goal of this program is to develop and implement strategies for reducing diesel emissions from existing on and off-road diesel engines. The Retrofit Assessment section is responsible for the development and implementation of procedures for assessing, recommending, and approving emission control devices. The Retrofit Implementation section is responsible for developing plans for retrofitting on- and off-road engines with emission reducing technologies. To date plans being developed or implemented have targeted solid waste collection vehicles, on-road heavy-duty public fleet vehicles, and fuel delivery trucks. Generally, these plans require that a percentage of the fleet, based on age of the vehicles, be retrofitted on a predetermined schedule.

Other programs include:

Off-Road Mobile Sources Emission Reduction Program: The goal of this program is to develop regulations to control emissions from diesel, gasoline, and alternative-fueled off-road mobile engines. These sources include a range of equipment from lawn mowers to construction equipment to locomotives.

Heavy-Duty Vehicle Inspection and Periodic Smoke Inspection Program: This program provides periodic inspections to ensure that truck and bus fleets do not emit excessive amounts of smoke.

Lower-Emission School Bus Program: Under this program, and in coordination with the California Energy Commission, the CARB is developing guidelines to provide criteria for the purchase of new school buses and the retrofit of existing school buses to reduce particulate matter emissions.

In addition, the CARB Land Use Handbook recommends maintaining a 500-foot buffer between sensitive land uses (such as residences and schools) and freeways. As an ongoing process, the CARB continues to establish new programs and regulations for the control of diesel particulate emissions as appropriate. The continued development and implementation of these programs and policies ensures that public exposure to diesel particulate matter will continue to decline.

c. California Health and Safety Code Section 41700

This section of the Health and Safety Code 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 applies to sources of objectionable odors.

d. California Code of Regulations, Title 24, Part 6

California Code of Regulations Title 24 Part 6: California's Energy Efficiency Standards for Residential and Nonresidential Buildings were first established in 1978 in response to a legislative mandate to reduce California's energy consumption. Energy-efficient buildings require less electricity, natural gas, and other fuels. Electricity production from fossil fuels and on-site fuel combustion (typically for water heating) results in GHG emissions.

The Title 24 standards are updated approximately every three years to allow consideration and possible incorporation of new energy efficiency technologies and methods. The latest update to the Title 24 standards occurred in 2013 and went into effect July 2014. This update increases energy efficiency requirements by 25 to 30 percent compared to the 2008 Title 24 standards. The next scheduled update in 2016 will continue to improve upon the current 2013 Standards for new construction of, and additions and alterations to, residential and nonresidential buildings. The 2016 Standards will go into effect on January 1, 2017 (California Energy Commission [CEC] 2015).

e. California Green Building Standards Code

The California Green Building Standards Code (24 CCR, Part 11) is a code with mandatory requirements for new residential and nonresidential buildings (including buildings for retail, office, public schools and hospitals) throughout California. The current version of the code went into effect on July 1, 2014, and includes energy efficiency updates resulting in energy usage reductions of 25 percent for residential buildings and 30 percent for nonresidential building (CEC 2012). The code is Part 11 of the California Building Standards Code in Title 24 of the CCR and is also known as the CALGreen Building Standards Code (California Building Standards Code [CBSC] 2014a). The next update of the CALGreen Building Code (2016) is scheduled to go into effect on January 1, 2017 (CBSC 2014b).

The development of the CALGreen Code is intended to (1) cause a reduction in GHG emissions from buildings; (2) promote environmentally responsible, cost-effective, healthier places to live and work; (3) reduce energy and water consumption; and (4) respond to the directives by the Governor. In short, the code is established to reduce construction waste; make buildings more efficient in the use of materials and energy; and reduce environmental impact during and after construction.

The CALGreen Code contains requirements for storm water control during construction; construction waste reduction; indoor water use reduction; material selection; natural resource conservation; site irrigation conservation; and more. The code provides for design options allowing the designer to determine how best to achieve compliance for a given site or building condition. The code also requires building commissioning, which is a process for the verification that all building systems, like heating and cooling equipment and lighting systems, are functioning at their maximum efficiency.

3. Local

a. San Diego County Regional Air Quality Strategy and State Implementation Plan

The SDAPCD is the local agency responsible for the administration and enforcement of air quality regulations for San Diego County. The SDAPCD regulates most air pollutant sources, except for motor vehicles, marine vessels, aircrafts, and agricultural equipment, which are regulated by the CARB or the EPA. 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. Additionally, the SDAPCD, along with the CARB, maintains and operates ambient air quality monitoring stations at numerous locations throughout San Diego County. These stations are used to measure and monitor criteria and toxic air pollutant levels in the ambient air.

The SDAPCD and the 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 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 state air quality standards 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 national air quality standards for the basin.

The RAQS relies on information from CARB and SANDAG, including mobile and area source emissions, as well as information regarding projected growth in the county, to project future emissions and then establish the strategies necessary 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 by the County of San Diego as part of the development of the County's General Plan. As such, projects that propose development that is consistent with the growth anticipated by the general plans would be consistent with the RAQS. In the event that a project would propose development which is less dense than anticipated within the general plan, the project would likewise be consistent with the RAQS. If a project proposes development that is greater than that anticipated in the general plan and SANDAG's growth projections, the project might be in conflict with the RAQS and SIP, and might have a potentially significant impact on air quality.

The SIP relies on the same information from SANDAG to develop emission inventories and emission reduction strategies that are included in the attainment demonstration for the air basin. The SIP also includes rules and regulations that have been adopted by the SDAPCD to control emissions from stationary sources. 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.

b. City of Chula Vista General Plan and Growth Management Ordinance

Included in the Chula Vista General Plan is the GMO. Air quality is identified as an important part of the quality of life in Chula Vista and one of the stated policies of the element (Policy GM 4.4) adapts City regulations to meet federal and state air quality standards. In addition, the GMO (Municipal Code Section 19.09.050B) requires that an AQIP be prepared for all major development projects (50 dwelling units or greater) as part of the SPA Plan process. The AQIP for the Project must comply with the City AQIP guidelines. Copies of the AQIP Guidelines are available at the City of Chula Vista Planning and Building Department.

c. City of Chula Vista General Plan

The Environmental Element of the Chula Vista General Plan contains Objective E 6 and its multiple supporting policies to improve local air quality by minimizing the production and emission of air pollutants and TACs, and limit the exposure of people to such pollutants. Specifically, Objective E 6 is to improve local air quality by minimizing the production and emissions of air pollutants and toxic air contaminants and limit the exposure of people to such pollutants. Supporting policies include encouraging compact development (E 6.1), facilitating

transit (E 6.2), avoiding siting sensitive receptors near major toxic sources (E 6.4 and E 6.10), developing strategies to minimize carbon monoxide hot spots that address all modes of transportation (E 6.11); and siting industries in a way that minimizes the potential impacts of poor air quality on homes, schools, hospitals, and other land uses where people congregate (E 6.15). Policy E 6.10 requires a Health Risk Assessment (HRA) for new sensitive receptors proposed to be located within 500 feet of a highway.

d. Otay Ranch General Development Plan

Part II, Chapter 6, Section C of the GDP establishes goals to minimize the adverse impacts of development on air quality including creating a safe and efficient multi-modal transportation network which minimizes the number and length of single passenger vehicle trips.

- Objective: Minimize the number and length of single passenger vehicle trips to and from employment and commercial centers to achieve an average of 1.5 persons per passenger vehicle during weekday commute hours.

- Policies:

    - Encourage, as appropriate, alternative transportation incentives offered to employees, alternative work hour programs, alternative transportation promotional materials, information on car pool and van pool matching services, transit pass information, space for car-pool and van-pool-riders-wanted advertisements, information about transit and rail service, as well as information about bicycle facilities, routes, storage, and location of nearby shower and locker facilities.

    - Promote telecommuting and teleconferencing programs and policies in employment centers.

    - Establish or participate in education-based commute programs, which minimize the number and length of single passenger vehicle trips.

    - Provide on-site amenities in commercial and employment centers to include childcare facilities, post offices, banking services, cafeterias/delis/restaurants, etc.

e. SDAPCD Particulate Matter Reduction Measures

In addition to the RAQS and SIP, the SDAPCD adopted the "Measures to Reduce Particulate Matter in San Diego County" report in December 2005. This report is based on particulate matter reduction measures adopted by CARB. The SDAPCD evaluated CARB's list of measures and found that the majority were already being implemented in San Diego County. As a result of the evaluation, SDAPCD proposed measures for further evaluation to reduce particulate emissions from residential wood combustion and from fugitive dust from construction sites and unpaved roads. The SDAPCD requires that construction activities implement the measures listed in Rule 55 to minimize fugitive dust emissions. Rule 55 requires the following:

1. No person shall engage in construction or demolition activity in a manner that discharges visible dust emissions into the atmosphere beyond the property line for a period or periods aggregating more than 3 minutes in any 60-minute period.

2. Visible roadway dust as a result of active operations, spillage from transport trucks, erosion, or track-out/carry-out shall be minimized by the use of any of the equally effective trackout/carry-out and erosion control measures listed in Rule 55 that apply to the Project or operation. These measures include track-out grates or gravel beds at each egress point; wheel-washing at each egress during muddy conditions; soil binders, chemical soil stabilizers, geotextiles, mulching, or seeding; watering for dust control; and using secured tarps or cargo covering, watering, or treating of transported material for outbound transport trucks. Visible roadway dust must be removed at the conclusion of each work day when active operations cease, or every 24 hours for continuous operations.

f. Other APCD Rules and Regulations

The SDAPCD adopted Rule 67, Architectural Coatings, in December 2001, which establishes volatile organic compounds (VOC) content limits for architectural coatings. Additionally, APCD Rule 1210 implements the public notification and risk reduction requirements of the State Air Toxics "Hot Spots" Act, and requires facilities to reduce risks to acceptable levels within five years. Rule 1200 establishes acceptable risk levels, and emission control requirements for new and modified facilities that may emit additional TACs. Rule 51 also prohibits nuisances, including objectionable odors.

B. Existing Air Quality

1. Criteria Pollutants

a. Attainment Designations

The SDAB is classified as a marginal nonattainment area for the 8-hour NAAQS for ozone. The SDAB currently falls under a national "maintenance plan" for CO. The SDAB is currently classified as a nonattainment area under the CAAQS for ozone (serious nonattainment), PM_{10}, and $PM_{2.5}$. The SDAB is an attainment area for all other criteria pollutants.

b. Monitored Air Quality

The SDAPCD operates a network of ambient air monitoring stations throughout the County. The purpose of the monitoring stations is to measure ambient concentrations of the pollutants and determine whether the ambient air quality meets the CAAQS and the NAAQS. The nearest ambient monitoring stations to the Project site is the Chula Vista monitoring station located at 80 East J Street. Air quality data for are shown in Table 5.4-2, *Air Quality Monitoring Data*.

Monitoring data presented below shows acceptable levels of the criteria air pollutants ozone (1-hour), PM_{10}, $PM_{2.5}$, and NO_2 for 2013 to 2015. The state 8-hour ozone standard was violated once in 2014. The federal 8-hour ozone standard was violated once in 2012.

Table 5.4-2 AIR QUALITY MONITORING DATA

Pollutant	2013	2014	2015
Ozone (O_3)			
Maximum 1-hour concentration (ppm)	0.073	0.093	0.088
Days above 1-hour state standard (>0.09 ppm)	0	0	0
Maximum 8-hour concentration (ppm)	0.063	0.072	0.067
Days above 8-hour state standard (>0.070 ppm)	0	1	0
Days above 8-hour federal standard (>0.075 ppm)	0	0	0
Respirable Particulate Matter (PM_{10})			
Maximum 24-hour concentration ($\mu g/m^3$)	40.0	39.0	45.0
Days above state standard (>50 $\mu g/m^3$)	0	0	0
Days above federal standard (>150 $\mu g/m^3$)	0	0	0
Fine Particulate Matter ($PM_{2.5}$)			
Maximum 24-hour concentration ($\mu g/m^3$)	21.9	26.5	33.5
Days above federal standard (>35 $\mu g/m^3$)	0	0	0
Nitrogen Dioxide (NO_2)			
Maximum 1-hour concentration (ppm)	0.057	0.055	0.049
Days above state 1-hour standard (0.18 ppm)	0	0	0

Source: CARB 2016b.
ppm = parts per million, $\mu g/m^3$ = micrograms per cubic meter

2. Greenhouse Gases

The CARB performs statewide GHG inventories. The inventory is divided into six broad sectors; agriculture and forestry, commercial, electricity generation, industrial, residential, and transportation. Emissions are quantified in million metric tons (MMT) of carbon dioxide equivalent (CO_2e). Table 5.4-3, *California Greenhouse Gas Emissions by Sector*, shows the estimated statewide GHG emissions for the years 1990, 2000, 2010, and 2013.

Table 5.4-3 CALIFORNIA GREENHOUSE GAS EMISSIONS BY SECTOR (MMT CO_2e)

Sector	1990	2000	2010	2013
Agriculture and Forestry	23.6 (5%)	32.1 (7%)	34.5 (8%)	36.2 (8%)
Commercial	14.4 (3%)	15.0 (3%)	21.6 (5%)	22.6 (5%)
Electricity Generation	110.6 (26%)	105.2 (22%)	90.5 (20%)	90.6 (20%)
Industrial	103.0 (24%)	105.4 (22%)	102.7 (23%)	104.2 (23%)
Residential	29.7 (7%)	31.8 (7%)	32.2 (7%)	32.3 (7%)
Transportation	150.7 (35%)	178.1 (38%)	173.7 (38%)	172.5 (38%)
Unspecified Remaining	1.3 (<1%)	1.2 (<1%)	0.8 (<1%)	0.8 (<1%)
TOTAL	**433.3**	**468.8**	**456.0**	**459.3**

Source: CARB 2007 and CARB 2015a

As shown in Table 5.4-3, statewide GHG emissions totaled 433 MMT CO_2e in 1990, 469 MMT CO_2e in 2000, 456 MMT CO_2e in 2010, and 459 MMT CO_2e in 2013. Transportation-related emissions consistently contribute the most GHG emissions, followed by electricity generation and industrial emissions. Impacts related to Project GHG emissions are analyzed in Section 5.10, *Global Climate Change*, of this EIR.

3. San Diego County

A San Diego regional emissions inventory was prepared by the University of San Diego (USD) School of Law, Energy Policy Initiative Center (EPIC) that took into account the unique characteristics of the region. Their 2010 emissions inventory for San Diego is duplicated below in Table 5.4-4, *San Diego County Greenhouse Gas Emissions by Sector*. The sectors included in this inventory are somewhat different from those in the statewide inventory.

Similar to the statewide emissions, transportation-related GHG emissions contributed the most countywide, followed by emissions associated with energy use. Impacts related to Project GHG emissions are analyzed in Section 5.10, *Global Climate Change*, of this EIR.

Table 5.4-4 SAN DIEGO COUNTY GREENHOUSE GAS EMISSIONS BY SECTOR (MMT CO_2e)

Sector	2010
On-Road Transportation	14.4 (43%)
Electricity	8.3 (25%)
Natural Gas Consumption	2.9 (9%)
Off-Road Equipment and Vehicles	1.4 (4%)
Civil Aviation	1.9 (6%)
Waste	0.6 (2%)
Industrial	1.8 (5%)
Water-Borne Navigation	0.1 (<1%)
Rail	0.3 (1%)
Agriculture/Forestry/Land Use	0.5 (2%)
Other	1.6 (5%)
Sequestration	-0.7 (-2%)
TOTAL	**33.2**

Source: USD 2013

4. City of Chula Vista

To help guide implementation of the Climate Action Plan (CAP), the City regularly conducts GHG emission inventories. Table 5.4-5, *Chula Vista Greenhouse Gas Emissions*, shows the estimated city-wide GHG emissions for the years 1990, 2005, and 2012. Impacts related to Project GHG emissions are analyzed in Section 5.10, *Global Climate Change*, of this EIR.

Table 5.4-5 CHULA VISTA GREENHOUSE GAS EMISSIONS (MT CO_2e)

Source	1990	2005	2012
Transportation	340,090	322,293	400,133
Energy	416,575	480,950	503,936
Solid Waste	80,895	87,621	65,610
Potable Water	*	46,951	43,014
Waste Water	9,607	15,457	17,719
TOTAL	**847,166**	**953,272**	**1,030,412**

Source: City of Chula Vista 2012
* = Not Available; MT = metric ton

5.4.2 Thresholds of Significance

According to Appendix G of the State CEQA Guidelines and related City criteria, a project would have a significant environmental impact related to air quality if it would:

- **Threshold 1:** Conflict with or obstruct implementation of the applicable air quality plan.
- **Threshold 2:** Violate any air quality standard or contribute substantially to an existing or projected air quality violation.
- **Threshold 3:** Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).
- **Threshold 4:** Expose sensitive receptors (i.e., day care centers, schools, retirement homes, and hospitals or medical patients in residential homes which could be impacted by air pollutants) to substantial pollutant concentrations.
- **Threshold 5:** Create objectionable odors affecting a substantial number of people.

To determine whether a project would (a) result in emissions that would violate any air quality standard or contribute substantially to an existing or projected air quality violation, or (b) result in a cumulatively considerable net increase of PM_{10} or exceed quantitative thresholds for ozone precursors (i.e., oxides of nitrogen [NO_X] and VOCs), Project emissions may be evaluated based on the quantitative emission thresholds established by the lead agency. The City of Chula Vista has not established specific numeric thresholds related to criteria air pollutants. The City relies, instead, on the significance thresholds established by the South Coast Air Quality Management District (SCAQMD). For this analysis, the calculated emissions of the Project are compared to the SCAQMD thresholds of significance for criteria pollutants for individual projects, provided in Table 5.4-6, *Significance Thresholds*. If the thresholds are exceeded by a proposed project, then the impact is considered significant.

Table 5.4-6 SIGNIFICANCE THRESHOLDS

Pollutant	Construction Emissions (pounds/day)	Operational Emissions (pounds/day)
Oxides of Nitrogen (NO_X)	100	55
Volatile Organic Compounds (VOC)	75	55
Respirable Particulate Matter (PM_{10})	150	150
Fine Particulate Matter ($PM_{2.5}$)	55	55
Oxides of Sulfur (SO_X)	150	150
Carbon Monoxide (CO)	550	550
Lead and Lead Compounds	3	3
Toxic Air Contaminants		
Excess Cancer Risk	1 in 1 million 10 in 1 million with T-BACT	
Non-Cancer Hazard	1.0	

Source: SCAQMD 2015.
T-BACT = Toxics-Best Available Control Technology

With regard to evaluating whether a project would have a significant impact on sensitive receptors, air quality regulators typically define sensitive receptors as schools (preschool through 12th grade), hospitals, resident care facilities, day-care centers, or other facilities that may house individuals with health conditions that would be adversely impacted by changes in air quality. Recreational land uses are considered moderately sensitive to air pollution. Although exposure periods are generally short, exercise places a high demand on respiratory functions, which can be impaired by air pollution. In addition, noticeable air pollution can detract from the enjoyment of recreation. Industrial, commercial, retail, and office areas are considered the least sensitive to air pollution. Exposure periods are relatively short and intermittent, because the majority of the workers tend to stay indoors most of the time. In addition, the working population is generally the healthiest segment of the public. Any project that has the potential to directly impact a sensitive receptor located within one-quarter mile and results in a health risk greater than 10 in 1 million would have a potentially significant impact.

The State of California Health and Safety Code Sections 41700 and 41705, and SDAPCD Rule 51, commonly referred to as public nuisance law, prohibits emissions from any source whatsoever in such quantities of air contaminants or other material, which cause injury, detriment, nuisance, or annoyance to the public health or damage to property. The provisions of these regulations do not apply to odors emanating from agricultural operations necessary for the growing of crops or the raising of fowl or animals. It is generally accepted that the considerable number of persons requirement in Rule 51 is normally satisfied when 10 different individuals/households have made separate complaints within 90 days. Odor complaints from a "considerable" number of persons or businesses in the area will be considered to be a significant, adverse odor impact.

Every use and operation shall be conducted so that no unreasonable heat, odor, vapor, glare, vibration (displacement), dust, smoke, or other forms of air pollution subject to APCD standards of particulate matter shall be discernible at the property line of the parcel upon which the use or operation is located.

Therefore, any unreasonable odor discernible at the property line of the Project site will be considered a significant odor impact.

5.4.3 Impact Analysis

A. Threshold 1: Conflict with or obstruct implementation of the applicable air quality plan.

The SDAPCD is required, pursuant to the federal CAA, to reduce emissions of criteria pollutants for which the SDAB is in nonattainment. Strategies to achieve these emissions reductions are developed in the RAQS and SIP, prepared by the SDAPCD for the region. Both the RAQS and SIP rely on information from CARB and SANDAG, including projected growth in the County, mobile, area and all other source emissions in order to project future emissions and determine from that the strategies necessary for the reduction of stationary source 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 by the County. As such, a project that proposes development consistent with the growth anticipated by the local general plan would be consistent with the RAQS. In the event that a proposes development which is less dense than anticipated within the local general plan, the Project would likewise be consistent with the RAQS. If a project proposes development that is greater than that anticipated in the local general plan and SANDAG's growth projections upon which the RAQS is based, the Project would be in conflict with the RAQS and SIP, and might have a potentially significant impact on air quality. This situation would warrant further analysis to determine if the Project and the surrounding projects exceed the growth projections used in the RAQS for the specific subregional area.

The City of Chula Vista General Plan has overarching development objectives and policies that specifically state that proposed development in this area is to be consistent with existing Otay Ranch GDP and SPA plans. The Project and associated off-site improvements are consistent with the Otay Ranch GDP. The Project is also subject to the existing P-C District zoning regulations, which apply to the Village Development Areas. The P-C zone requires the preparation of a SPA plan. The Project would provide for orderly pre-planning and long-term development because it includes a SPA Plan that will guide UID development. It implements an orderly preplanning for Project development through the implementation of approved site utilization plans and form-based code. The form-based code in the SPA Plan would implement regulations and standards that focus on the physical relationships between buildings, streets, and public spaces. This approaches the development of land by regulating the form, character, and street appearance of a building to focus attention on the public presentation of buildings, and creating a public setting that is comfortable for pedestrians. This approach also provides design standards for landscape zones, open space and recreational areas, lighting, parking areas, and signage. Based on the described conformance with applicable land use and zoning criteria, the Project would be in conformance with the General Plan and would therefore be consistent with the RAQS. Impacts associated with the RAQS would be less than significant.

B. Threshold 2: Violate any air quality standard or contribute substantially to an existing or projected air quality violation.

The Project would generate criteria pollutants in the short term during construction and the long term during operation. To determine whether a project would result in emissions that would violate any air quality standard or contribute substantially to an existing or projected air quality violation, a project's emissions are evaluated based on the quantitative emission thresholds established by the SCAQMD (as shown in Table 5.4-6).

1. Construction

Peak daily criteria pollutant emissions were estimated using the California Emissions Estimator Model (CalEEMod). In the absence of specific construction information for the Project, equipment types needed for all phases of construction are estimated by CalEEMod based on the size and subtypes of the land uses entered in the land use module. For "worst-case" modeling purposes, construction is assumed to begin in January 2017 and be completed in May 2030. If construction is delayed or occurs over a longer time period, emissions could be reduced because of (1) a more modern and cleaner-burning construction equipment fleet mix than incorporated in the CalEEMod, and/or (2) a less intensive buildout schedule (i.e., fewer daily emissions occurring over a longer time interval). Further, construction modeling takes into account several construction BMPs to reduce emissions. Details of phasing, selection of construction equipment, Project design features, construction best management practices, and other input parameters, including CalEEMod data, are included in Appendix A.

The results of the calculations for Project construction are shown in Table 5.4-7, *Daily Construction Emissions*. The data are presented as the maximum anticipated daily construction emissions for comparison with the SCAQMD thresholds.

Table 5.4-7 DAILY CONSTRUCTION EMISSIONS

Phase	Pollutant Emissions (pounds per day)					
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Site Preparation	5	52	40	<0.5	11	7
Grading	6	70	48	<0.5	8	5
Building Construction	22	101	270	1	40	12
Paving	1	8	15	<0.5	1	<0.5
Architectural Coatings	19	3	17	<0.5	6	2
Maximum Daily Emissions	22	101	270	1	40	12
Thresholds	*75*	*100*	*550*	*150*	*150*	*55*
Significant Impact?	*No*	*Yes*	*No*	*No*	*No*	*No*

Source: HELIX 2017.

Notes: Includes BMPs listed in the Air Quality and Greenhouse Gas Emissions Technical Report for the UID (HELIX 2016), which are also prescribed as Mitigation Measure 5.4-1 to ensure enforceability.

As shown in Table 5.4-7, emissions of all criteria pollutants, with the exception of NO_X, are below the SCAQMD daily thresholds. Due to the exceedance of the NO_X threshold, impacts are potentially significant (Impact 5.4-1).

2. Operation

To estimate the most conservative estimate for operational air quality emissions, the Project assumptions for the full buildout year (2030) were used in the analysis. The full buildout condition represents the greatest amount of vehicle trips and land use development. The major source of long-term operational air quality impacts from the Project would be emissions produced from Project-generated vehicle trips. Vehicle trip generation is based on the Project traffic study, which was prepared by LLG (2017). The projected ADT rate for the Project is 54,360 trips. The vehicle trip emissions account for internal capture from mixed-use development and the reduction in vehicle trips compared to similar developments that do not provide access to transit. A BRT stop is identified at the intersection of Campus Boulevard and Orion Avenue that would serve the Project site and nearby off-site residential and commercial areas. The projected ADT and vehicle trip length also take into account the TDM program included in the UID SPA Plan. The TDM includes strategies to reduce vehicle trips and miles traveled and to design a multi-modal transportation system, and establishes a Transportation Management Association to provide transportation services in a particular area to reduce vehicle miles and implement other TDM strategies. Pollutant emissions from vehicles were calculated using CalEEMod.

In addition to vehicle trips, the Project would emit pollutants from on-site area sources, such as landscape maintenance equipment; consumer products; and periodic repainting of interior and exterior surfaces (architectural coatings). Energy source emissions would be generated by the on-site burning of natural gas for space and water heating. The energy source assumptions include 25 percent increased efficiency beyond the CalEEMod default Title 24 standards (2008) to reflect the 2013 Title 24 standards (CEC 2012). This reduction was only applied to the portion of energy consumption regulated by Title 24.

The vehicular and area source emissions associated with operation of the Project are summarized in Table 5.4-8, *Daily Operational Emission*s. As shown therein, the Project would exceed the daily regional thresholds for CO, VOCs, NO_X, and PM_{10} during operation of the Project. Emissions are attributable primarily to vehicular trips, which would exceed the thresholds for VOCs, NO_X, and CO. However, area sources would also result in significant emissions of VOCs from consumer products and landscaping. Energy source emissions would combine with mobile source emissions to result in significant emissions of PM_{10}. Therefore, a significant impact would occur (Impact 5.4-2). The air quality technical report for the GPA/GDPA estimated emissions that would result from the increase in building potential accommodated by the GPA/GDPA compared to the previous GDP, including the increase in building potential in the UID. The findings in this report are consistent with the GPA/GDPA conclusion that significant impacts would occur.

Table 5.4-8 DAILY OPERATIONAL EMISSIONS

Emission Source	Pollutant Emissions (pounds/day)					
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Area	180	2	167	<1	1	1
Energy	4	40	31	<1	3	3
Mobile	105	124	784	2	147	41
TOTAL	**290**	**166**	**983**	**2**	**151**	**45**
Thresholds	*55*	*55*	*550*	*150*	*150*	*55*
Significant Impact?	*Yes*	*Yes*	*Yes*	*No*	*Yes*	*No*

Source: HELIX 2017.

C. Threshold 3: Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).

The region is a federal and/or state nonattainment area for PM_{10}, $PM_{2.5}$, and ozone. The Project would contribute particulates and the ozone precursors VOC and NO_X to the area during short-term Project construction (see discussion of Impact 5.4-1). Regional emissions during construction would not violate any air quality standard or contribute substantially to an existing or projected air quality violation with mitigation (see Section 5.4.6.B, Mitigation Measures 5.4-1a and 5.4-1b). Construction emissions with mitigation would be less than the significance thresholds (Table 5.4-9, *Daily Construction Emissions with Mitigation*) (see Section 5.4.7.B).

Table 5.4-9 DAILY CONSTRUCTION EMISSIONS WITH MITIGATION

Phase	Pollutant Emissions (pounds per day)					
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Site Preparation	5	52	40	<0.5	11	7
Grading	6	70	48	<0.5	8	5
Building Construction	21	87	271	1	39	12
Paving	1	8	15	<0.5	1	<0.5
Architectural Coatings	19	3	17	<0.5	6	2
Maximum Daily Emissions	21	87	271	1	39	12
Thresholds	*75*	*100*	*550*	*150*	*150*	*55*
Significant Impact?	*No*	*No*	*No*	*No*	*No*	*No*

Source: HELIX 2017.

As shown in the Project construction emissions evaluation, the emissions of NO_X, VOCs, PM_{10}, and $PM_{2.5}$ would be below significance levels. Short-term cumulative impacts related to air quality could occur if construction of the Project and other projects in the surrounding area were to occur simultaneously. In particular, with respect to localized impacts, the consideration of cumulative construction particulate (PM_{10} and $PM_{2.5}$) impacts is limited to cases when projects constructed simultaneously are within a few hundred yards of each other because of (1) the combination of the short range (distance) of particulate dispersion (especially when compared to gaseous pollutants) and (2) the SDAPCD's required dust control measures which further limit particulate dispersion

from a project site. Though it is possible multiple projects under the proposed Project and previously approved projects may undergo construction concurrently, none of the projects are expected to result in emissions greater than the peak daily construction scenario as analyzed above. As shown in Table 5.4-9, the peak daily construction scenario results in emissions of particulates that are 26 percent of the PM_{10} threshold and 22 percent of the $PM_{2.5}$ threshold. As such, Project construction is not anticipated to result in a cumulatively significant impact on air quality.

Long-term operational emissions, as shown above in Table 5.4-8, would exceed regional thresholds, and, therefore, be cumulatively considerable (Impact 5.4-3).

D. Threshold 4: Expose sensitive receptors (i.e., day care centers, schools, retirement homes, and hospitals or medical patients in residential homes which could be impacted by air pollutants) to substantial pollutant concentrations.

Impacts to sensitive receptors are typically analyzed for operational period CO hot spots and exposure to TACs. An analysis of the Project's potential to expose sensitive receptors to these pollutants is provided below.

1. Carbon Monoxide Hot Spots

Vehicle exhaust is the primary source of CO. In an urban setting, the highest CO concentrations are generally found within proximity to congested intersections. Under typical meteorological conditions, CO concentrations tend to decrease as distance from the emissions source (i.e., congested intersection) increase. Project-generated traffic has the potential of contributing to localized "hot spots" of CO off site. Because CO is a byproduct of incomplete combustion, exhaust emissions are worse when fossil-fueled vehicles are operated inefficiently, such as in stop-and-go traffic or through heavily congested intersections, where the LOS is severely degraded.

The CARB also recommends evaluation of the potential for the formation of locally high concentrations of CO, known as CO hot spots. A CO hot spot is a localized concentration of CO that is above the state or national 1-hour or 8-hour CO ambient air standards. To verify that the Project would not cause or contribute to a violation of the 1-hour and 8-hour CO standards, an evaluation of the potential for CO hot spots at nearby intersections was conducted.

The TIA (LLG 2017) evaluated whether there would be a change in the LOS at the intersections affected by the Project. The potential for CO hot spots was evaluated based on the results of the TIA. The Transportation Project-Level Carbon Monoxide Protocol ([Protocol] Caltrans 1998) was followed to determine whether a CO hot spot is likely to form due to Project-generated traffic. In accordance with the Protocol, CO hot spots are typically evaluated when: (a) the LOS of an intersection decreases to an LOS E or worse; (b) signalization and/or channelization is added to an intersection; and, (c) sensitive receptors, such as residences, schools, hospitals, etc., are located in the vicinity of the affected intersection or roadway segment.

According to the TIA, 12 intersections would operate at LOS E or F and experience an increase in delay from the Project:

- Bonita Road at San Miguel Road,
- Proctor Valley Road at San Miguel Road,
- Proctor Valley Road at San Miguel Ranch Road,
- Paseo Ranchero and Telegraph Canyon Road,
- La Media Road at Birch Road,
- SR-805 Southbound ramps at Main Street,
- SR-805 Northbound ramps at Main Street,
- Village 9 Street "B" at Village 9 Street "C",
- SR-805 Southbound ramps at Palm Avenue,
- SR-805 Northbound ramps at Palm Avenue,
- Heritage Road at Avenida de las Vistas, and
- Heritage Road at Otay Mesa Road.

Therefore, consistent with the CO Protocol, these findings indicate that further screening is required. Although the SDAPCD does not, various air quality agencies in California have developed conservative screening methods. The screening methods of the Sacramento Metropolitan Air Quality Management District (SMAQMD) are used for this Project because ambient CO concentrations within the SMAQMD jurisdiction are higher than for the Project area, as measured by CARB, resulting in a more conservative analysis. The SMAQMD states that a project would not result in a significant impact to local CO concentrations if it meets all of the below criteria:

- The affected intersection carries less than 31,600 vehicles per hour;
- The project does not contribute traffic to a tunnel, parking garage, bridge underpass, urban street canyon, below-grade roadway, or other location where horizontal or vertical mixing of air would be substantially limited; and
- The affected intersection, which includes a mix of vehicle types, is not anticipated to be substantially different from the County average, as identified by EMFAC or CalEEMod models (SMAQMD 2009).

The highest traffic volume at the affect intersections is estimated to be 6,850 vehicles at the intersection of Paseo Ranchero and Telegraph Canyon Road during the AM peak hour (LLG 2017). The intersection is not located in a tunnel, urban canyon, or similar area that would limit the mixing of air, nor is the vehicle mix anticipated to be substantially different than the County average. There would be no potential for a CO hot spot or exceedance of state or federal CO ambient air quality standard because the maximum traffic volume would be substantially less than the 31,600 vehicles per hour screening level; because the congested intersection is located where mixing of air would not be limited; and because the vehicle mix would not be uncommon. The impact would be less than significant.

2. Exposure to TACs

Construction activities would result in short-term, Project-generated emissions of diesel PM from the exhaust of off-road, heavy-duty diesel equipment. CARB identified diesel PM as a TAC in 1998. The dose to which receptors are exposed is the primary factor used to determine health risk. Dose is a function of the concentration of a substance or substances in the environment and the duration of exposure to the substance. Thus, the risks estimated for a maximally exposed individual (MEI) are higher if a fixed exposure occurs over a longer time period. According to the Office of Environmental Health Hazard Assessment, HRAs, which determine the exposure of sensitive receptors to TAC emissions, should be based on a 70-year exposure period; however, such assessments should be limited to the period/duration of activities associated with the Project.

There would be relatively few pieces of off-road, heavy-duty diesel construction equipment in operation, and the construction period would be relatively short, especially when compared to 70 years. Combined with the highly dispersive properties of diesel PM, distance from sensitive receptors, and additional reductions in exhaust emissions from improved equipment, construction-related emissions would not expose sensitive receptors to substantial emissions of TACs. The impact would be less than significant.

With regard to long-term operations, it is not currently known if any of the uses proposed by the Project would include any new sources of TACs. Subsequent projects that include new stationary sources (such as laboratory buildings) would need to analyze specific operation-related TAC impacts to ensure that emissions remain below SDAPCD thresholds. Due to the potential of individual projects to include new sources of TACs, implementation of the Project would result in potentially significant impacts related to TAC emissions (Impact 5.4-4).

E. Threshold 5: Create objectionable odors affecting a substantial number of people.

The State of California Health and Safety Code Sections 41700 and 41705, and SDAPCD Rule 51, prohibit emissions from any source whatsoever in such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to the public health or damage to property. Any unreasonable odor discernible at the property line of the Project site will be considered a significant odor impact.

Project construction could result in minor amounts of odor compounds associated with diesel heavy equipment exhaust. Diesel exhaust and VOCs would be emitted during construction of the Project. The odors of these emissions are objectionable to some; however, emissions would disperse rapidly from the Project area and therefore should not be at a level that would affect a substantial number of people. Further, construction operations would be temporary. As a result, impacts associated with odors during construction are not considered significant.

According to the SCAQMD CEQA Air Quality Handbook, land uses associated with odor complaints include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting activities, refineries, landfills, dairies, and fiberglass molding operations. The Project would not place sensitive receptors within a close proximity to the listed odor sources. In addition, the Project would not be a source of odor impacts, as the operation of

university-related uses is not associated with odors. Impacts associated with odor sources are considered less than significant.

5.4.4 Level of Significance Prior to Mitigation

A. Air Quality Plans

Implementation of the Project would not conflict with air quality plans and no impacts would occur.

B. Air Quality Violations

Impact 5.4-1: Implementation of the Project would result in potentially significant criteria pollutant emission impacts during construction.

Impact 5.4-2: Implementation of the Project would result in significant criteria pollutant emission impacts during operation.

C. Cumulative Increase of Criteria Pollutants

Impact 5.4-3: Long-term cumulative emissions would exceed regional thresholds and, therefore, would be cumulatively significant.

D. Sensitive Receptors

Impact 5.4-4: Impacts related to TAC emissions would be potentially significant.

E. Objectionable Odors

Impacts associated with odor sources would be less than significant.

5.4.5 Mitigation Measures

A. Air Quality Plans

No mitigation measures are required.

B. Air Quality Violations

1. Construction

Implementation of the Project would result in significant criteria pollutant emission impacts during construction (Impact 5.4-1). The Project includes features and would implement BMPs (beyond those required by SCAQMD) to reduce emissions during construction. These features are also prescribed as Mitigation Measures 5.4-1a and 5.4-1b to ensure implementation.

5.4-1a Air Quality-Related Construction Best Management Practices. ~~The~~ In addition to the measures required by SDAPCD Rule 55, the control measures listed below will be implemented during Project construction to reduce dust and VOC emissions:

- A minimum of two applications of water during grading between dozer/scraper passes.
- Paving, chip sealing, or chemical stabilization of internal roadways after completion of grading.
- Termination of grading if winds exceed 25 mph.
- Ensure that all exposed surfaces maintain a minimum soil moisture of 12 percent.
- Stabilization of dirt storage piles by chemical binders, tarps, fencing, or other erosion control.
- Use of "Super Compliant" architectural coatings with a VOC content of 10 grams per liter or less.

The following mitigation measure is required to reduce construction emissions of NO_X:

5.4-1b Use of Tier 4 Final Off-Road Equipment. All off-road diesel-powered construction equipment greater than 50 horsepower (HP) used during each building construction phase shall meet U.S. EPA Tier 4 off-road emissions standards. A copy of each unit's certified Tier specification shall be provided to the City of Chula Vista Development Services Department at the time of mobilization of each applicable unit of equipment.

2. Operation

Implementation of the Project would result in significant criteria pollutant emission impacts during operation (Impact 5.4-2). The Otay Ranch GDP Final Program EIR includes land use policies, siting/design policies, and transportation-related management actions to mitigate operational emissions (Ogden 1992). All applicable measures have already been incorporated into the UID SPA Plan, such as provision of bike lanes, providing services near residences, and providing transit support facilities such as bus stops, as listed in the Project Description~~, and required by Mitigation Measures 5.10-1a through 5.10-1d~~. There are no other feasible mitigation measures available at the project level to reduce vehicular emissions other than reducing vehicle trips. The Project trip generation rates account for the reduction in vehicle trips that would occur as a result of the mixed-use areas, transit use, and availability of pedestrian and bicycle facilities proposed as part of the UID SPA Plan (as discussed in Section 5.10, *Global Climate Change*, of this EIR). In addition, future vehicular emissions may be lower than estimated due to increasingly stringent California fuel efficiency requirements. Some measures cannot be implemented at the SPA level, such as providing video-conference facilities in work places or requiring flexible work schedules. Additionally, there are no feasible mitigation measures currently available to reduce area sources of emissions without regulating the purchases of individual consumers. Operational emissions of VOCs, NO_X, CO, and PM_{10} would remain significant and unavoidable.

C. Cumulative Increase of Criteria Pollutants

Regional construction emissions would not be cumulatively considerable, and the impact would be less than significant with mitigation.

Long-term operational emissions would exceed regional thresholds, and, therefore, be cumulatively considerable. The long-term cumulative impact would be significant and unavoidable (Impact 5.4-3). All applicable measures have already been incorporated into the UID SPA Plan, as listed in the Project Description~~, and required by Mitigation Measures 5.10-1a through 5.10-1d~~. No mitigation measures beyond those that are already included to reduce emissions are feasible and implementable, short of reducing the size of the Project (see discussion under B.2, *Operation*).

D. Sensitive Receptors

Impacts related to TAC emissions would be potentially significant (Impact 5.4-4). Implementation of Mitigation Measure 5.4-4 would reduce stationary source impacts to less than significant:

5.4-4 **Health Risk Assessment.** Prior to the issuance of building permits for any new facility that would have the potential to emit TACs, in accordance with AB 2588, an emissions inventory and HRA shall be prepared. Building permits shall only be issued for facilities that demonstrate TAC emissions below the standards listed in Table 5.4-6 (excess cancer risk of 1 in 1 million or 10 in 1 million with (T-BACT) and non-cancer hazard index of 1.0).

E. Objectionable Odors

No mitigation measures are required.

5.4.6 Level of Significance After Mitigation

A. Air Quality Plans

Impacts associated with air quality plans would be less than significant without mitigation.

B. Air Quality Violations

1. Construction

Criteria pollutant emission impacts during construction (Impact 5.4-1) would be reduced to less than significant levels with implementation of Mitigation Measures 5.4-1a and 5.4-1b because the mitigation would require control measures during construction related to dust and VOC emission controls and would require that the Project not exceed Tier 4 standards for off-road equipment.

2. Operation

No mitigation is available to reduce significant criteria pollutant emission impacts during operation (Impact 5.4-2) to a less than significant level. All of the applicable land use policies, siting/design

policies, and transportation-related management actions and mitigation measures included in the Otay Ranch GDP Final Program EIR (Ogden 1992) have been incorporated into the UID SPA Plan, such as provision of bike lanes, providing services near residences, and providing transit support facilities such as bus stops, as listed in the Project Description~~, and required by Mitigation Measures 5.10-1a through 5.10-1d~~. There are no other feasible mitigation measures available at the Project level to reduce vehicular emissions other than reducing vehicle trips. The Project trip generation rates account for the reduction in vehicle trips that would occur as a result of the mixed-use areas, transit use, and availability of pedestrian and bicycle facilities proposed as part of the UID SPA Plan (as discussed in Section 5.10, *Global Climate Change*, of this EIR). In addition, future vehicular emissions may be lower than estimated due to increasingly stringent California fuel efficiency requirements. Some measures cannot be implemented at the SPA level, such as providing video-conference facilities in work places or requiring flexible work schedules. Additionally, there are no feasible mitigation measures currently available to reduce area sources of emissions without regulating the purchases of individual consumers. Accordingly, impacts associated with the operational emissions of VOCs, NO_X, CO, and PM_{10} would remain significant and unavoidable.

C. Cumulative Increase of Criteria Pollutants

No mitigation is available to reduce significant impacts associated with long-term emissions that exceed regional thresholds of criteria pollutants (Impact 5.4-3) to a less than significant level. Mitigation measures have been included to reduce emissions, but impacts will remain significant and unavoidable (see discussion under B.2, *Operation*).

D. Sensitive Receptors

Project impacts related to TAC emissions (Impact 5.4-4) would be reduced to less than significant levels with implementation of Mitigation Measure 5.4-4 because the mitigation would require that an HRA be prepared and no building permits be issued for facilities unless it can be demonstrated that TAC emissions from new development would not exceed the established threshold.

E. Objectionable Odors

Impacts associated with objectionable odors would be less than significant without mitigation.

5.5 NOISE

This section describes the existing noise environment of the UID and the surrounding region and evaluates the potential impacts associated with noise due to implementation of the SPA Plan.

It is noted that, as recently confirmed by the California Supreme Court, impacts of the environment on a project (as opposed to impacts of a project on the environment) are beyond the scope of required CEQA review. (California Building Industry Assn. v. Bay Area Air Quality Management Dist. [2015] 62 Cal. 4th 369, 392.) "[T]he purpose of an EIR is to identify the significant effects of a project on the environment, not the significant effects of the environment on the project." (Ballona Wetlands Land Trust v. City of Los Angeles (2011) 201 Cal. App. 4th 455, 473.)

The impacts discussion in this section are effects on the Project of preexisting environmental hazards or conditions, and therefore "do not relate to environmental impacts under CEQA and cannot support an argument that the effects of the environment on the project must be analyzed in and EIR." (Ballona, supra, 201 Cal. App. 4th at p. 475.) Nonetheless, an analysis of these impacts is provided for informational purposes and full disclosure.

This EIR tiers from the Previous Environmental Review Documents, as described in Chapter 2.0, *Introduction*. Section 5.6, *Noise*, of the 2013 SEIR analyzed the existing conditions, potential impacts, and mitigation measures related to the proposed land uses for the GPA/GDPA area. The GPA/GDPA SEIR identified a significant and unavoidable impact related to permanent increases in traffic noise, and determined that mitigation would be required at the project level for this impact. Section 4.7, *Noise*, of the 2001 SEIR similarly identified a significant impact related to permanent increased in traffic noise; however, with implementation of a mitigation for a future noise study to be conducted at the time that specific development plans are proposed, impacts at the Lake Property were concluded to be less than significant. The analysis and discussion of the 2013 SEIR and the 2001 SEIR are incorporated by reference; this report includes updated mitigation measures that are equivalent to or better than measures included in the Previous Environmental Review Documents, based on current noise conditions in the Project vicinity.

Information contained in this section is based on the site-specific Acoustical Analysis Report prepared HELIX in April 2016. The Acoustical Analysis Report is provided as Appendix D to this EIR. This report updates the applicable information in the previously certified SEIRs.

5.5.1 Existing Conditions

A. Regulatory Framework

1. Federal

a. Federal Aviation Administration Standards

Enforced by the FAA, CFR Title 14, Part 150 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. Title 14 also identifies those land uses which are normally compatible with various levels of exposure to noise by individuals. The FAA has determined that

interior sound levels up to 45 A-weighted decibels (dBA) Day-Night Sound Level (L_{DN}) or CNEL are acceptable within residential buildings. The FAA also considers residential land uses to be compatible with exterior noise levels at or less than 65 dBA L_{DN} (or CNEL).

b. Federal Transit Administration Standards and Federal Railroad Administration Standards

Although the Federal Transit Administration (FTA) standards are intended for federally funded mass transit projects, the impact assessment procedures and criteria included in the FTA Transit Noise and Vibration Impact Assessment Manual (May 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 ground-borne 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 ground-borne vibration is 0.2 inches per second (in/sec) peak particle velocity (PPV).

2. State

a. 2013 California Green (CALGreen) Building Standards Code

The following noise control standards from the 2013 CALGreen (California Code of Regulations Title 24, Part 11, subsection 5.507.4, Acoustical Control) Building Standards Code for non-residential buildings are applicable to this project.

5.507.4.1 Exterior noise transmission, prescriptive method. Wall and roof-ceiling assemblies exposed to the noise source making up the building or addition envelope or altered envelope shall meet a composite Sound Transmission Class (STC) rating of at least 50 or a composite Outdoor/Indoor Transmission Class (OITC) rating of no less than 40, with exterior windows of a minimum STC of 40 or OITC of 30 in the following locations:

1. Within the 65 CNEL noise contour of an airport.

   Exceptions:

   a. L_{DN} or CNEL for military airports shall be determined by the facility Air Installation Compatible Land Use Zone plan.

   b. L_{DN} or CNEL for other airports and heliports for which a land use plan has not been developed shall be determined by the local general plan noise element.

2. Within the 65 CNEL or L_{DN} noise contour of a freeway or expressway, railroad, industrial source, or fixed-guideway source as determined by the Noise Element of the General Plan.

5.507.4.1.1 Noise exposure where noise contours are not readily available. Buildings exposed to a noise level of 65 dB L_{EQ} (1 hour) during any hour of operation shall have building, addition or alteration exterior wall and roof-ceiling assemblies exposed to the noise source meeting a composite STC rating of at least 45 (or OITC 35), with exterior windows of a minimum STC of 40 (or OITC 30).

5.507.4.2 Performance method. For buildings located as defined in Section 5.507.4.1 or 5.507.4.1.1, wall and roof-ceiling assemblies exposed to the noise source making up the building or addition envelope or altered envelope shall be constructed to provide an interior noise environment attributable to exterior sources that does not exceed an hourly equivalent noise level (L_{EQ} 1 hour) of 50 dBA in occupied areas during any hour of operation.

5.507.4.3 Interior sound transmission. Wall and floor-ceiling assemblies separating tenant spaces and tenant spaces and public places shall have an STC of at least 40.

3. Local

a. City of Chula Vista General Plan

The exterior land use noise compatibility guidelines from the City's General Plan Noise Element are shown in Table 5.5-1, *City of Chula Vista Exterior Noise Compatibility Guidelines*. These guidelines reflect the levels of noise exposure that are generally considered to be compatible with various types of land uses in the City.

Table 5.5-1 CITY OF CHULA VISTA EXTERIOR NOISE COMPATIBILITY GUIDELINES

	Annual CNEL					
Land Use	**50**	**55**	**60**	**65**	**70**	**75**
Residential						
Schools, Libraries, Daycare Facilities, Convalescent Homes, Outdoor Use Areas, and Other Similar Uses Considered Noise Sensitive						
Neighborhood Parks, Playgrounds						
Community Parks, Athletic Fields						
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.

b. City of Chula Vista Noise Control Ordinance

Noise standards for the City are codified in the City Municipal Code's noise control ordinance. Applicable standards for the Project are listed below:

Section 19.68.030, Exterior Noise Limits, 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 5.5-2, *City of Chula Vista Exterior Noise Limits*. The noise standards in Table 5.5-2 do not apply to construction activities.

Table 5.5-2 CITY OF CHULA VISTA EXTERIOR NOISE LIMITS

Receiving Land Use Category	Noise Level (dBA)	
	10 p.m. to 7 a.m. (Weekdays)	7 a.m. to 10 p.m. (Weekdays)
	10 p.m. to 8 a.m. (Weekends)	8 a.m. to 10 p.m. (Weekends)
All residential (except multiple dwelling)	45	55
Multiple dwelling residential	50	60
Commercial	60	65
Light industry – I-R and I-L zone	70	70
Heavy industry – I zone	80	80

Source: City noise control ordinance Section 19.68.030

Section 19.68.040, Interior Noise Limits, states that no person shall operate, or cause to be operated, any source of sound within a residential dwelling unit or allow the creation of any noise on property owned, leased, occupied or otherwise controlled by such person which causes the noise level when measured inside a neighboring receiving dwelling unit to exceed the environmental and/or nuisance interpretation of the applicable limits given in Table 5.5-3*, City of Chula Vista Interior Noise Limits*.

Table 5.5-3 CITY OF CHULA VISTA INTERIOR NOISE LIMITS

Type of Land Use	Time Interval	Noise Level (dBA) not to be Exceeded		
		Any time	1 min in 1 hr	5 min in 1 hr
Multifamily	10 pm – 7 am	45	40	35
Residential	7 am – 10 pm	55	50	45

Source: City of Chula Vista Municipal Code Section 19.68.040

Section 19.68.050, Prohibited Acts, of the Chula Vista Municipal Code 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 right-of-way.

Section 19.68.060, Special provision (exemptions), of the Chula Vista Municipal Code provides an exemption from exterior noise standards for construction and rehabilitation activities.

Section 17.24.040 of Chula Vista's code limits construction activities to the hours of 7:00 a.m. to 10:00 p.m. Monday through Friday, and 8:00 a.m. to 10:00 p.m. on weekends, except when the work is necessary for emergency repairs required for health and safety.

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

The City's MSCP Subarea Plan regulates impacts to sensitive biological resources, including noise impacts. In accordance with Section 7.5.2 of the Chula Vista Subarea Plan, Adjacency Management Issues, uses in or adjacent to the Preserve should be designed to minimize noise impacts. Berms or walls should be constructed adjacent to commercial areas and any other use that may introduce noises that could impact or interfere with wildlife utilization of the Preserve. Excessively noisy areas or activities adjacent to breeding areas, including temporary grading activities, must incorporate noise reduction measures or be curtailed during the breeding season of sensitive bird species, consistent with Table 3-5 of the MSCP Subregional Plan, included as Appendix A to the MSCP Subarea Plan. No clearing, grubbing, and/or grading are permitted within the MSCP Preserve during the breeding season of the sensitive species present.

Some studies, such as that completed by the Bioacoustics Research Team (1997), have concluded that 60 dBA is a single, simple criterion to use as a starting point for passerine impacts until more specific research is done. Associated guidelines produced by the USFWS require that project noise be limited to a level not to exceed 60 dBA L_{EQ} or, if the existing ambient noise level is above 60 dBA, increase the ambient noise level by 3 dBA at the edge of occupied habitat during the avian species breeding season.

B. Noise and Vibration Basics

Noise has been defined as "unwanted sound." Sound becomes "unwanted" when it interferes with normal activities, causes actual physical harm, or has adverse effects on health.

Sound-level values discussed in this subchapter are expressed in terms of decibels (dB). Sound levels are not measured directly, but are calculated from sound pressure levels typically measured in dBA, which are adjusted to approximate the hearing sensitivity of humans. Time-averaged noise levels are referred to as "equivalent sound level" (L_{EQ}), which represents the average sound level over a given sample period. Unless a different time period is specified, L_{EQ} refers to a period of one hour.

The CNEL is the average of the intensity of a sound, with corrections made for time of day, and then averaged over 24 hours. The corrections are additions made to actual sound levels to account for increased human sensitivity to sound during the evening and night hours, when there is a decrease in the overall amount and loudness of noise generated, as compared to daytime hours. During these hours, sounds seem louder, and are weighted accordingly. The time of day corrections require the addition of 5 dB to sound levels in the evening from 7:00 p.m. to 10:00 p.m. and the addition of 10 dB to sound levels at night from 10:00 p.m. to 7:00 a.m.

Vibration is defined as any oscillatory motion induced in a structure or mechanical device as a direct result of some type of input excitation. Vibration consists of waves transmitted through solid material. There are several types of wave motion in solids, unlike in air, including compressional, shear, torsional, and bending. The solid medium can be excited by forces, moments, or pressure fields. This leads to the terminology of "structure-borne/ground-borne" vibration.

Vibration energy spreads out as it travels through the ground, causing the vibration amplitude to decrease with distance away from the source. Soil properties also affect the propagation of

vibration. When ground-borne vibration interacts with a building there is usually a ground-to-foundation coupling loss, but the vibration can also be amplified by the structural resonances of the walls and floors. Vibration in buildings is typically perceived as rattling of windows or items on shelves or the motion of building surfaces. The vibration of building surfaces can also be radiated as sound and heard as a low-frequency rumbling noise, known as ground-borne noise.

The Federal Transit Administration has published standards for vibration impact assessments; Although these standards are intended for federally funded mass transit projects, the impact assessment procedures and criteria included in the FTA Transit Noise and Vibration Impact Assessment Manual (May 2006) are routinely used for projects proposed by local jurisdictions. The FTA measure of the threshold of architectural damage for conventional sensitive structures from ground-borne vibration is 0.2 in/sec PPV and is used in this report to determine vibration impacts.

C. Existing Noise Environment

Existing noise sources, including transportation, operation, and construction that affect the Project site are described below.

1. Site Survey Noise Levels

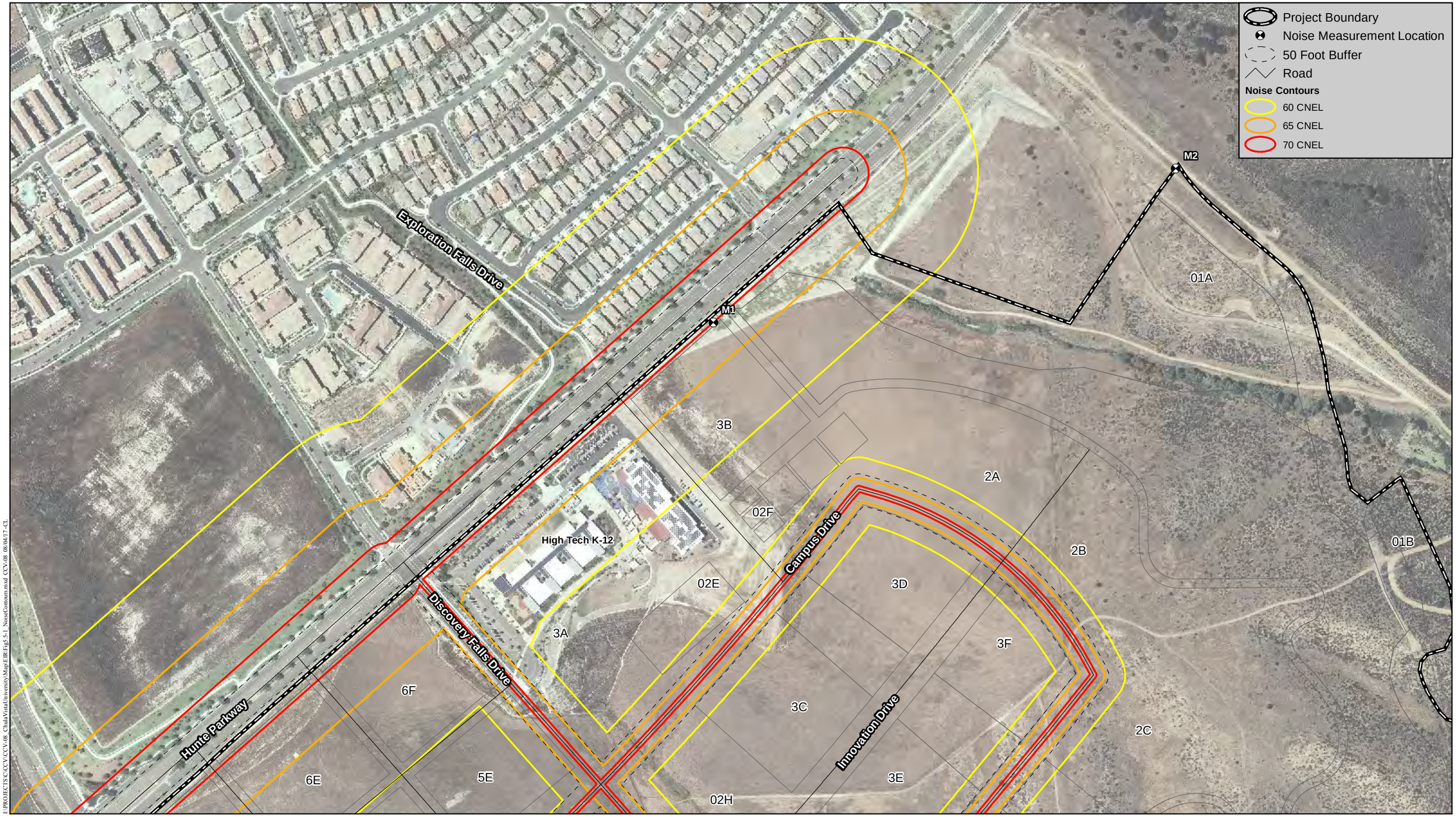
A traffic noise measurement and an ambient noise measurement were conducted during a site survey on March 1, 2016, to quantify the noise environment in the Project area. The traffic noise measurement was taken just west of the Hunte Parkway/Exploration Falls Drive intersection; the ambient measurement was taken south from Hunte Parkway on a utility road. The measurements were taken during the daytime and were 15 minutes in duration. A Larson Davis System LxT Integrating Sound Level Meter, calibrated with a Larson Davis CAL150 calibrator, was used to record the noise measurements. Table 5.5-4, *Noise Measurement Results*, summarizes the measured noise level each measurement location. The on-site measurement locations are shown on Figures 5.5-1a through 5.5-1c, *Buildout (Year 2030) + Project Traffic Noise Contours*.

Table 5.5-4 NOISE MEASUREMENT RESULTS

Site	Location	Conditions	Time	dBA L_{EQ}	Notes
1	On Hunte Parkway, just west of Exploration Falls Drive	69°F, 6 miles per hour (mph) wind, 61 percent humidity	10:23-10:38 a.m.	55.9	Consistent bird noise; sunny
2	Approximately 600 feet south from Hunte Parkway on utility road	70°F, 4 mph wind, 61 percent humidity	10:48-11:03 a.m.	43.5	Cloudy

Note: See Figure 5.5-1 for site measurement locations.

The primary noise sources for both measurements were traffic on Hunte Parkway. The measurements indicated a relatively quiet site location; however, traffic in the area is low compared to future levels, as the area is currently the furthest extent of buildout in the area (i.e., the



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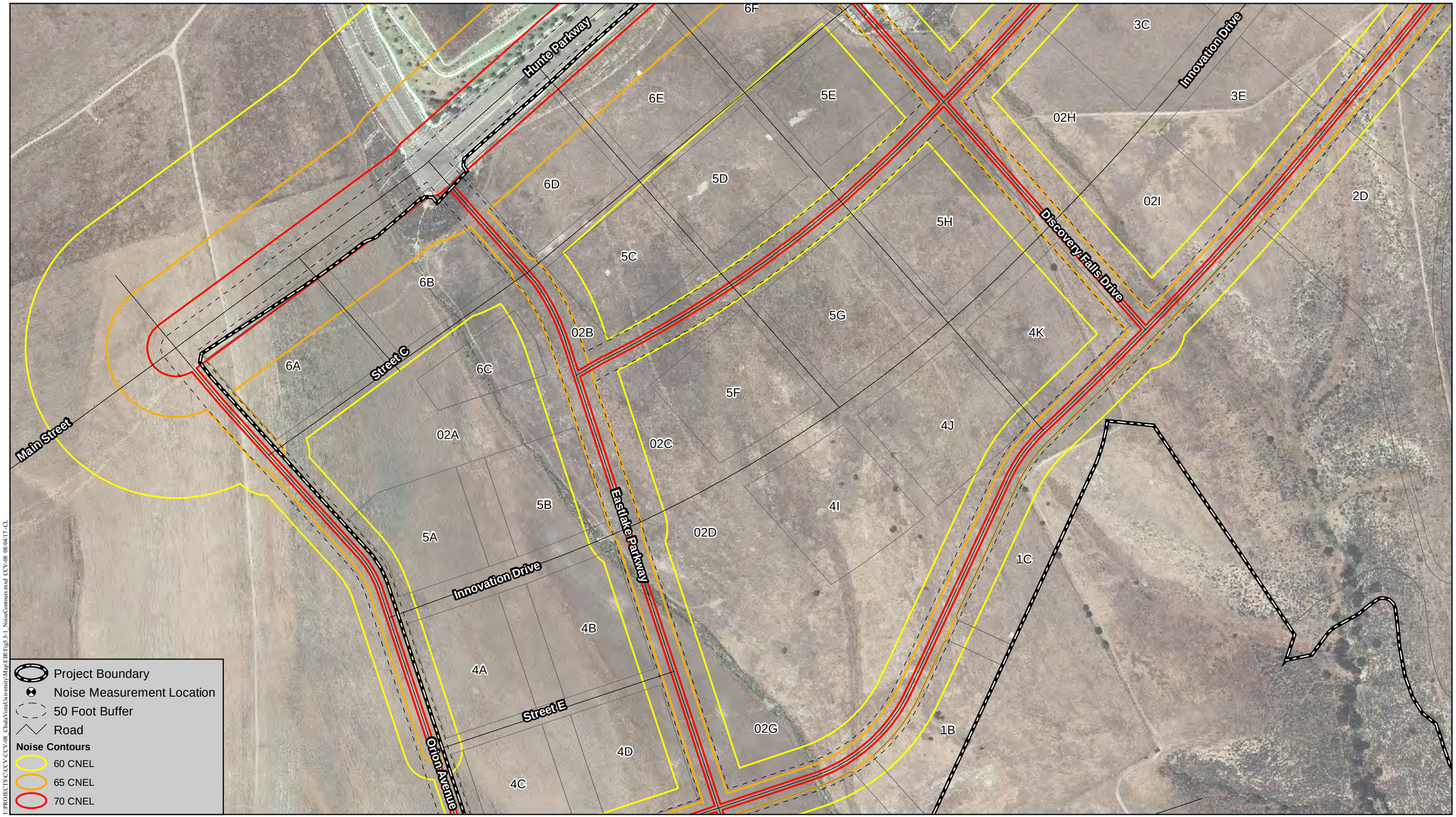
Buildout (Year 2030) + Project Traffic Noise Contours

UNIVERSITY INNOVATION DISTRICT

HELIX Environmental Planning

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Figure 5.5-1a



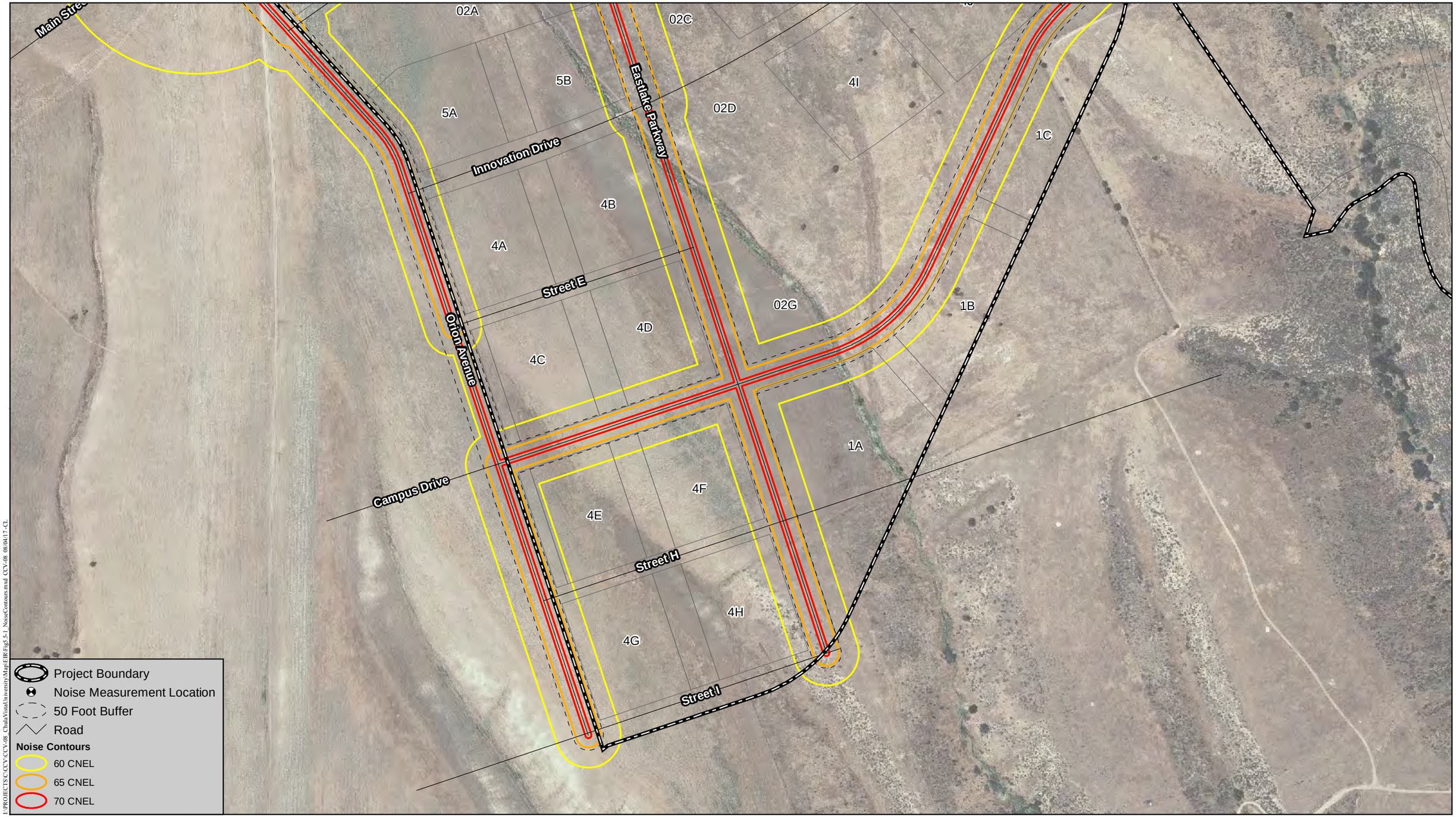
Buildout (Year 2030) + Project Traffic Noise Contours

UNIVERSITY INNOVATION DISTRICT

HELIX Environmental Planning

0 300 Feet

Figure 5.5-1b



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Buildout (Year 2030) + Project Traffic Noise Contours

UNIVERSITY INNOVATION DISTRICT

HELIX Environmental Planning

0 300 Feet

Figure 5.5-1c

area around the project is the current terminal extent of roadways, whereas in the future it will serve as a major thoroughfare).

2. Transportation Noise Sources

a. Aviation

The Project site is located approximately 2.5 miles northeast of Brown Field Municipal Airport, a public airport (see Figure 5.1-1), and 3.4 miles west of John Nichol's Field, a private airport. The Project site is not located within the 60 CNEL noise contour for the Brown Field Municipal Airport (ALUC 2010). With the distance from John Nichol's Field and the small size of the airport, the Project site would not be expected to be exposed to excessive noise from the airport.

b. Roadways

The only paved public road on-site is a small extension of Discovery Falls Drive to allow access to the High Tech K-12 School campus. Various paved and unpaved dirt roads exist on-site to provide for maintenance of infrastructure in the Otay River Valley. Eastlake Parkway and Hunte Parkway currently terminate at the northwest corner of the Project site. Major roadways in the surrounding area include Birch Road, located approximately 0.6 mile north of the Project site, and Olympic Parkway, located approximately one mile north of the Project site. Table 5.5-5, *Existing Traffic Noise Levels*, shows the existing noise levels generated by the roadways surrounding the Project site to the nearest noise-sensitive land use (NSLU). Noise levels along Olympic Parkway, Birch Road, Eastlake Parkway, and Proctor Valley Road currently exceed the City noise compatibility standard of 65 CNEL residential, schools, and parks.

Table 5.5-5 EXISTING TRAFFIC NOISE LEVELS

Roadway	Segment	Nearest NSLU (feet)	Existing Noise Level, measured from Roadway Centerline at nearest NSLU or 100 feet, whichever is less (CNEL)
Olympic Parkway	E. Palomar Street to SR-125	150	70.0
	SR-125 to Eastlake Parkway	N/A	70.0
	Eastlake Parkway to Hunte Parkway	120	66.1
Birch Road	La Media Road to SR-125	120	64.7
	SR-125 to Eastlake Parkway	70	67.7

Table 5.5-5 (cont.) EXISTING TRAFFIC NOISE LEVELS

Roadway	Segment	Nearest NSLU (feet)	Existing Noise Level, measured from Roadway Centerline at nearest NSLU or 100 feet, whichever is less (CNEL)
Hunte Parkway	Otay Lakes Road to Olympic Parkway	70	64.2
	Olympic Parkway to Exploration Falls Drive	120	59.5
	Exploration Falls Drive to Discovery Falls Drive	120	59.3
	Discovery Falls Drive to Eastlake Parkway	150	60.0
Eastlake Parkway	Otay Lakes Road to Olympic Parkway	60	69.7
	Olympic Parkway to Birch Road	120	65.2
	Birch Road to Hunte Parkway	110	57.2
Proctor Valley Road	Mt Miguel Road to Hunte Parkway	100	66.0

Source: HELIX 2016

3. Operational Noise Sources

The Project site and surrounding area is mostly undeveloped. In accordance with the Otay Ranch GDP, development is planned to occur to the west (Otay Ranch Village 9), north (Millenia), and south (Otay Ranch Village 11). Village 10 is anticipated to be planned using the traditional Otay Ranch village model. Future land uses planned for the Millenia (currently under construction) include destination retail, commercial, and entertainment development with higher density residential development, schools, and parks. The Village 10 is proposed for commercial, cultural, and entertainment services. However, none of these land uses have been developed and do not contribute to the existing noise environment.

Otay Valley Regional Park and the Otay River Valley form the southern boundary of the Project site and are proposed to remain undeveloped. High Tech K-12 School is within the Project site and the closest existing development to future project development. The closest development apart from the school to the Project site is in Village 11, located north of the Project site across Hunte Parkway. Development includes single- and multi-family residences and Camarena Elementary School.

4. Noise Sensitive Land Uses

NSLUs are land uses that may be subject to stress and/or interference from excessive noise. The Chula Vista General Plan defines NSLUs as residences, schools, hospitals, libraries, parks, places of worship, and outdoor use areas, including outdoor dining spaces. The City's MSCP Subarea

Plan defines sensitive wildlife species an NSLU. Industrial and commercial land uses are generally not considered sensitive to noise. NSLUs adjacent or nearby to the Main Campus Property include schools (High Tech K-12 School), single- and multi-family residences to the north across Hunte Parkway, and sensitive habitat to the east and southeast. NSLUs adjacent to the north, south, and west of the Lake Property include sensitive habitat (Lower Otay Lake is adjacent to the east). Future development within Village 9, Village 10, and the Millenia may also include NSLUs such as residences and parks adjacent to the Project.

5. Vibration Sensitive Land Uses

Land uses in which ground-borne vibration could potentially interfere with operations or equipment, such as research, manufacturing, hospitals, and university research operations (FTA 2006) are considered "vibration-sensitive." The degree of sensitivity depends on the specific equipment that would be affected by the ground-borne vibration. In addition, excessive levels of ground-borne vibration of either a regular or an intermittent nature can result in annoyance to residential uses. Existing vibration-sensitive land uses near the Main Campus Property include single and multi-family residences and High Tech K-12 School. No vibration-sensitive land uses are currently located adjacent to the Lake Property. Future vibration-sensitive land uses on both properties may include university research operations and residences.

5.5.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines and related City criteria, impacts related to noise and vibration would be significant if it would:

- **Threshold 1:** Expose new development to noise levels at exterior use areas in excess of the noise compatibility standards established in the City General Plan Noise Element or generate noise levels that exceed the limits in the City noise ordinance. For residential, school, library, and neighborhood park uses, the exterior noise compatibility standard is 65 CNEL and the interior noise compatibility standard is 45 CNEL. For community parks and offices and professional land uses, the exterior noise compatibility standard is 70 CNEL.

- **Threshold 2:** Subject vibration-sensitive land uses to the structural damage threshold from ground-borne vibration of 0.25 in/sec PPV and the strongly perceptible human response threshold from ground-borne vibration of 0.1 in/sec PPV from a continuous/frequent intermittent source, as specified by Caltrans. According to Caltrans, major construction activity within 200 feet and pile driving within 600 feet may be potentially disruptive to sensitive operations (Caltrans 2002).

- **Threshold 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 City General Plan Noise Element, including 65 CNEL for residential, school, and neighborhood park uses; 70 CNEL for community parks, office and professional uses, and athletic fields; and 75 CNEL for commercial uses. For transportation-related noise, a significant impact would occur if the

proposed project results in a 3 CNEL or greater increase in traffic noise on a roadway segment and the resultant noise level would exceed the City General Plan Noise Element exterior noise limits.

- **Threshold 4:** Result in temporary construction noise:

Outside the noise control ordinance-exempted hours of 7:00 a.m. to 10:00 p.m. Monday through Friday, and 8:00 a.m. to 10:00 p.m. on weekends; or

That exceeds 60 dBA L_{EQ} or an exceedance of the average ambient noise level by 3 dBA L_{EQ}, whichever is greater, at the edge of sensitive biological habitat within the MHPA during the breeding season.

- **Threshold 5:** For a project located within an airport land use plan, or where such a plan has not been adopted, within two miles of a public use airport or private airstrip, expose people residing or working in the project area to excessive noise.

5.5.3 Impact Analysis

A. Threshold 1: Expose new development to noise levels at exterior use areas in excess of the noise compatibility standards established in the City General Plan Noise Element or generate noise levels that exceed the limits in the City noise ordinance. For residential, school, library, and neighborhood park uses, the exterior noise compatibility standard is 65 CNEL and the interior noise compatibility standard is 45 CNEL. For community parks and offices and professional land uses, the exterior noise compatibility standard is 70 CNEL.

Implementation of the Project would have the potential to expose new development to noise levels at exterior use areas in excess of the noise compatibility standards established in the City General Plan Noise Element or generate noise levels that exceed the limits in the City noise ordinance by constructing new roadways, developing land uses near existing roadways, developing new operational sources of noise, and by increasing human activity throughout the Project site.

1. Operational Noise

Operational noise generated by the Project may affect both off-site and on-site NSLUs. Proposed NSLUs associated within the Project site include schools, libraries, parks, and residential land uses. Potential noise-generating land uses within the Project area include mixed-use commercial and resident-serving commercial and public or quasi-public uses including day care, school-related buildings, or parks. Potential stationary and intermittent operational noise sources from the Project include: HVAC units, loading docks, parking lots, nuisance noise, bells and loudspeaker announcements, recreational facilities, electronic amplification, maintenance activities, and infrastructure improvements.

a. Heating, Ventilation, and Air Conditioning Units

Mechanical HVAC units located on the ground or on rooftops of new commercial or multi-family apartment buildings would have the potential to generate noise levels that run continuously during

the day and night. For modeling, the units were conservatively assumed not to include noise attenuation provided by a parapet wall. Specific planning information is not available for the HVAC units at this time; modeling assumed the use of Carrier 16-ton packaged HVAC units (50PG03-16) with a manufacturer's Sound Power Rating of 91.4 dBA sound power level (S_{WL}). A cluster of eight HVAC units operating at a distance of 50 feet would generate a noise level of 61 dBA.

Depending on where they are located, HVAC units could exceed the City's hourly noise limit for adjacent parks and schools of 55 dBA L_{EQ} during daytime hours (45 dBA L_{EQ} at night for the parks) and the noise limit for adjacent multi-family residences of 60 dBA L_{EQ} during daytime hours (50 dBA L_{EQ} at night). 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. Therefore, it is assumed that HVAC equipment would generate noise levels that exceed 45 dBA within 320 feet of the equipment, 50 dBA within approximately 180 feet of the equipment, 55 dBA within 100 feet of the equipment, and 60 dBA within 57 feet of the equipment. Consequently, residences or other NSLUs such as parks or schools located in close proximity to a building that requires an HVAC system could result in a potentially significant impact (Impact 5.5-1a).

b. Loading Docks

Commercial land uses also have the potential to generate noise from truck deliveries, such as engines idling and beeping from backing warning signals at commercial loading docks. Truck deliveries to the project would involve deliveries of supplies to commercial uses. State law currently prohibits heavy-duty diesel delivery trucks from idling more than five minutes; therefore, noise from idling would be limited to five minutes during truck deliveries (CCR Title 13, Section 2485). Truck trips would be periodic throughout the Project site and would not be concentrated in one location. Given the intermittent and short duration of noise from truck deliveries in a given location, truck deliveries would not be a source of excessive ambient noise. Therefore, impacts related to truck deliveries would be less than significant.

c. Parking Lots

Noise sources from parking lots include car alarms, door slams, radios, and tire squeals. These sources typically range from about 30 to 66 dBA at a distance of 100 feet (Gordon Bricken & Associates 1996) and are generally short-term and intermittent. Parking lots also have the potential to generate noise levels that exceed 65 dBA depending on the location of the source; however, noise sources from the parking lot would be different from each other in kind, duration, and location, so that the overall effects would be separate and, in most cases, would not affect noise-sensitive receptors at the same time. Therefore, noise generated from parking lots would be less than significant.

d. Nuisance Noise

Noise generated from residential uses is generally described as "nuisance noise." Nuisance noise is defined as intermittent or temporary neighborhood noise from sources such as amplified music, barking dogs, and landscape maintenance equipment that may be disturbing to other residents. The City noise control ordinance prohibits nuisance noise from exceeding the City's noise standards at

any time. Compliance with the noise control ordinance would limit exposure to excessive nuisance noise. The Chula Vista Police Department enforces the City's noise control ordinance. In addition, nuisance noises would be different from each other in kind, duration, and location, so that the overall effects would be separate and, in most cases, would not affect the receptors at the same time. Therefore, nuisance noise in residential neighborhoods would result in a less than significant impact.

e. Bells and Loudspeaker Announcements

Education-related buildings may generate noise from amplified noise such as bells and loudspeaker announcements. Bells or other announcement devices are classified as stationary non-emergency signaling devices by the City. The noise control ordinance prohibits schools from sounding these devices for more than 120 seconds continually in an hourly period, or intermittent sounding over a five-minute period in any hour. The future campus would comply with Chula Vista's noise standards and would result in less than significant impacts related to bells and loudspeaker announcements.

f. Recreational Facilities

The proposed trails and pathways throughout the Project site and the off-site trail connections would be used for walking and bicycling and would generally not support activities that would generate noise other than normal conservation levels. Therefore, the proposed trails would not be a source of operational noise. Recreational facilities that would have the potential to generate excessive noise levels include parks, common space areas, school playgrounds, and playing fields. Project-related facilities may be located in the O-2: Common Open Space and O-3: Pedestrian Walk sectors or the T-1 Future Development transect. Adjacent recreational facilities are present at the High Tech K-12 School campus, which has a playground area and a grassy play area. No large, stadium seating recreational facilities are expected for the Project and are not present at the High Tech K-12 School campus.

Visitors and recreational activity participants are expected to generate a range of noise levels. Activities would generate incidental recreational noise such as cheering for sports activities or children at play. Passive recreational activities such as open turf areas and group picnic area activities will typically generate lower noise levels as compared to active sports play. Noise from recreational facilities would be a periodic source of noise because it is generally limited to specific activity times that would not be expected to be consistent throughout an entire day.

The Project's Acoustical Analysis Report estimated that Project recreational facilities would be expected to generate a noise level of 45 dBA within 330 feet, 50 dBA within 190 feet, 55 dBA within 105 feet, and 60 dBA within 60 feet (Appendix D in this EIR). Noise generated from proposed recreational facilities in the O-2: Common Open Space and O-3: Pedestrian Walk sectors or the T-1 Future Development transect and High Tech K-12's playground and grassy play area would be subject to the City's daytime noise standards of 55 dBA for residential (including schools but excluding multi-family), 60 dBA for multi-family residential and 65 dBA for commercial land uses (lower noise limits would apply if a recreational facility remains open during evening or nighttime hours). Therefore, depending on the type of activity and number of users and the siting of proposed land uses, recreational facilities would have the potential to exceed City noise

ordinance limits. Consequently, residences or other NSLUs such as parks or schools located in close proximity to a proposed Project recreational facility (located in the O-2: Common Open Space and O-3: Pedestrian Walk sectors or the T-1 Future Development transect) could result in a potentially significant impact (Impact 5.5-1b). In addition, Project residences and/or other project NSLUs could be exposed to a potentially significant impact from High Tech K-12's playground and grassy play area (Impact 5.5-1c).

Recreational facilities may be located adjacent to the Preserve as part of the T-1 Future Development transect, which borders the Preserve. The amenities, facilities, and uses of the recreational facilities that occur within the Preserve Edge, a 100-foot buffer zone adjacent to the Preserve, would be restricted to the types that are least likely to impact adjacent biological resources. These uses are described in the Preserve Edge Plan and include trails and open green space. Playgrounds and sports courts are a potential use in recreational facilities, but would only be allowed outside of the Preserve Edge. As discussed above, these types of recreational facilities would be expected to generate noise levels of 60 dBA L_{EQ} up to 60 feet from the source; therefore, given the 100-foot buffer zone, these noise levels would not be expected to be significant in the MSCP Preserve (see the discussion on Adjacency Management in Section 5.6, *Biological Resources*). The Preserve Edge Plan was prepared in coordination with qualified biologists, including the determination of an adequate buffer zone and restricting uses to prevent indirect impacts to the Preserve, including noise impacts. The Biological Technical Report (HELIX 2016) determined that implementation of the Preserve Edge Plan would reduce indirect operational noise impacts from project development to a less than significant level by restricting allowable activities adjacent to the Preserve. Active uses such as low-activity play elements and exercise stations may be permitted within the buffer zone; however, such uses would be required to demonstrate consistency with MSCP Preserve Adjacency Guidelines. Provided that the proposed uses would not exceed 60 dBA L_{EQ} at the Preserve, it would be allowed. Therefore, impacts would be less than significant.

g. Electronic Amplification

Electronic amplification equipment would not be permanently installed at any of the proposed recreational facilities, but temporary systems may be used in conjunction with active sport events. Activities or events at the public parks that would include amplified noise or other temporary noise generating equipment would be required to obtain a permit from the City of Chula Vista Director of Library and Recreation. If a permit is not obtained, Section 2.66.185 of the City Municipal Code prohibits any park or recreation center user to operate a radio, television, stereo, or any similar electronic or mechanical device capable of producing or emitting sound at a volume where the sound is audible at a distance greater than 100 feet from the point of emission. Activities that require permitted amplified noise would be limited to normal park operation hours. In addition, amplified noise would not be a consistent source of noise. Activities would occur on various dates and times, and at varied locations. Permitted uses would still be subject to the City's hourly exterior noise level limits established in the City Municipal Code, which is enforced by the Chula Vista Police Department. Therefore, nuisance noise and permitted amplified noise from events at the Project recreational facilities would result in a less than significant impact.

h. Maintenance Activities

Scheduled maintenance by crews could occur on a daily basis at the Project parks. Maintenance activities would include the use of gasoline-powered mowers, trimmers, blowers, and edgers resulting in intermittent short-term temporary noise increases. Maintenance activities would generally occur during the day would be subject to the daytime noise control ordinance of 60 dBA at multi-family land uses and 65 dBA at commercial land uses. Although unlikely, if maintenance would be required during evening, night, or early morning hours, the City's nighttime noise control ordinance standards would apply. Landscape maintenance equipment, can result in intermittent noise levels that range from approximately 80 to 120 dBA at 3 feet (City of Anderson 2008).

Landscape maintenance would have the potential to exceed the daytime hourly average limit of 60 dBA up to approximately 0.6 mile from the recreational facility, and to exceed the hourly 65 dBA noise level limit up to approximately 0.33 mile away if all equipment operates continuously for at least an hour. As discussed above under recreational activity impacts, residences may be located adjacent to parks. However, maintenance equipment would not be operating at any one location for more than several minutes, and all equipment would not be operating simultaneously. Therefore, the hourly average noise level at a specific noise receptor would likely be less than the maximum noise level. Landscape maintenance would be subject to the exterior noise level limits established in the City's noise control ordinance. Due to the limited amount of time equipment would be operating in one location, operation of landscape equipment would generally not exceed the hourly noise level limit at a particular receptor. Therefore, landscape maintenance would result in a less than significant impact.

Occasional maintenance activities would be required along the edge of development within the T-1: Future Development and SD: Lake Blocks transects, such as vegetation and sediment removal; however, these activities would not require heavy construction equipment that would generate excessive noise. As described in the Preserve Edge Plan, a manual weeding program would be prepared for the preserve edge. Additionally, the Biological Technical Report determined that implementation of the Preserve Edge Plan would reduce indirect operational impacts from project development to a less than significant level, including noise. Similar to on-site infrastructure, occasional maintenance of the off-site utilities may require heavy equipment; however, such activities would be infrequent and temporary. The City's MSCP Plan states that infrastructure repairs and maintenance are allowable as needed in the MSCP Preserve (City 2003). Maintenance would be subject to the MSCP requirement that, to the extent practicable, access for non-emergency routine maintenance will be limited during bird breeding seasons in areas where breeding and/or nesting activity may occur. Therefore, impacts would be less than significant.

i. Infrastructure Improvements

The infrastructure improvements associated with the project include pipelines and electrical lines, which are passive systems and would not generate operational noise. Inspection of these facilities would not require intensive activities that would result in excessive noise levels. Occasional maintenance (2 to 4 times per year) may be required that necessitates the use of large equipment; however, such activities would be infrequent, temporary, and limited to the area close to the maintenance site. Maintenance equipment would be subject to the limits on operation hours in the

City's noise control ordinance for construction and building work in residential zones. Therefore, impacts that occur from operation of these facilities would be less than significant.

2. Transportation Noise

The greatest noise exposure to proposed project land uses would be from on-site vehicular traffic noise. Noise levels for on-site roadway segments were calculated with Buildout (Year 2030) traffic levels using the U.S. Department of Transportation's (USDOT's) Traffic Noise Model (TNM) version 2.5. Noise levels were modeled at a distance of 50 feet from the roadway centerline; this is a conservative estimate for the closest distance the Project land uses would be from the roadway centerline. Noise levels were modeled for one ground level and one upper story receptor at each location. A floor height of 26 feet was used to provide an estimated height for upper story receivers, and a distance of 5 feet was added to the floor height to represent receiver ear height. On-site roadway traffic volumes at buildout of the Project are based upon values presented in the project's TIA (LLG 2017).

The modeled noise level for each roadway segment is shown in Table 5.5-6, *Buildout (Year 2030) On-Site Traffic Noise Levels*. In addition, ground-level noise contours for 70 CNEL, 65 CNEL, and 60 CNEL were calculated for each roadway. These contours are shown in Figures 5.5-1a through 5.5-1c, and assume flat topography but do not take into account any shielding provided by the proposed buildings and represent unmitigated conditions. Detailed traffic noise modeling data is provided in the Project's Acoustical Analysis Report (Appendix D of this EIR).

Table 5.5-6 BUILDOUT (YEAR 2030)
ON-SITE TRAFFIC NOISE LEVELS

Roadway	Segment	Ground Level Traffic Noise Level (CNEL)[1]	Upper Story Traffic Noise Level (CNEL)[2]	Exterior Noise Significant Impact?[3]
Hunte Parkway	Exploration Falls Drive to Discovery Falls Drive	73	72	Yes
	Discovery Falls Drive to Eastlake Parkway	74	73	Yes
Main Street	Eastlake Parkway to Orion Avenue	74	73	Yes
Eastlake Parkway	Hunte Parkway to Street C	64	63	No
	Street C to Campus Drive	65	64	No
	Campus Drive to Otay Valley Road	64	63	No
Orion Avenue	Hunte Parkway to Street C	65	64	No
	Street C to Street E	63	63	No
	Street E to Campus Drive	57	57	No
	Campus Drive to Otay Valley Road	64	63	No

Table 5.5-6 (cont.) BUILDOUT (YEAR 2030)
ON-SITE TRAFFIC NOISE LEVELS

Roadway	Segment	Ground Level Traffic Noise Level (CNEL)[1]	Upper Story Traffic Noise Level (CNEL)[2]	Exterior Noise Significant Impact?[3]
Discovery Falls Drive	Hunte Parkway to Campus Drive	65	64	No
Campus Drive	Campus Drive to Eastlake Parkway	60	60	No
	Eastlake Parkway to Orion Avenue	64	63	No

[1] Noise levels were taken 50 feet from the roadway centerline, which is a conservative estimate of the distance to proposed project NSLUs.
[2] Upper story receives are assumed at a floor height of 26 feet
[3] 65 CNEL is the most conservative noise level that is acceptable for the possible land uses (multi-family residential, schools, and neighborhood parks). Some land uses have an acceptable noise level higher than 65 CNEL (e.g., 70 CNEL for offices; 75 CNEL for retail and commercial).
Note: Noise levels are based on the traffic numbers provided in the project TIA (LLG 2016). Bold text indicates a significant exterior impact.

Project land uses located 50 feet from the roadway centerline of Hunte Parkway and Main Street would potentially be exposed to exterior noise levels of between 72 to 74 CNEL from traffic noise. For these roadway segments, noise levels would exceed 65 CNEL at the following distances: 210 feet on Hunte Parkway from Exploration Falls Drive to Discovery Falls Drive; 255 feet on Hunte Parkway from Discovery Falls Drive to Eastlake Parkway; and 230 feet on Main Street from Eastlake Parkway to Orion Avenue. Noise levels would exceed 70 CNEL at the following distances: 86 feet on Hunte Parkway from Exploration Falls Drive to Discovery Falls Drive; 106 feet on Hunte Parkway from Discovery Falls Drive to Eastlake Parkway; and 95 feet on Main Street from Eastlake Parkway to Orion Avenue.

These distances would include uses within the proposed T-3: Campus Commons, T-6: Gateway District, and SD: Flex Overlay transects. If residential, school, library, and neighborhood park uses are placed in these areas, noise levels would potentially exceed the exterior noise compatibility standard of 65 CNEL; if community parks and offices and professional land uses are placed in these areas, they would exceed the exterior noise compatibility standard of 70 CNEL. Therefore, impacts to exterior noise levels from the Project would be potentially significant. Commercial uses would be within the acceptable compatibility standard of 75 CNEL. In addition, all other internal roadways were modeled at 65 CNEL or less, and proposed land uses for the Project on these roadways would not be subjected to excessive exterior noise levels.

Regarding interior noise levels, traditional architectural materials are normally able to reduce exterior to interior noise by up to 15 dBA. Because building façade noise levels may exceed 60 CNEL at 11 of 13 studied Project roadway segments, traditional architectural materials would not be expected to attenuate interior noise to 45 CNEL and interior noise impacts on these roadways would be potentially significant. These include uses within the proposed transects T-1: Future Development, T-3: Campus Commons, T-4: Town Center, T-5: Urban Core, T-6: Gateway District and SD: Flex Overlay.

B. Threshold 2: Subject vibration-sensitive land uses to the structural damage threshold from ground-borne vibration of 0.25 in/sec PPV and the strongly perceptible human response threshold from ground-borne vibration of 0.1 in/sec PPV from a continuous/frequent intermittent source, as specified by Caltrans. According to Caltrans, major construction activity within 200 feet and pile driving within 600 feet may be potentially disruptive to sensitive operations (Caltrans 2002).

1. Off-site Impacts

The greatest potential source of vibration during construction activities would be a vibratory roller, which would be expected to be used within 100 feet of the nearest existing vibration-sensitive land use, the High Tech K-12 School campus. A vibratory roller would create approximately 0.210 in/sec PPV at a distance of 25 feet (Caltrans 2013). This would equal 0.046 in/sec PPV at a distance of 100 feet. This would be lower than the Caltrans measure of the structural damage threshold from ground-borne vibration of 0.25 in/sec PPV and lower than the strongly perceptible human response threshold from ground-borne vibration of 0.1 in/sec PPV from a continuous/frequent intermittent source. Therefore, although a vibratory roller may be perceptible to nearby off-site vibration-sensitive land uses, temporary impacts associated with the roller (and other potential construction equipment) would be less than significant.

2. On-site Impacts

Campus vibration-sensitive instruments and operations may require special consideration during construction. Vibration criteria for sensitive equipment 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. Although the proposed project includes areas within the main campus property that allow laboratory uses with vibration-sensitive equipment, major construction activity, including grading and paving of roadways, is likely to be complete within the campus property area prior to these facilities becoming fully operational. However, the potential for construction vibration to disturb vibration-sensitive instruments and operations may still occur, and impacts are assessed as potentially significant (Impact 5.5-2).

Construction may occur in areas other than the campus property subsequent to the campus facilities being occupied. Similar to off-site impacts, the greatest source of vibration during construction would be a vibratory roller, which is conservatively assumed to be within 50 feet of a university facility housing laboratory equipment. This would equal 0.098 in/sec PPV at a distance of 50 feet. This would be lower than the Caltrans measure of the structural damage threshold from groundborne vibration of 0.25 in/sec PPV and lower than the strongly perceptible human response threshold from ground-borne vibration of 0.1 in/sec PPV from a continuous/frequent intermittent source. Therefore, impacts to Project uses other than campus vibration-sensitive instruments and operations would be less than significant.

C. Threshold 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 City General Plan Noise Element, including 65 CNEL for residential, school, and neighborhood park

uses; 70 CNEL for community parks, office and professional uses, and athletic fields; and 75 CNEL for commercial uses. For transportation-related noise, a significant impact would occur if the proposed project results in a 3 CNEL or greater increase in traffic noise on a roadway segment and the resultant noise level would exceed the City General Plan Noise Element exterior noise limits.

This section addresses the potential for implementation of the Project to result in a substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project. Project-related noise increases from stationary sources would be regulated by the City noise ordinance, and are therefore addressed under Threshold 1. Ambient noise increases related to project-generated traffic noise are not regulated by specific City ordinances and are therefore addressed within this issue topic.

1. Exterior

The following analysis is based on the Project-specific TIA prepared for the Project (LLG 2017). The potential for the Project to permanently increase traffic noise is addressed under the following scenarios: Existing + Project and Buildout (Year 2030) + Project.

a. Existing + Project

Noise levels for the Existing and Existing + Project scenarios are displayed in Table 5.5-7, *Existing + Project Traffic Noise Levels*. Seven of the 13 segments have existing noise levels above 65 CNEL at the nearest NSLU; with project traffic, 12 of the 13 segments would have noise levels above 65 CNEL at the nearest NSLU. Of these 12 segments, 4 of them would have a 3 CNEL or greater increase in noise from the project, and therefore these 4 segments would have a temporary, potentially significant impact under the Existing + Project scenario; however, no permanent impact would occur. Therefore, the Project would not result in a substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project; permanent noise impacts would be less than significant.

The large increases in noise levels along these segments are mostly due to the lack of thoroughfares under existing conditions. In this scenario, a large amount of Project traffic travels east on Hunte Parkway or west on Birch Road, whereas in the buildout scenario additional thoroughfare roadways would be constructed to distribute traffic over a wider area (e.g., Main Street and Otay Valley Road).

Table 5.5-7 EXISTING + PROJECT TRAFFIC NOISE LEVELS

Roadway	Segment	Nearest NSLU (feet)	Noise Level from Roadway Centerline at nearest NSLU or 100 feet, whichever is less (CNEL)		Exceed 65 CNEL?	Increase in Noise Level	Significant Impact?
			Existing	Existing + Project			
Olympic Parkway	E. Palomar Street to SR-125	150	70.0	70.7	Yes	0.7	No
	SR-125 to Eastlake Parkway	N/A	70.0	70.9	Yes	0.9	No
	Eastlake Parkway to Hunte Parkway	120	66.1	67.5	Yes	1.4	No
Birch Road	La Media Road to SR-125	120	64.7	70.1	Yes	5.4	Yes
	SR-125 to Eastlake Parkway	70	67.7	70.4	Yes	2.8	No
Hunte Parkway	Otay Lakes Road to Olympic Parkway	70	64.2	66.4	Yes	2.2	No
	Olympic Parkway to Exploration Falls Drive	120	59.5	65.8	Yes	6.3	Yes
	Exploration Falls Drive to Discovery Falls Drive	120	59.3	63.8	No	4.5	Yes
	Discovery Falls Drive to Eastlake Parkway	150	60.0	64.7	Yes	4.7	Yes
Eastlake Parkway	Otay Lakes Road to Olympic Parkway	60	69.7	70.4	Yes	0.7	No
	Olympic Parkway to Birch Road	120	65.2	66.7	Yes	1.6	No
	Birch Road to Hunte Parkway	110	57.2	69.9	Yes	12.7	Yes
Proctor Valley Road	Mt Miguel Road to Hunte Parkway	100	66.0	66.5	Yes	0.5	No

Source: HELIX 2016d
Note: Bold text indicates a significant exterior impact.

b. Buildout (Year 2030) + Project

Noise levels for the Buildout (Year 2030) and Buildout (Year 2030) + Project scenarios are displayed in Table 5.5-8, *Buildout (Year 2030) + Project Traffic Noise Levels*. The Buildout (Year 2030) scenario compares traffic volumes with and without the Project, and without implementation of the mitigation measures identified in the TIA. This scenario assumes full buildout of the Project and circulation network, as well as cumulative development through Year 2030. Under this scenario, all roadway segments would exceed 65 CNEL; however, none of them would have a

3 CNEL or greater increase in noise from the Project and less than significant impacts to off-site NSLUs would occur.

Table 5.5-8 BUILDOUT (YEAR 2030) + PROJECT TRAFFIC NOISE LEVELS

Roadway	Segment	Nearest NSLU (feet)	Noise Level from Roadway Centerline at nearest NSLU or 100 feet, whichever is less (CNEL)		Exceed 65 CNEL?	Increase in Noise Level	Significant Impact?
			Buildout (Year 2030)	Buildout (Year 2030) + Project			
Olympic Parkway	E. Palomar Street to SR-125	150	70.8	71.2	Yes	0.4	No
	SR-125 to Eastlake Parkway	N/A	70.9	71.4	Yes	0.5	No
	Eastlake Parkway to Hunte Parkway	120	68.8	69.6	Yes	0.8	No
Birch Road	La Media Road to SR-125	120	69.3	69.5	Yes	0.2	No
	SR-125 to Eastlake Parkway	70	69.1	69.4	Yes	0.3	No
Hunte Parkway	Otay Lakes Road to Olympic Parkway	70	67.2	68.7	Yes	1.5	No
	Olympic Parkway to Exploration Falls Drive	120	74.2	75.7	Yes	1.5	No
	Exploration Falls Drive to Discovery Falls Drive	120	67.4	67.6	Yes	0.2	No
	Discovery Falls Drive to Eastlake Parkway	150	73.2	74.6	Yes	1.4	No

Table 5.5-8 (cont.) BUILDOUT (YEAR 2030) + PROJECT TRAFFIC NOISE LEVELS

Roadway	Segment	Nearest NSLU (feet)	Noise Level from Roadway Centerline at nearest NSLU or 100 feet, whichever is less (CNEL)		Exceed 65 CNEL?	Increase in Noise Level	Significant Impact?
			Buildout (Year 2030)	Buildout (Year 2030) + Project			
Eastlake Parkway	Otay Lakes Road to Olympic Parkway	60	73.8	73.9	Yes	0.1	No
	Olympic Parkway to Birch Road	120	68.8	68.9	Yes	0.2	No
	Birch Road to Hunte Parkway	110	66.5	68.3	Yes	1.8	No
Proctor Valley Road	Mt Miguel Road to Hunte Parkway	100	76.8	77.9	Yes	1.1	No

Source: HELIX 2016d

Note: Bold text indicates a significant exterior impact.

2. Interior

For both single and multi-family residential land uses, the threshold would be 45 CNEL for interior spaces. As typical architectural materials are expected to attenuate noise levels by 15 CNEL, if noise levels are above 60 CNEL at the building façades a significant interior impact would occur. A significant impact would occur for the Existing + Project and Buildout (Year 2030) + Project scenarios if the noise levels exceed 60 CNEL at the nearest NSLUs and if the Project's contribution would be 3 CNEL or greater.

All roadways under the Existing + Project and Buildout (Year 2030) + Project scenarios would exceed 60 CNEL. Under the Existing + Project scenario, the Project would contribute a 3 CNEL or greater increase to five roadways. Therefore, the Project's off-site transportation noise under the Existing + Project scenario would cause temporary, potentially significant direct impacts to the interior noise; however, no permanent impact would occur. Therefore, the Project would not result in a substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project; permanent noise impacts would be less than significant.

Under the Buildout (Year 2030) + Project scenario, the Project would not contribute a 3 CNEL or greater increase to any roadway and no impacts under this scenario would occur.

D. Threshold 4: Result in temporary construction noise:

- Outside the noise control ordinance-exempted hours of 7:00 a.m. to 10:00 p.m. Monday through Friday, and 8:00 a.m. to 10:00 p.m. on weekends; or

- That exceeds 60 dBA LEQ or an exceedance of the average ambient noise level by 3 dBA L_{EQ}, whichever is greater, at the edge of sensitive biological habitat within the Multi-habitat Planning Area (MHPA) during the breeding season.

The primary source of temporary noise associated with implementation of the Project would be construction activities. Construction for each project would involve several stages including grading, foundation construction, and finish construction. Noise generated by construction equipment can vary in intensity and duration during each phase of construction. Reasonable worst-case construction scenarios would be from the simultaneous operation of an excavator, loader, and dump truck during grading, which is the construction activity that typically generates the highest noise levels. These pieces of equipment would be used during grading to remove or modify soil, with the loaders and dump trucks removing the debris. Noise impacts to specific receptor groups (humans and wildlife) are described below.

1. Human Receivers

Off-site human receptors located near future construction activities include the single- and multi-family residences across Hunte Parkway and the High Tech K-12 School campus. The single- and multi-family residences would be located approximately 250 feet and the High-Tech K-12 School campus would be located approximately 100 feet from construction activities. Construction noise levels from the use of an excavator, loader, and dump truck could temporarily reach 65.9 dBA L_{EQ} at 250 feet and 73.9 dBA L_{EQ} at 100 feet.

Future on-site NSLUs may occupy buildings such as academic buildings or residences while other parts of the Project are still undergoing construction. A conservative estimate is that construction activities with an excavator, loader, and dump truck may occur within 50 feet of future on-site NSLUs. Construction noise levels from the use of an excavator, loader, and dump truck could temporarily reach 79.9 dBA L_{EQ} at 50 feet.

As discussed under Section 2.3, the Chula Vista Municipal Code does not specify construction noise limits but does limit construction activities to the hours of 7:00 a.m. to 10:00 p.m. Monday through Friday, and 8:00 a.m. to 10:00 p.m. on weekends. The Project would only perform construction activities within these hours; therefore, noise impacts from construction activities to these receptors would be less than significant.

2. Sensitive Habitat

Sensitive habitat is located within the Project site, specifically in the eastern and southeastern portions of the Main Campus Property and the majority of the Lake Property. The MSCP Preserve area, containing sensitive habitat, is located adjacent to the east and south of the Main Campus Property and adjacent to the west and north of the Lake Property. These habitat areas may support avian nesting for sensitive bird species that may be affected by construction noise. These habitat areas may be within approximately 30 feet of the closest project construction activities. Construction noise levels from an excavator, loader, and dump truck at this distance could temporarily reach 84.3 dBA L_{EQ}. The 60 dBA L_{EQ} contour line for the use of these pieces of equipment would be approximately 500 feet. Therefore, if construction activities using an

excavator, loader, and a dump truck occur within 500 feet of sensitive habitat, a potentially significant noise impact would occur to nesting birds in sensitive habitat (Impact 5.5-3).

E. Threshold 5: For a project located within an airport land use plan, or where such a plan has not been adopted, within two miles of a public use airport or private airstrip, expose people residing or working in the project area to excessive noise.

The Project site is located approximately 2.5 miles northeast of Brown Field Municipal Airport, a public airport, and 3.4 miles west of John Nichol's Field, a private airport. The Project site is not located within the 60 CNEL noise contour for the Brown Field Municipal Airport (ALUC 2010). With the distance from John Nichol's Field and the small size of the airport, the Project site would not be expected to be exposed to excessive noise from the airport. Therefore, impacts associated with the airports are less than significant.

5.5.4 Level of Significance Prior to Mitigation

A. Excessive Noise Levels

Impact 5.5-1a: Project HVAC units may generate exterior and interior noise levels in excess of the City's noise control ordinance at nearby NSLUs within Transects T-3A, T-3B, T-6A, T-6B, T-6D, T-6E, and SD: Flex Overlay.

Impact 5.5-1b: Active uses at recreational facilities (e.g., parks and sport courts) may generate noise in excess of City noise control ordinance standards at nearby NSLUs.

Impact 5.5-1c: Project residences and/or other project NSLUs could be exposed to a potentially significant impact from High Tech K-12's playground and grassy play area.

B. Ground-borne Vibration

Impact 5.5-2: Construction vibration impacts related to ground-borne vibration would be potentially significant.

C. Permanent Increase in Ambient Noise Levels

Implementation of the Project is planned to be constructed over a period of approximately 25 years, and over time would include the construction of new roadways that would provide new connections from the Project area to the regional transportation system (as can be seen in the Buildout [Year 2030] scenario). These new connections would reduce long-term traffic on the roadways surrounding the Project site by routing some cumulative traffic through the west and southwest instead of the surrounding roadways to the north and east. In addition, these connections would direct traffic generated by the Project away from the existing off-site roadways and reduce associated traffic noise. Therefore, no mitigation measures are required.

In the Buildout (Year 2030) scenario, the Project would not result in a significant exterior or interior traffic noise increase on any roadway.

D. Temporary Increase in Ambient Noise Levels

Impact 5.5-3: Construction noise may exceed the 60 dBA L_{EQ} threshold for sensitive habitat in the MSCP Preserve Area and a significant temporary noise impact would occur to nesting birds in sensitive habitat.

Construction of the Project, including grading activities, would not cause significant noise impacts to human receptor NSLUs.

E. Aircraft Noise

Impacts from airport noise on the Project would be less than significant.

5.5.5 Mitigation Measures

The exact location of future development, such as individual residences, commercial buildings, and park amenities is currently unknown. Therefore, the location of specific setbacks, sound barriers, and other noise attenuating features cannot be determined at this time. The following mitigation measures require subsequent analysis when this information becomes available to ensure compliance with applicable noise regulations.

A. Excessive Noise Levels

Implementation of the Project would expose on-site land uses to noise levels in excess of the City's noise compatibility standards, including from the projected traffic noise levels (Impacts 5.5-1a through 5.5-1c). Mitigation Measures 5.5-1a through 5.5-1e would reduce noise exposure:

5.5-1a **Site-Specific Acoustic Analysis – Multi-Family Residences.** Concurrent with Design Review and prior to the approval of building permits for multi-family areas within Transects T-3A, T-3B, T-6A, T-6B, T-6D, T-6E, and SD: Flex Overlay, where first and/or upper floor exterior noise levels exceed 60 CNEL and/or where required outdoor area (patios or balconies) noise levels exceed 65 CNEL, the City shall require: (1) an acoustical analysis demonstrating to the satisfaction of the Development Services Director (or their designee) that the proposed building plans ensure that interior noise levels due to exterior noise sources will be at or below California's Title 24 Interior Noise Standards (i.e., 45 CNEL) in any habitable room, and (2) all outdoor useable areas are not exposed to noise levels in excess of the City's noise compatibility guidelines for outdoor use areas (i.e., 65 CNEL). The analysis must also identify Sound Transmission Loss rates of each window. Design-level architectural plans will be available during design review and will permit the accurate calculation of transmission loss 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, in which case, adequate ventilation systems shall be installed. The City shall require noise attenuation features that would (1) reduce sound levels to 45 CNEL in any habitable room, and (2) that would reduce sound levels to 65 CNEL at outdoor usable areas.

5.5-1b **Site-Specific Acoustic Analysis – Non-Residential NSLUs.** Concurrent with Design Review and prior to the approval of building permits for any non-residential NSLUs

(schools, libraries, neighborhood parks) within Transects T-3A, T-3B, T-6A, T-6B, T-6D, T-6E, and SD: Flex Overlay, where exterior noise levels exceed 65 CNEL, the City shall require a site design plan and subsequent acoustical analysis demonstrating to the satisfaction of the Development Services Director (or their designee) that all outdoor useable areas are not exposed to noise levels in excess of 65 CNEL. Measures to reduce noise levels may include, but would not be limited to, setback of structures from the roadway, installing acoustic barriers, or orienting outdoor activity areas away from roadways so that surrounding structures provide noise attenuation. Wall and roof-ceiling assemblies making up the building envelope shall comply with the requirements of the 2013 CALGreen Building Code and meet a composite STC rating of at least 50 or a composite OITC rating of no less than 40, with exterior windows of a minimum STC of 40 or OITC of 30 in compliance with the CALGreen Building Code. The City shall require noise attenuation features to reduce sound levels to 65 CNEL at outdoor usable areas.

5.5-1c **Site-Specific Acoustic Analysis – Office Uses.** Concurrent with Design Review and prior to the approval of building permits for any office use within Transects T-3A, T-3B, T-6A, T-6B, T-6D, T-6E, and SD: Flex Overlay the City shall require a site design plan and subsequent acoustical analysis demonstrating to the satisfaction of the Development Services Director (or their designee) that exterior noise levels at the property line are at or below the City's noise compatibility guidelines for office uses (i.e., 70 CNEL). Measures to reduce noise levels may include, but would not be limited to, setback of structures from the roadway, installing acoustic barriers, or, in mixed-use buildings, orienting offices away from roadways so that surrounding structures provide noise attenuation. The City shall require noise attenuation features to reduce sound levels to 70 CNEL at the property line.

5.5-1d **HVAC Mechanical Equipment Shielding.** Concurrent with Design Review and prior to the approval of building permits for non-residential development, the City shall require a design plan for the project demonstrating to the satisfaction of the Development Services Director (or their designee) that the noise level from operation of mechanical equipment will not cumulatively exceed the following noise level limits for a designated receiving land use category as specified in Section 19.68.030 of the City noise control ordinance. Noise control measures may include, but are not limited to, the selection of quiet equipment, equipment setbacks, silencers, and/or acoustical louvers. The City shall require noise attenuation features that would reduce sound levels to levels that are allowable under the Chula Vista noise control ordinance:

- From 10 p.m. to 7 a.m. on weekdays and from 10 p.m. to 8 a.m. on weekends:
    - 45 dBA for residential
    - 50 dBA for multiple dwelling residential
    - 60 dBA for commercial
    - 70 dBA for light industry (I-R and I-L zone)
    - 80 dBA for heavy industry (I zone)

- From 7 a.m. to 10 p.m. on weekdays and from 8 a.m. to 10 p.m. on weekends:
    - 55 dBA for residential
    - 60 dBA for multiple dwelling residential
    - 65 dBA for commercial
    - 70 dBA for light industry (I-R and I-L zone)
    - 80 dBA for heavy industry (I zone)

Noise control measures may include, but are not limited to, the selection of quiet equipment, equipment setbacks, silencers, and/or acoustical louvers. The City shall require noise attenuation features that would reduce sound levels to levels at or below the allowable levels set forth in the Chula Vista noise control ordinance.

5.5-1e **Site Specific Analysis – Recreational Facilities.** Concurrent with the preparation of site-specific plan(s) and prior to the approval of a grading plan, the City shall require the preparation of an acoustical analysis to ensure that noise levels generated from any active uses at the recreational facilities, such as sports fields, shall not exceed the receiving land use category's exterior noise limits as identified in the City noise control ordinance. Measures to reduce noise levels may include, but would not be limited to, siting of structures or buildings either at the recreational facilities or at the receiving land use site in order to provide setbacks between active areas of the facilities and adjacent noise sensitive uses or construction of a wall to provide noise attenuation. Final noise attenuation design would be determined by a site-specific acoustic analysis conducted by a qualified acoustical engineer, to the satisfaction of the Development Services Director (or their designee).

B. Excessive Ground-Borne Vibration

Project construction vibration impacts related to ground-borne vibration would be potentially significant (Impact 5.5-2). Implementation of Mitigation Measure 5.5-2 would reduce construction vibration impacts:

5.5-2 For major construction activity involving heavy earth moving equipment within 200 feet, and pile driving within 600 feet, of vibration-sensitive land uses (e.g., vibration sensitive laboratory equipment), prior to the initiation of construction activities, the City shall approve a construction vibration mitigation program developed by a qualified person experienced in the fields of environmental noise and vibration assessment to be implemented by the construction contractor. The construction vibration mitigation program shall include measures to reduce vibration resulting from construction activities to the maximum extent practicable. Notification and monitoring of construction activities shall include, but not be limited to, the following:

- Vibration monitoring shall be performed during construction to establish the level of vibration produced by high impact activities. Monitoring shall be conducted when any construction would occur within 50 feet of a vibration sensitive land use. Monitoring shall be conducted using a portable vibration-monitoring instrument that

provides a calibrated record of local ground movement/accelerations. If construction vibration exceeds 2.0 in/sec, alternative work methods and equipment shall be used. Baseline vibration levels at specified locations shall be established prior to construction.

- Building occupants shall be notified at least two weeks prior to the start of construction that would occur within 50 feet of any vibration sensitive land use.

C. Permanent Increase in Ambient Noise Levels

Permanent increases in ambient noise levels would be less than significant and no mitigation is required.

D. Temporary Increase in Ambient Noise Levels

Construction noise may result in a significant temporary noise impact to nesting birds (Impact 5.5-3). Mitigation Measures 5.6-4 through 5.6-8a from Section 5.6, *Biological Resources*, of this EIR, which require pre-construction bird surveys, shall be implemented to address this temporary noise impact.

E. Airport Noise Levels

Because the Project site is not located within the 60 CNEL noise contour for Brown Field Municipal Airport, no noise impacts related to the airport would occur. Therefore, no mitigation measures would be required.

5.5.6 Level of Significance After Mitigation

A. Excessive Noise Levels

Project impacts related to excessive noise levels (Impacts 5.5-1a through 5.5-1c) would be reduced to less than significant levels with implementation of Mitigation Measures 5.5-1a through 5.5-1e because the mitigation would require compliance with the City's noise control ordinance, the General Plan noise compatibility guidelines, and the CALGreen Building Standards Code.

B. Excessive Ground-Borne Vibration

Project impacts related to excessive ground-borne vibration (Impact 5.5-2) would be reduced to less than significant levels with implementation of Mitigation Measure 5.5-2 because a mitigation program, including monitoring and notification would be required prior to blasting or pile-driving activities within proximity to buildings containing vibration-sensitive instruments and operations.

C. Permanent Increase in Ambient Noise Levels

Impacts related to a permanent increase in ambient noise levels would be less than significant without mitigation.

D. Temporary Increase in Ambient Noise Levels

Project impacts related to temporary construction noise to nesting birds would be reduced to less than significant levels with implementation of pre-construction bird surveys (Mitigation Measures 5.6-4 through 5.6-8a from Section 5.6, *Biological Resources*, of this EIR) because the mitigation would require confirmation that nesting birds are either absent, or if present, that a work buffer is established before construction activities occur.

E. Airport Noise Levels

Impacts related to aircraft noise would be less than significant without mitigation.

5.6 BIOLOGICAL RESOURCES

This section describes existing biological conditions of the Project site and relevant off-site areas and evaluates the potential for impacts to biological resources due to implementation of the proposed project.

This EIR tiers from the Previous Environmental Review Documents, as described in Chapter 2.0, *Introduction*. The 2013 GPA/GDPA SEIR did not address biological resources but relies on analysis in the 2005 GPU EIR (EIR 05-01) and the 1993 Otay Ranch GDP Program EIR (EIR 90-01). Section 3.3, *Biological Resources,* of the Otay Ranch GDP Program EIR, analyzed biological resources impacts for the entire Otay Ranch site, including the Main Campus Property, and included mitigation that requires a more detailed examination as each SPA Plan is approved. The 1993 EIR also refers to the Resource Management Plan (RMP) that was under development at that time and provides that future projects would be subject to compliance with the RMP. The 2005 and 1993 analyses concluded that impacts to sensitive plant and animal species would be significant and unmitigable at the program level. Section 4.3, *Biological Resources*, of the 2001 SEIR for the Lake Property, evaluated biological resources impacts for the entire EastLake III SPA, including the Lake Property. Mitigation included requiring updated biological surveys and wetland delineations to be prepared prior to approval of detailed development plans for the Lake Property, as well as obtaining take authorization from either the City or state or federal agencies prior to any impacts on endangered species. The 2001 SEIR for the Lake Property concluded that implementation of the EastLake III SPA Plan would result in potentially significant but mitigable impacts regarding sensitive biological resources.

The biological resources discussions in this EIR are based on the Biological Technical Report, prepared by HELIX (July 2016), provided in Appendix E of this EIR. The technical report updates the applicable information contained in the SEIRs and includes updated mitigation measures that are equivalent to or more effective than measures included in the Previous Environmental Review Documents, based on current conditions in the Project site and its vicinity.

5.6.1 Existing Conditions

A. Regulatory Framework

1. Federal

a. Clean Water Act

The 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. The 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 U.S. (WUS) 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. Each of the applicable CWA Sections is described below:

- **Section 303** 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.

- **Section 401** allows states to certify or deny federal permits or licenses that might result in a discharge to state waters, including wetlands. Pursuant to Section 401 of the federal CWA, the Regional Water Quality Control Board (RWQCB) regulates discharging waste, or proposing to discharge waste, within any region that could affect a "water of the state" (California Water Code, Section 13260(a)), pursuant to provisions of the Porter–Cologne Water Quality Control Act. Waters of the state are defined as "any surface water or groundwater, including saline waters, within the boundaries of the state" (California Water Code, Section 13050(e)). A CWA Section 404 permit (described below) will only be issued by the U.S. Army Corps of Engineers (ACOE) following receipt of a CWA Section 401 Water Quality Certification from the RWQCB. If a CWA Section 404 permit is not required for the project, the RWQCB may still require a permit (i.e., Waste Discharge Requirement) for impacts to waters of the state under the Porter–Cologne Water Quality Control Act.

- **Section 402** establishes the National Pollutant Discharge Elimination System (NPDES) program to regulate both point source and nonpoint source discharges of pollutants to surface WUS. In California, the SWRCB and its RWQCBs administer the NPDES program and issue permits.

- **Section 404** of the CWA 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. Pursuant to Section 404, the ACOE regulates the discharge of dredged and/or fill material into "waters of the United States." The term "waters of the United States" defined as (1) all waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide; (2) all interstate waters including interstate wetlands; (3) all other waters such as intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, the use, degradation or destruction of which could affect foreign commerce; (4) all impoundments of waters otherwise defined as waters of the United States under the definition; (5) tributaries of waters identified in paragraphs (a) (1) through (4); and (6) wetlands adjacent to waters (other than waters that are themselves wetlands) identified in paragraphs (a)(1) through (6). (33 CFR 328.3(a))

  The term "wetlands" (a subset of waters of the United States) is defined in 33 CFR 328.3(b) as "those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas."

  The discharge of dredge or fill material into waters, including wetlands, requires authorization from ACOE prior to impacts. For impacts to wetlands or waters under

ACOE jurisdiction, either an Individual Permit or a Nationwide Permit (NWP) would be required in accordance with Section 404 of the CWA. If a project fails to comply with the terms and regulations specified in the NWP guidelines, then an Individual Permit to ACOE must be prepared.

b. Endangered Species Act

Administered by the USFWS, the federal Endangered Species Act (ESA) provides the legal framework for the listing and protection of species (and their habitats) identified as endangered or threatened with extinction. Actions that jeopardize endangered or threatened species and the habitats upon which they rely are considered a "take" under the ESA. Section 9(a) of the ESA defines take as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct." "Harm" and "harass" are further defined in federal regulations and case law to include actions that adversely impair or disrupt a listed species' natural behavioral patterns.

Sections 7 and 10(a) of the federal ESA regulate actions that could jeopardize endangered or threatened species. Section 7 describes a process of federal interagency consultation for use when federal actions may adversely affect listed species. A biological assessment is required for any major construction activity if it may affect listed species. In this case, take is authorized via a letter of biological opinion, issued by the USFWS for non-marine related listed species issues. A Section 7 consultation (formal or informal) is required when there is a nexus between federally listed species' use of the site and impacts to USACE jurisdictional areas. Section 10(a) allows issuance of permits for incidental take of endangered or threatened species with preparation of a HCP. The term "incidental" applies if the taking of a listed species is incidental to, and not the purpose of, an otherwise lawful activity. An HCP demonstrating how the taking would be minimized and how steps taken would ensure the species' survival must be submitted for issuance of Section 10(a) permits.

The USFWS identifies critical habitat for endangered and threatened species. Critical habitat is defined as areas of land that are considered necessary for endangered or threatened species to recover. The ultimate goal is to restore healthy populations of listed species within their native habitat so they can be removed from the list of threatened or endangered species. Once an area is designated as critical habitat pursuant to the federal ESA, all federal agencies must consult with the USFWS to ensure that any action they authorize, fund, or carry out is not likely to result in destruction or adverse modification of the critical habitat.

c. Migratory Bird Treaty Act

All migratory bird species native to the United States or its territories are protected under the federal Migratory Bird Treaty Act (MBTA). The MBTA is generally protective of migratory birds but does not actually stipulate the type of protection required. In common practice, the MBTA is now used to place restrictions on disturbance of active bird nests during the nesting season (generally February 1 to August 31). In addition, the USFWS commonly places restrictions on disturbances allowed near active raptor nests.

2. State

a. Porter Cologne Water Quality Act

The Porter-Cologne Water Quality Control Act provides for statewide coordination of water quality regulations. The Act established the California 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 Basin Plan for the San Diego Region 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.

b. 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. It includes the California Endangered Species Act ([CESA] Sections 2050-2115) and Streambed Alteration Agreement regulations (Sections 1600- 1616), as well as provisions for legal hunting and fishing, and tribal agreements for activities involving take of native wildlife. The CFG Code also includes the Native Plant Protection Act ([NPPA] Sections 1900-1913), which directed CDFW to carry out the Legislature's intent to "preserve, protect and enhance rare and endangered plants in this State." Pursuant to CFG Code Section 3503, it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by the code or any regulation made pursuant thereto. Raptors (birds of prey) and owls and their active nests are protected by CFG Code Section 3503.5, which states that it is unlawful to take, possess, or destroy any birds of prey or to take, possess, or destroy the nest or eggs of any such bird unless authorized by the CDFW. In common practice, CDFW places timing restrictions on clearing of potential nesting habitat (e.g., vegetation), as well as restrictions on disturbances allowed near active raptor nests.

Sections 3511 (birds), 4700 (mammals), 5050 (reptiles and amphibians), and 5515 (fish) of the California Fish and Game Code designate certain species as "fully protected." Fully protected species, or parts thereof, may not be taken or possessed at any time~~ except as part of an approved Natural Community Conservation Plan (NCCP) that treats such species as "covered species."~~. ~~or in connection with statutory-specified actions pursuant to the "Quantification Settlement Agreement" involving water transfer from the Imperial Irrigation District to the Metropolitan Water District of Southern California.~~ The California Fish and Game Commission may authorize the collecting of such species for necessary scientific research. Legally imported and fully protected species or parts thereof may be possessed under a permit issued by CDFW.

c. California Environmental Quality Act

Although threatened and endangered species are protected by specific federal and state statutes, Section 15380(b) of the CEQA Guidelines provides that a species not listed on the federal or

state list of protected species may be considered rare or endangered if the species can be shown to meet certain specified criteria. These criteria have been modeled after definitions in FESA and the section of the California Fish and Wildlife Code dealing with rare or endangered plants and animals. CEQA Guidelines Section 15380(b) requires public agencies to undertake environmental review to determine if a project would result in significant effects on species that are not listed by either the USFWS or CDFW (i.e., candidate species). Thus, CEQA provides an agency with the ability to protect a species from a project's potential impacts until the respective natural resource agencies have an opportunity to designate the species as protected, if warranted.

d. California Endangered Species Act and Native Plant Protection Act

The CESA is similar to the federal ESA in that it contains a process for listing of species and regulating potential impact to listed species. Section 2081 of the California ESA authorizes the CDFW to enter into a memorandum of agreement for take of listed species for scientific, educational, or management purposes.

The NPPA enacted a process by which plants are listed as rare or endangered. The NPPA regulates collection, transport, and commerce in plants that are listed. The California ESA follows the NPPA and covers both plants and animals determined to be endangered or threatened with extinction. Plants listed as rare under the NPPA are also designated as rare under the CESA.

3. Local

a. Otay Ranch General Development Plan and Resource Management Plan

The Main Campus Property of the Project site is part of the Otay Ranch GDP and RMP, which were approved by the City in 1993. The GDP contains conceptual development, circulation, and preservation plans. The RMP consists of two separate documents: the Phase 1 RMP identifies conservation areas within Otay Ranch and contains policies regarding species and habitat conservation and long-term management of the Otay Ranch Preserve (Preserve); and the Phase 2 RMP includes Ranch-wide studies and provides additional detail on conveyance, management, and funding of the Preserve. The Preserve provides CEQA mitigation for development proposed in the GDP, including the Main Campus Property of the Project site. Otay Ranch project designs must demonstrate conformance with the conservation goals and Preserve boundaries in the GDP and RMP. The Lake Property is not inside the boundary of the Otay Ranch planning area, and therefore is not covered by the GDP or RMP (see discussion below under Item C for habitat management for the Lake Property).

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

The Multiple Species Conservation Program (MSCP) is a long-term plan to mitigate for potential losses of covered species and their habitats due to direct, indirect, and cumulative impacts of urban growth in San Diego County. The MSCP is a subregional plan under the California Natural Community Conservation Planning Act of 1991 and is implemented through local subarea plans. The Chula Vista Subarea Plan was adopted in 2003 and implements the MSCP subregional preserve within the City of Chula Vista. Take authorization was granted to the City in January 2005, through the execution of an Implementing Agreement between the City and resource agencies. The MSCP Subarea Plan provides for the conservation of upland habitats and

covered species through Preserve design, regulation of impacts and uses, and management of the Preserve. Any project authorized by the City of Chula Vista must be in conformance with the Chula Vista Subarea Plan. Projects involving land use development for which hard-line preserve boundaries (100 percent Conservation Areas) have already been established, and for which conservation measures consistent with the MSCP Subregional Plan and Chula Vista Subarea Plan have been or will be specified as binding conditions of approval, are considered Covered Projects under the City's MSCP Subarea Plan. Development outside of a Covered Project is subject to the Habitat Loss and Incidental Take (HLIT) permit. Protocols and requirements for activities within and outside of the 100 percent Conservation Areas are described below.

MSCP Covered Projects (Main Campus Property)

Development of the Main Campus Property is considered a Covered Project under the MSCP Subarea Plan; however, the Lake Property is not included as a Covered Project. Therefore, the Otay Ranch RMP and its management studies, plans, and policies apply to the Main Campus Property only. In addition, the MSCP Subarea Plan includes the following conditions of coverage for the Project:

1. About 20.6 acres of disturbed area within Salt Creek will be restored/enhanced to Diegan coastal sage scrub. Prior to approval of a grading plan for the UID Project, a restoration/ enhancement plan consistent with the guidelines in the Otay Ranch Coastal Sage Scrub Master Plan will be prepared;

2. Disturbance of coastal sage scrub within the development areas on the east side of Salt Creek will be subject to grading restrictions during coastal California gnatcatcher breeding season;

3. Any impacts from grading that encroach into habitat areas will be restored consistent with the guidelines in the Otay Ranch RMP; and,

4. All brush management activities will be conducted within the development areas and consistent with the requirements of the Otay Ranch RMP.

Take of covered species and habitat within development areas of Covered Projects will not require an HLIT permit. Both parcels are outside a 100 percent Conservation Area but proposed off-site impacts south of the Main Campus Property are within a 100 percent Conservation Area. Any portions of Covered Projects that are located within 100 percent Conservation Areas must be consistent with specific land uses within the Preserve, and are subject to the narrow endemic species policy and the Wetland Protection Program. Development outside the boundaries of the Otay Ranch planning area (i.e., the Lake Property and off-site impacts to the east of it) will be subject to the HLIT ordinance, which is described below.

Narrow Endemic Species Protection

Covered Projects provide protection for Narrow Endemic Species through consideration of Narrow Endemic Species in the preserve design for those projects. Narrow Endemic Species are protected within Development Areas and 100 percent Conservation Areas.

Development Areas. Take of Covered Species, including Narrow Endemic Species, for Development Areas within Covered Projects will be extended at the time of development approval. There are no limitations on impacts to Narrow Endemic Species within Development Areas of Covered Projects, other than those specified in project-specific management requirements or conditions for coverage. Only the Main Campus Property is within the Development Area of a Covered Project and included in the Preserve design of the Otay Ranch RMP. There would be no restrictions on impacts to narrow endemic species on the Main Campus Property; however, development on the Lake Property and all off-site development associated with both the Main Campus Property and the Lake Property would be subject to restrictions on impacts to narrow endemic species.

100 Percent Conservation Areas. Projects located within the 100 percent Conservation Areas of Covered Projects are limited to uses described in Sections 6.1 through 6.3 of the MSCP Subarea Plan. Impacts to Narrow Endemic Species from Planned and Future Facilities[1] located within the 100 percent Conservation Areas of Covered Projects must be avoided to the maximum extent practicable. Where impacts are demonstrated to be unavoidable, impacts will be limited to five percent of the total Narrow Endemic Species population in the project area. Unavoidable impacts to Narrow Endemic Species are subject to equivalency findings, limitations, and provisions of Section 5.2.3.6 of the MSCP Subarea Plan. If impacts exceed five percent of the Narrow Endemic Species population in the project area, the City must make a determination of biologically superior preservation consistent with Section 5.2.3.7 of the MSCP Subarea Plan. Regardless of the percent of impact to Narrow Endemic Species population, findings of equivalency and wildlife agency concurrence are required.

Special Conditions for MSCP-Covered Species

The MSCP includes species-specific special conditions for the 86 covered species identified as take authorized. Five MSCP-covered species were observed on the project site. Chula Vista MSCP Subarea Plan specific conditions for these four species are as follows:

- **San Diego barrel cactus.** Area-specific management directives must include measures to protect against edge effects and unauthorized collection, as well as fire management policies to protect against a too-frequent fire cycle.

- **Belding's orange-throated whiptail.** Area-specific management directives must address edge effects.

- **Northern harrier.** Area-specific management directives must manage agricultural and disturbed lands that become part of the preserve within 4 miles of nesting habitat to preserve foraging habitat, include an impact avoidance area at least 900 feet around active nests, and maintain winter foraging habitat in preserve areas including those in Otay Ranch east of Wueste Road.

[1] "Planned Facilities" are roads and major infrastructure that have been planned for development through existing plans, and will be allowed to be constructed, operated, and maintained in the Preserve. "Future Facilities" are necessary to support planned development and had not been or could not be identified and/or located at the time the MSCP Subarea Plan was adopted. See below for additional details regarding Planned and Future Facilities.

- **Coastal California gnatcatcher.** The Otay Ranch RMP calls for restoration of contiguous or interconnected patches of coastal sage scrub. No clearing of occupied habitat in 100 percent Conservation Areas may occur between February 15 and August 15. Adjacency guidelines related to noise also apply.

- **Southern California rufous-crowned sparrow.** The Otay Ranch RMP calls for restoration of contiguous patches of coastal sage scrub and maritime succulent scrub.

MSCP Non-Covered Projects (Lake Property)

Development on the Lake Property and off-site drainage areas to the east would occur outside of a covered project and; therefore, actions associated with the Lake Property are subject to the City's HLIT ordinance. The HLIT ordinance establishes mitigation standards for biological resources and implements the City's MSCP Subarea Plan for development projects outside the Covered Projects category, as identified in the City's MSCP Subarea Plan. Provisions for protection of Narrow Endemic Species apply to all areas regulated by the HLIT ordinance. The HLIT ordinance calls for impacts to wetlands to be avoided and minimized to the maximum extent practicable and requires mitigation for all permanent impacts to wetlands and natural vegetation at ratios provided in the MSCP Subarea Plan.

Narrow Endemic Species Protection

Development Areas. Projects located within Development Areas outside of Covered Projects are limited to uses described in Sections 6.1 through 6.3 of the MSCP Subarea Plan. Impacts to Narrow Endemic Species from development outside of Covered Projects will be avoided to the maximum extent practicable. Where impacts are demonstrated to be unavoidable, impacts will be limited to 20 percent of the total Narrow Endemic Species population in the Project Area. Unavoidable impacts to Narrow Endemic Species are subject to equivalency findings, limitations, and provisions of Section 5.2.3.6 of the MSCP Subarea Plan. If impacts exceed 20 percent of the Narrow Endemic Species population in the project area, the City must make a determination of biologically superior preservation consistent with Section 5.2.3.7 of the MSCP Subarea Plan. Regardless of the percent of impact to Narrow Endemic Species population, findings of equivalency and wildlife agency concurrence are required.

On-site impacts proposed on the Lake Property, and east of it, are in a development area outside of a Covered Project. These impacts would be designed to avoid Narrow Endemic Species that might be present in those areas to the maximum extent practicable. Quantification of the precise extent of potential impacts to Narrow Endemic Species in the development area would require focused surveys in those areas.

100 Percent Conservation Areas. Projects located within the 100 percent Conservation Areas outside of Covered Projects are limited to uses described in Sections 6.1 through 6.3 of the MSCP Subarea Plan. Impacts to Narrow Endemic Species from Planned and Future Facilities located within the 100 percent Conservation Areas will be avoided to the maximum extent practicable. Where impacts are demonstrated to be unavoidable, impacts will be limited to 5 percent of the total Narrow Endemic Species population in the Project Area. Unavoidable impacts to Narrow Endemic Species are subject to equivalency findings, limitations, and

provisions of Section 5.2.3.6 of the MSCP Subarea Plan. If impacts exceed five percent of the Narrow Endemic Species population in the project area, the City must make a determination of biologically superior preservation consistent with Section 5.2.3.7 of the MSCP Subarea Plan. Regardless of the percent of impact to Narrow Endemic Species population, findings of equivalency and wildlife agency concurrence are required. On-site impacts proposed on the Main Campus Property are in the Development Area of a Covered Project and are not limited with regard to Narrow Endemic Species.

Off-site impacts proposed in the Preserve south of the Main Campus Property are in 100 percent Conservation Areas within a Covered Project. These impacts would be designed to avoid Narrow Endemic Species that might be present in those areas to the maximum extent practicable. Quantification of the precise extent of potential impacts to Narrow Endemic Species in the 100 percent Conservation Area would require focused surveys in those areas.

Off-site impacts proposed in the Preserve north and southwest of the Lake Property are in 100 percent Conservation Areas outside of a Covered Project and these impacts would be designed to avoid Narrow Endemic Species that might be present in those areas to the maximum extent practicable. Quantification of the precise extent of potential impacts to Narrow Endemic Species in the 100 percent Conservation Area would require focused surveys in those areas.

Wetland Protection Program

Pursuant to this section of the City's MSCP Subarea Plan, wetlands protection will be provided throughout the Subarea through individual project entitlement reviews and the associated CEQA process. The process will provide an evaluation of wetlands avoidance and minimization and will ensure compensatory mitigation within the City's Subarea or Chula Vista Planning Area for unavoidable impacts to wetlands, thereby achieving no overall net loss of wetlands. As part of the CEQA review, development projects which contain wetlands will be required to demonstrate that impacts to wetlands have been avoided to the greatest extent practicable and, where impacts will nonetheless occur, that such impacts have been minimized. 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. 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 the project. The City may also consider the wetland habitat type(s) being impacted and utilized for mitigation in establishing whether these standards have been met.

Planned Facilities

Planned Facilities are roads and major infrastructure that have been planned for development through existing plans, and will be allowed to be constructed, operated, and maintained in the Preserve. These Planned Facilities are anticipated to be required to serve development in areas authorized for take. Specific alignments of Planned Facilities will be determined at the time of facility alignment approval and will include appropriate environmental review pursuant to CEQA. Siting of Planned Facilities will be subject to Facilities Siting Criteria in Section 6.3.3.4 of the MSCP Subarea Plan. No mitigation for take of Covered Species resulting from the

implementation of Planned Facilities is required, beyond implementation of the MSCP Subarea Plan.

Figure 6-3 of the MSCP Subarea Plan depicts a planned sewer line connecting the Main Campus Property to the Salt Creek Interceptor in the Preserve and another planned sewer connection to the east toward the Lake Property. Thus, both sewer connections qualify as Planned Facilities in the Preserve and therefore would not require additional avoidance or mitigation for impacts to Covered Species. Implementation criteria for planned sewer lines associated with the Salt Creek Interceptor include conditions in the Otay Ranch RMP Infrastructure Plan. New sewer access roads in Salt Creek are limited to 12 feet wide in a 20-foot disturbance corridor.

Future Facilities

Future Facilities are necessary to support planned development and had not been or could not be identified and/or located at the time the MSCP Subarea Plan was adopted. Permanent impacts to covered habitats from Future Facilities in the Preserve may not exceed a cumulative total of 50 acres without concurrence from the wildlife agencies. No single Future Facility in the Preserve may permanently impact more than 2 acres of covered habitat without concurrence from the wildlife agencies and mitigation. Temporary impacts from Future Facilities will not be subject to these limits, but all temporary impacts must be revegetated pursuant to Section 6.3.3.5 of the MSCP Subarea Plan. All Future Facilities are subject to the Narrow Endemic Species policy described above including equivalency findings for all Narrow Endemic Species impacts, and to Facilities Siting Criteria in Section 6.3.3.4 of the MSCP Subarea Plan. Figure 6-2 of the MSCP Subarea Plan depicts a "future detention basin" in the Preserve near Salt Creek, south of the Main Campus Property of the UID project site. The proposed off-site detention basin corresponds to this facility, although the precise location of the proposed detention basin is undetermined. Siting of this Future Facility would be in accordance with the Siting Criteria in Section 6.3.3.4 of the MSCP Subarea Plan.

Off-site impacts from drainage facilities and utility lines between the Lake Property and Lower Otay Lake would not be located in the Preserve, and therefore, not subject to Future Facilities area limits or Siting Criteria. A portion of the sewer line for the Lake Property is also located outside of the Preserve. These proposed impacts would require an HLIT permit and findings of consistency.

Off-site impacts from drainage facilities north of the Lake Property are located within the Preserve and would be subject to Future Facilities limits and Siting Criteria.

Preserve Siting Criteria

The Main Campus Property is located within the area designated for development under the Chula Vista MSCP Subarea Plan, with the exception of the off-site utilities that would traverse through designated Preserve areas. The off-site utilities include the construction of a storm drain pipeline, detention basin, and sewer line within the Preserve. Land use compatibility with the Preserve area is further described in Section 6.0, *Land Use Consideration in the Preserve*, of the Chula Vista MSCP Subarea Plan. Project components located within the Preserve are subject to the Facilities Siting Criteria contained in Section 6.3.3.4 of the MSCP Subarea Plan. Compliance

with the Facilities Siting Criteria ensures that impacts to the Preserve have been minimized to the maximum extent practical. Although not in the Preserve, the Lake Property is in an area designated for development under the Chula Vista MSCP Subarea Plan, as noted above.

Adjacency Management Issues

The City's MSCP Subarea Plan addresses indirect impacts to the 100 percent Conservation Areas from adjacent development in Section 7.5.2, *Adjacency Management Issue*s. This section provides guidelines for land uses adjacent to the Preserve in order to minimize indirect impacts to the sensitive resources contained therein. Because the Main Campus Property borders the Preserve on the east and south, and the Lake Property is surrounded by the Preserve on the north and west, the following guidelines would be applicable to the project, in addition to preparation of an Edge Plan. The following issues must be addressed to comply with the required Adjacency Management Issues of the City's MSCP Subarea Plan for areas within 100 percent Conservation Areas:

Drainage/Toxics

All developed and paved areas must prevent the release of toxins, chemicals, petroleum products, exotic plant materials, and other elements that might degrade or harm the natural environment or ecosystem processes within the Preserve. Urban runoff and drainage plans must create the least impact practicable for all development adjacent to the Preserve. All development projects will be required to meet NPDES standards and incorporate BMPs, as defined by the City of Chula Vista's Standard Urban Storm Mitigation Plan (SUSMP).

Pursuant to the San Diego RWQCB Municipal Permit, and the City of Chula Vista Storm Water Management Standards Requirements Manual, which includes the SUSMP, all development and redevelopment located within or directly adjacent to or discharging directly to an environmentally sensitive area (as defined in the Municipal Permit and the Local SUSMP), are required to implement site design, source control, and treatment control BMPs.

Lighting

Lighting of all developed areas adjacent to the Preserve should be directed away from the Preserve, wherever feasible, and consistent with public safety. Where necessary, development should provide adequate shielding with non-invasive plant materials (preferably native), berming, and/or other methods to protect the Preserve and sensitive species from night lighting. Consideration should be given to the use of low-pressure sodium lighting.

Noise

Uses in or adjacent to the Preserve should be designed to minimize noise impacts. Berms or walls should be constructed adjacent to commercial areas and any other use that may introduce noises that could impact or interfere with wildlife utilization of the Preserve, although none are currently anticipated. Excessively noisy uses or activities adjacent to breeding areas, including grading activities, must incorporate noise reduction measures or be curtailed during the breeding season of sensitive bird species, consistent with Table 3-5 of the MSCP Subarea Plan.

Invasives

No invasive non-native plant species shall be introduced into areas immediately adjacent to the Preserve. All open space slopes immediately adjacent to the Preserve should be planted with native species that reflect the adjacent native habitat. The plant list contained in Appendix L of the City's MSCP Subarea Plan must be reviewed and used to the maximum extent practicable when developing landscaping plans in areas adjacent to the Preserve.

Buffers

There shall be no requirements for buffers outside the Preserve, except as may be required for wetlands pursuant to federal and/or state permits, or by local agency mitigation conditions. All open space requirements for the Preserve shall be incorporated into the Preserve. Fuel modification zones must be consistent with Section 7.4.4 of this Subarea Plan.

c. City of San Diego Multi-Habitat Planning Area

Proposed off-site impacts associated with the Lake Property include very limited areas east of Wueste Road, inside the City of San Diego Multi-Habitat Planning Area (MHPA), that are planned for several storm drain outfalls. Most of the MHPA in the vicinity of the proposed off-site impacts is currently developed as a parking lot and boat launching facility, though some of the off-site impacts are located in areas of Diegan coastal sage scrub adjacent to the developed facilities. Utilities are an approved use inside the MHPA when designed to minimize habitat fragmentation and environmental impacts. The project minimizes habitat fragmentation and environmental impacts within the MHPA consistent with the City of San Diego MSCP Subarea Plan by locating the storm drain outfalls within and adjacent to the paved and landscaped parking lot and driveway. Because this area is within the City of Chula Vista jurisdiction, impacts will be mitigated according to the City of Chula Vista HLIT Ordinance.

B. Biological Surveys

The following sections summarize information regarding methods and results of the biological surveys that were conducted for the UID on the Main Campus Property and Lake Property. Additional information and detail regarding methodology and survey methods and results are provided as Appendix E.

1. Methods

a. On-Site Evaluation

Biological surveys have been conducted for the proposed project over a three-year period by HELIX between 2013 and 2016. An initial general biological survey was conducted in March 2013, and an updated general biological survey was conducted in March 2014 in order to verify conditions had not changed substantially since the March 2013 survey. A third updated biological survey, including spring rare plants and burrowing owl survey #1, was conducted in April 2016. Focused surveys for burrowing owl and summer-blooming rare plants were completed in summer 2016, and the results of the 2013 and 2014 surveys were field verified. Vegetation communities were mapped and classified according to the Holland Vegetation

Classification (1986), Baldwin et al. (2012) for plants, Crother (2001) for reptiles and amphibians, the American Ornithologists' Union (2013) for birds, and Jones et al. (1997) for mammals. All plant and animal species were identified in the field or later in the laboratory. Animal species were identified by direct observation or indirectly by detection of calls, scat, tracks, or burrows.

b. Off-Site Evaluation

The evaluation of off-site facilities is based on interpretation of aerial imagery, a biological survey by HELIX in 2016, and information provided by others (Dudek 2009, 2014, RECON 2015). This included vegetation mapping, habitat assessment for special-status species, and assessment of potential jurisdictional waters and wetlands. Rare plant surveys and protocol surveys for burrowing owl were also conducted within suitable habitat that occurs within off-site areas. The proposed locations of off-site facilities have been sited in the least environmentally sensitive areas based on the best survey data available and following the City's MSCP Planned and Future Facility siting criteria. Although a full list of focused biological surveys was not completed in support of the off-site evaluation, sufficient information is provided by the general biological survey data and information provided by others to complete the analysis.

2. Results

a. Vegetation Communities/Habitats

As discussed above, vegetation communities were mapped and classified according to the Holland Vegetation Classification (1986), Baldwin et al. (2012). Ten native or naturalized vegetation communities occur in the development area, as shown in Figures 5.6-1a and 5.6-1b (*Vegetation and Sensitive Resources: Main Campus Property* and *Vegetation and Sensitive Resources: Lake Property*, respectively) including: (1) agriculture (fallow), (2) Diegan coastal sage scrub (including disturbed phase), (3) Diegan coastal sage scrub/non-native grassland, (4) Eucalyptus woodland, (5) freshwater marsh, (6) maritime succulent scrub, (7) mule fat scrub, (8) non-native grassland, (9) southern willow scrub, and (10) vernal pool. The quantity of each vegetation community is shown on Table 5.6-1, *Existing Vegetation Communities*, and includes disturbed habitat and developed lands within the project site. A brief description of the observed vegetation communities within the project site is provided below.

Agriculture. Extensive agriculture is comprised of areas that are or were recently plowed or disked, with evidence of past or present agricultural practices. The areas are characterized by species typical of dry farming or row crops. The areas often occur in floodplains or upland areas with high soil quality. Approximately 157.1 acres of agriculture is mapped within the Main Campus Property, and 4.0 acres in the off-site impact area.

Diegan Coastal Sage Scrub. Diegan coastal sage scrub occurs on xeric sites and steep slopes. It consists mostly of low-growing shrubs, many of which are drought-deciduous. Characteristic species include California sagebrush (*Artemisia californica*), California buckwheat (*Eriogonum fasciculatum*), black sage (*Salvia mellifera*), lemonadeberry (*Rhus integrifolia*), and laurel sumac (*Malosma laurina*). Almost the entire Lake Property and the southeast-facing slopes of the Main Campus Property are covered by Diegan coastal sage scrub. Where Diegan coastal sage scrub is

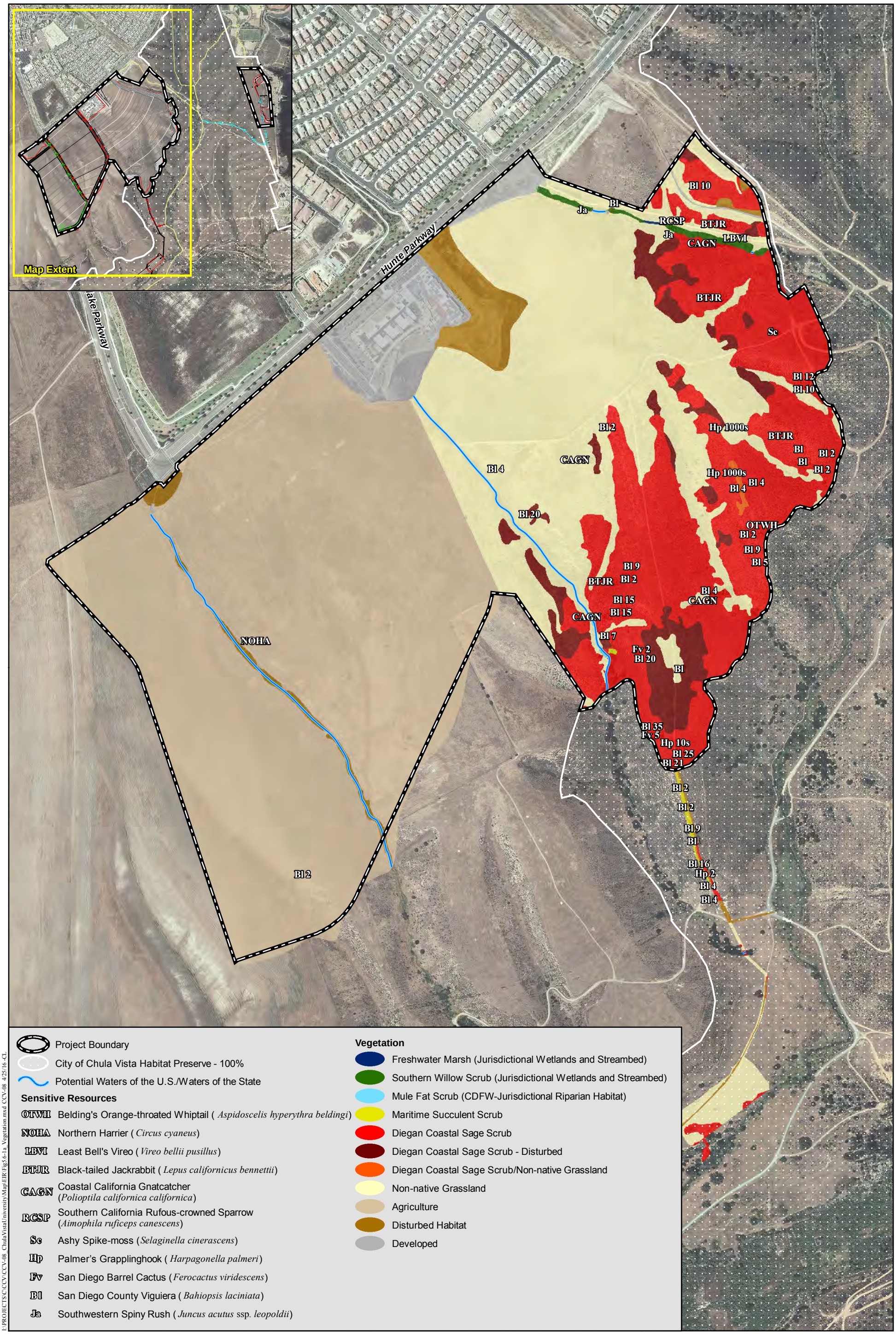
heavily invaded by non-native species, it is considered a disturbed phase that provides habitat value much lower than that typical of Tier II uplands. These areas occur along roads and in places where soil disturbance is more recent, facilitating invasion by non-native grasses and forbs such as black mustard (*Brassica nigra*) and filaree (*Erodium* spp.) found in nearby non-native grassland. A total of 106.06 acres of Diegan coastal sage scrub, including disturbed, occurs on the project site, and an additional 2.02 acres (0.81 acre in the off-site impact area for the Main Campus Property and 1.21 acres in the off-site impact area for the Lake Property).

Diegan Coastal Sage Scrub/Non-native Grassland. Diegan coastal sage scrub/non-native grassland includes areas that have a relatively equal cover of Diegan coastal sage scrub – (and non-native grassland) associated species. The habitat is characterized by a sparse arrangement of California sagebrush and California buckwheat shrubs with an expansive understory of non-native grasses and forbs. Diegan coastal sage scrub /nonnative grassland covers 0.37 acre of the project site on the Main Campus Property.

Eucalyptus Woodland. Eucalyptus woodland is dominated by gum trees (*Eucalyptus* spp.), introduced species that have often been planted for wind blocking, ornamental, and hardwood production purposes. Most groves are monotypic with the most common species being either blue gum (*Eucalyptus globulus*) or red gum (*E. camaldulensis* ssp. *obtusa*). The understory within well-established groves is usually very sparse due to the closed canopy and allelopathic nature of the abundant leaf and bark litter. The sparse understory offers only limited wildlife habitat; however, these woodlands provide excellent nesting sites for a variety of raptors, including red-shouldered hawks (*Buteo lineatus*). During winter migrations, a large variety of warblers may be found feeding on the insects that are attracted to the eucalyptus flowers. Eucalyptus trees with active raptor nests are considered sensitive. Eucalyptus woodland occupies 0.4 acre in the Lake Property.

Table 5.6-1 EXISTING VEGETATION COMMUNITIES

Community	Main Campus Property[3]	Lake Property[4]	Total
On-site[2]			
Agriculture (fallow)	157.1	--	157.1
Developed	15.90	--	15.90
Diegan Coastal Sage Scrub/Non-native Grassland	0.37	--	0.37
Diegan Coastal Sage Scrub‡	78.29	27.77	106.06
Disturbed Land	9.80	0.40	10.20
Eucalyptus Woodland	--	0.40	0.40
Freshwater Marsh	0.05	--	0.05
Maritime Succulent Scrub	0.04	--	0.04
Mule Fat Scrub	0.08	--	0.08
Non-native Grassland	90.07	1.93	92.00
Southern Willow Scrub	1.12	--	1.12
Vernal Pool	--	<0.01	<0.01
Subtotal On-site	**352.76**	**30.52**	**383.28**



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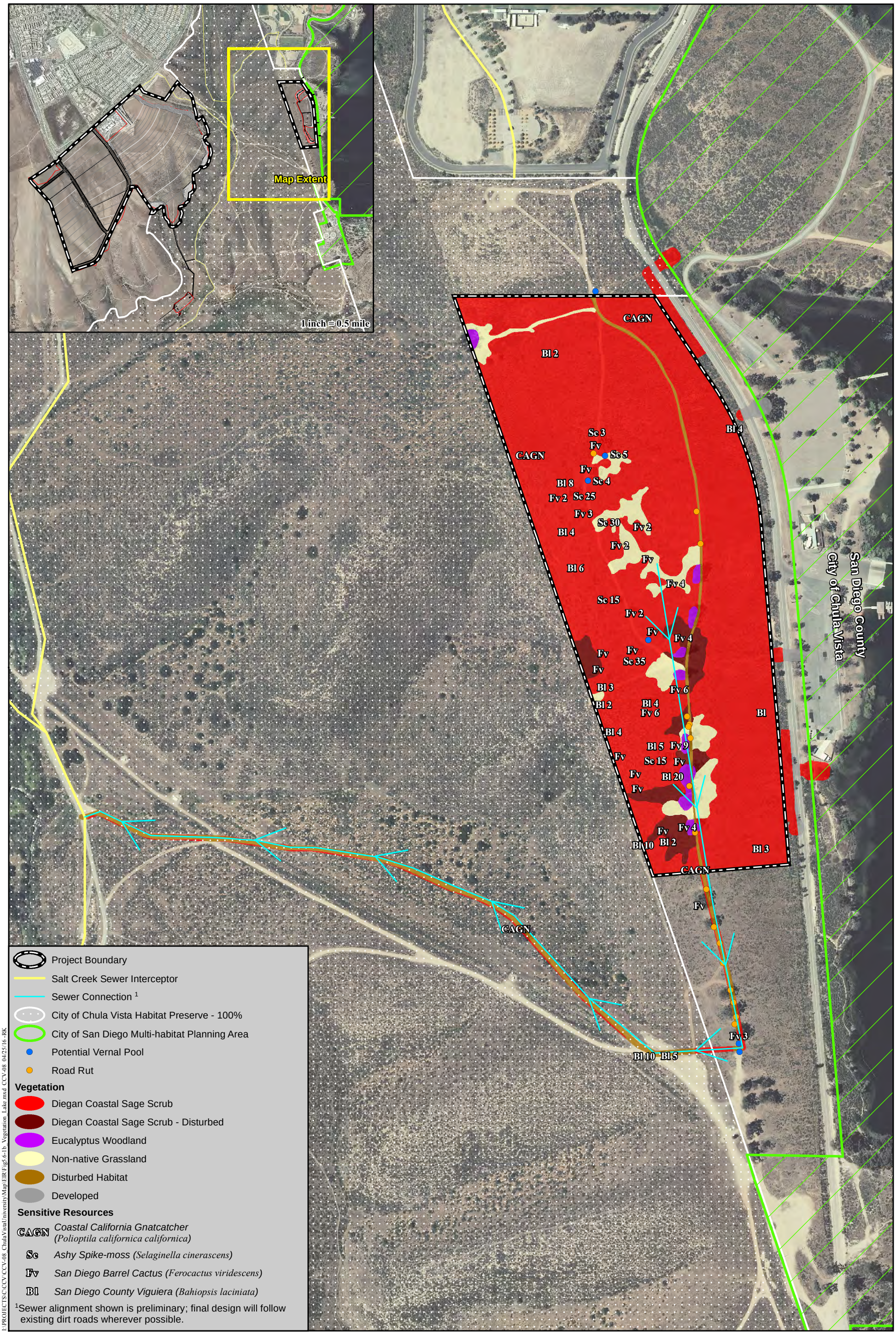
Source: HELIX 2016

Vegetation and Sensitive Resources: Main Campus Property

UNIVERSITY INNOVATION DISTRICT EIR

HELIX Environmental Planning

Figure 5.6-1a



Source: HELIX 2016

Vegetation and Sensitive Resources: Lake Property

UNIVERSITY INNOVATION DISTRICT EIR

HELIX Environmental Planning

0 300 Feet

Figure 5.6-1b

Table 5.6-1 (cont.) EXISTING VEGETATION COMMUNITIES

Community	Main Campus Property[3]	Lake Property[4]	Total
Off-site[2]			
Agriculture (fallow)[1]	4.00	--	4.00
Developed	<0.1	0.30	0.30
Diegan Coastal Sage Scrub/Non-native Grassland	--	--	--
Diegan Coastal Sage Scrub‡	0.81	1.21	2.02
Disturbed Land	0.90	1.10	2.0
Eucalyptus Woodland	--	--	--
Freshwater Marsh	--	--	--
Off-site[2] (cont.)			
Maritime Succulent Scrub	0.34	--	0.34
Mule Fat Scrub	--	--	--
Non-native Grassland	3.71	--	3.71
Southern Willow Scrub	--	--	--
Vernal Pool	--	--	--
Subtotal Off-site	**9.70**	**2.63**	**12.33**
TOTAL	**362.46**	**33.15**	**395.61**

‡ Includes disturbed phase.
[1] Inside the Development Area of the Village 10 SPA.
[2] Non-sensitive acreage is rounded to 0.1; sensitive acreage is rounded to 0.01. Totals may differ due to rounding.
[3] Inclusive of offsite sewer laterals, access roads, trails, drainage and water quality facilities.
[4] Inclusive of offsite sewer laterals, access roads, drainage and water quality facilities.

Freshwater Marsh. Coastal and valley freshwater marsh is dominated by perennial, emergent monocots, 5 to 13 feet tall, forming incomplete to completely closed canopies. This vegetation type occurs along the coast and in coastal valleys near river mouths and around the margins of lakes and springs, freshwater or brackish marshes. These areas are semi- or permanently flooded yet lack a significant current. Dominant species include cattails (*Typha* spp.) and bulrushes (*Schoenoplectus* spp.), along with umbrella sedges (*Cyperus* spp.), rushes (Juncus spp.), and spike-sedge (*Eleocharis* spp.). Freshwater marsh on the site occurs in small patches along the creek formed by the storm drain outflow east of the High Tech K-12 School, near the northeast corner of the project site. These patches are dominated by cattail and sedge and comprise 0.05 acre on site.

Maritime Succulent Scrub. Maritime succulent scrub is a low open scrub community that is dominated by a mixture of stem and leaf succulent species and drought deciduous species that also occur within sage scrub communities. This vegetation community occurs on thin, rocky or sandy soils, on steep slopes of coastal headlands and bluffs. Maritime succulent scrub is restricted to within a few miles of the coast from about Torrey Pines to Baja California and on San Clemente and Santa Catalina islands. The dominant species typically found within this vegetation community include coast barrel cactus (*Ferocactus viridescens*), velvet cactus (*Bergerocactus emoryi*), prickly pear cactus (*Opuntia littoralis*), cliff spurge (*Euphorbia misera*), dudleya (*Dudleya* spp.), desert thorn (*Lycium californicum*), and California encelia (*Encelia californica*). Maritime succulent scrub on the site consists of dense patches of coastal cholla (*Cylindropuntia prolifera*) surrounded by Diegan coastal sage scrub on west-facing slopes of the Main Campus Property and covers 0.04 acre on site and 0.34 in the off-site impact area.

Mule Fat Scrub. Mule fat scrub is a depauperate, shrubby riparian scrub community dominated by mule fat and interspersed with small willows. This vegetation community occurs along intermittent stream channels with a fairly coarse substrate and moderate depth to the water table. This early seral (intermediate) community is maintained by frequent flooding, the absence of which would lead to a cottonwood or sycamore dominated riparian woodland or forest. Mule fat scrub on the site occurs as two small patches in the seasonal watercourse that drains the center of the site and the High Tech K-12 School campus. These patches are located in the canyon bottom, surrounded by non-native grassland and Diegan coastal sage scrub, and cover 0.08 acre on the site.

Non-native Grassland. Non-native grassland includes areas dominated by a dense to sparse cover of annual grasses and can include native forbs. Common species in San Diego are oats (*Avena* spp.), brome grasses (*Bromus* spp.), black mustard, and filaree. Non-native grassland usually occurs on fine soils that are wet in winter and dry in summer. Non-native grassland covers the majority of the Main Campus Property, especially in the west and north, while it occurs in pockets along roads in the Lake Property. The total area of non-native grassland within the project site is 92.00 acres, and 3.71 acres in the off-site impact area.

Southern Willow Scrub. Southern willow scrub consists of dense, broadleaved, winter-deciduous stands of trees dominated by shrubby willows (*Salix* spp.) in association with mule fat (*Baccharis salicifolia*), and with scattered emergent cottonwood (*Populus fremontii*) and western sycamore (*Platanus racemosa*) trees. This vegetation community occurs on loose, sandy or fine gravelly alluvium deposited near stream channels during flood flows. Frequent flooding maintains this early seral community, preventing succession to a riparian woodland or forest. Southern willow scrub on the project site occurs along the creek formed by the storm drain east of the High Tech K-12 School and covers 1.12 acres on site.

Vernal Pool. Vernal pools are a highly specialized habitat supporting a unique flora and fauna. Natural vernal pools are normally associated with two important physical conditions: a subsurface hardpan or claypan that inhibits the downward percolation of water and topography characterized by a series of low hummocks (mima mounds) and depressions (vernal pools). These two physical conditions allow water to collect in the depressions during the rainy season. Water that has collected in these depressions gradually evaporates with the passing of the rainy season, creating centripetal gradients of water availability in the soil and solute concentration in the water. A temporal succession of plant species occurs at the receding pool margins, depending upon the physical and chemical microenvironmental characteristics of the pool.

Several ephemeral basins were identified in the Lake Property and off-site sewer alignment for the Lake Property during HELIX's surveys. Six of the basins in the western half of the Lake Property and off-site sewer alignment for the Lake Property contained vernal pool indicator and associated plant species during the 2016 survey, including slender woolly-heads (*Psilocarphus tenellus*), adobe popcornflower (*Plagiobothrys acanthocarpus*), toad rush (*Juncus bufonius*), and grass poly (*Lythrum hyssopifolia*). Given the observation of vernal pool indicators, these six basins are considered to be potential vernal pools. The remaining ephemeral basins are in a dirt road in the eastern half of the Lake Property and off-site sewer alignment for the Lake Property and contained no vegetation at the time of the surveys. These ruts contained mud or standing

water remaining from heavy rains. Given the lack of vernal pool indicators, these basins are better classified as road ruts.

Disturbed Land. Disturbed land is highly disturbed land that retains a soil substrate. If it is vegetated, it supports an assemblage of almost exclusively non-native, weedy, upland species that colonize after human disturbance. There is no recognizable native or naturalized vegetation association, and characteristic species vary considerably depending on local colonization potential. Disturbed land on the project site includes severely eroded ground in a creek formed by a storm drain outflow at the end of Eastlake Parkway, and a large area north and east of the High Tech K-12 School. The total area of disturbed land within the project site is 10.2 acres, and 2.0 acres in the off-site impact area.

Developed. Developed land is land that has been built upon, or physically altered such that it no longer naturally supports vegetation. Developed land includes buildings, pavement, unpaved roads and hardscape, and irrigated landscaping. Developed land on the project site includes the High Tech K-12 School campus and surrounding landscaped areas, landscaped manufactured slopes near the storm drain outfall east of the High Tech K-12 School, and the concrete and rip rap storm drain outflow at the end of Eastlake Parkway. The total area of developed land within the project site is 15.9 acres, and 0.3 acre in the off-site impact area.

b. Wildlife

Bird species that were observed within the project area include red-tailed hawk (*Buteo jamaicensis*), northern harrier (*Circus cyaneus*), Anna's hummingbird (*Calypte anna*), selasphorus hummingbird (*Selasphorus* sp.), killdeer (*Charadrius vociferus*), mourning dove (*Zenaida macroura*), American kestrel (*Falco sparverius*), California quail (*Callipepla californica*), bushtit (*Psaltriparus minimus),* common raven (*Corvus corax)*, rufous-crowned sparrow (*Aimophila ruficeps)* grasshopper sparrow (*Ammodramus savanarrum),* song sparrow (*Melospiza melodia),* savannah sparrow (*Passerculus sandwichensis*), California towhee *(Pipilo crissalis)*, white-crowned sparrow *(Zonotrichia leucophrys)*, house finch *(Carpodacus mexicanus)*, lesser goldfinch *(Spinus psaltria)*, cliff swallow *(Petrochelidon pyrrhonota)*, red-winged blackbird *(Agelaius phoeniceus)*, hooded oriole (*Icterus cucullatus*), western meadowlark *(Sturnella neglecta)*, northern mockingbird *(Mimus polyglottos)*, California thrasher *(Toxostoma redivivum)*, common yellowthroat *(Geothlypis trichas)*, house sparrow *(Passer domesticus)*, European starling *(Sturnus vulgaris)*, wrentit *(Chamaea fasciata)*, coastal California gnatcatcher *(Polioptila californica californica)*, black phoebe *(Sayornis nigricans)*, say's phoebe *(Sayornis saya)*, western kingbird *(Tyrannus verticalis)* Cassin's kingbird *(Tyrannus vociferans)*, least Bell's vireo *(Vireo bellii pusillus)*, acorn woodpecker (*Melanerpes formicivorus*), and barn owl *(Tyto alba)*. Protocol burrowing owl surveys conducted in summer 2016 were negative and the project site is considered unoccupied by the burrowing owl.

Mammal species detected in the project area include coyote (*Canis latrans*), California ground squirrel (*Spermophilus beecheyi nudipes*), desert cottontail (Sylvilagus audubonii), and San Diego black-tailed jackrabbit (*Lepus californicus bennettii*). Reptiles that were on the project site include gopher snake (*pituophis catenifer*), western fence lizard (*Sceloporus occidentalis*), side-blotched lizard (*Uta stansburiana*), Belding's orange-throated whiptail (Aspidoscelis

hyperythra beldingi), San Diegan tiger whiptail (Aspidoscelis tigris stejnegeri), and western diamondback (*Crotalus atrox*).

c. Wildlife Movement

Terms such as "wildlife corridors," "linkages," "crossings," and "travel routes" are used to describe physical connections that allow wildlife to move between patches of suitable habitat in undisturbed landscapes as well as environments fragmented by urban development. To facilitate the discussion of wildlife movement in this analysis, these terms are further defined below.

Wildlife corridors link areas of suitable habitat that are otherwise separated by areas of non-suitable habitat such as rugged terrain, changes in vegetation, or human disturbance. Wildlife corridors are essential to the regional ecology of a species because they provide avenues of genetic exchange and allow animals to access alternative territories as dictated by fluctuating population densities. Fragmentation of open space areas by urbanization creates "islands" of wildlife habitat that are more or less isolated from each other. In the absence of habitat linkages that allow movement between habitat islands, studies have concluded that some wildlife species, especially the larger and more mobile mammals, would not persist over time because fragmentation limits infusion of new individuals and erodes genetic diversity. Corridors mitigate the effects of this fragmentation by (1) allowing animals to move between remaining habitats, thereby permitting depleted populations to be replenished and promoting genetic exchange; (2) providing escape routes from fire, predators, and human disturbances, thus reducing the risk of catastrophic events (such as fire or disease) that could lead to local extinction; and (3) serving as travel routes for individual animals as they move within their home ranges in search of food, water, mates, and shelter. Wildlife corridors are typically relatively small, linear habitats that connect two or more habitat patches that would otherwise be fragmented or isolated from one another.

Wildlife corridors are usually bounded by urban land areas or other areas unsuitable for wildlife. The corridor generally contains suitable cover, food, and/or water to support species and facilitates movement while in the corridor. Larger, landscape-level corridors (often referred to as "habitat or landscape linkages") can provide both transitory and resident habitat for a variety of species. Although it is commonly used as a synonym for a wildlife corridor, a habitat linkage refers to a more substantial, or wider, land connection between two habitat areas. Habitat linkages allow for the periodic exchange of animals between habitat areas, which is essential to maintain adequate gene pools. This linkage is most notable among populations of medium-sized and larger animals.

A travel route is usually a landscape feature (such as a ridgeline, drainage, canyon, or riparian corridor) within a larger natural habitat area that is used frequently by animals to facilitate movement and provide access to necessary resources (e.g., water, food, cover, den sites). The travel route is generally preferred because it provides the least amount of topographic resistance in moving from one area to another. It provides adequate food, water, or cover for individuals moving between habitat areas and provides a relatively direct link between target habitat areas. Wildlife crossings are small, narrow areas that are relatively short in length. They allow wildlife to bypass an obstacle or barrier. Crossings typically are manmade and include culverts, underpasses, drainage pipes, bridges, and tunnels to provide access past roads, highways,

pipelines, or other physical obstacles. Wildlife crossings often represent "choke points" along a movement corridor.

Section 3.1.5.4 of the MSCP Subarea Plan analyzed the UID SPA Plan and concluded that the UID as defined in the MSCP Subarea Plan provides important wildlife movement features in the form of a connection between Preserve lands in Salt Creek and Lower Otay Reservoir, and enhanced connection of Preserve lands in Salt Creek to the Otay River Valley. The connection to Lower Otay Reservoir consisted of an open space corridor across the northern edge of the Lake Property, separating it from the Olympic Training Center to the north. This corridor connects to an archipelago of Diegan coastal sage scrub habitat that reaches to Upper Otay Lake and open space to the north and east. Improved connection of Salt Creek to the Otay River Valley comes from the elimination of an originally planned active recreation area in the eastern Otay River Valley and the elimination of an extension of Alta Road across Salt Creek and the Otay River. A subsequent revision analyzed in the 2014 Otay Ranch University Villages EIR further improved open space connectivity by providing a second Preserve connection south of the Lake Property.

3. Jurisdictional Delineation Results

The location of mapped wetland areas is shown in Figures 5.6-1a and 5.6-1b. As shown, two wetland habitat types associated with one of the three unnamed drainage features occur on the Main Campus Property. Freshwater marsh and southern willow scrub occur along the northernmost drainage feature on the Main Campus Property, which was formed by the storm drain outflow east of the High Tech K-12 School. This outflow occurs across Hunte Parkway from the end of Discovery Falls Drive, and drains Otay Ranch Village 11 development north of Hunte Parkway. The drainage feature flows southeast across the northern end of the project site, eventually joining Salt Creek. The drainage is a man-made engineered channel constructed as part of Village 11 development. Due to the presence of an ordinary high water mark (OHWM), stream bed and bank, and apparent connectivity to Salt Creek, the northernmost drainage feature and associated wetland habitat represent potential jurisdictional waters and wetlands. A drainage feature in the middle of the Main Campus Property runs south from High Tech K-12 School to Salt Creek and exhibits intermittent signs of OHWM. Flow in this channel also results from an engineered storm drain outfall, but the channel is considered jurisdictional streambed because of OHWM and connectivity to Salt Creek. This drainage continues south of the Main Campus Property and crosses the project's off-site storm water conveyance line. A patch of mule fat scrub adjacent to this channel is considered State-jurisdictional riparian vegetation. Another drainage channel flows across the western portion of the Main Campus Property from the end of Eastlake Parkway to the Otay River and exhibits an OHWM. Flow in this channel is also the result of an engineered storm drain outfall. This channel supports no riparian vegetation but is considered a jurisdictional streambed because of an OHWM and connectivity to the Otay River.

In addition, six potential vernal pools, which contain vernal pool indicator flora, occur in and beside dirt roads in the Lake Property and off-site sewer alignment for the Lake Property. The remaining ephemeral pools are entirely within ruts and areas lacking vernal pool indicators. Road ruts that retain water for a period after rain might provide habitat for sensitive species of fairy shrimp despite not supporting vernal pool indicator plant species. Additional road ruts were observed along the off-site sewer alignment for the Lake Property in 2016. Unvegetated road ruts would not be considered jurisdictional wetlands, even if they did support fairy shrimp.

4. Sensitive Biological Resources

The following discussion summarizes the present, or potentially present, sensitive vegetation communities, plant species, and wildlife species within the on-site and off-site project areas. Table 5.6-2, *Summary of CNPS List, Global, and State Sensitivity Ratings,* provides a summary of California Native Plant Society (CNPS), global and state biological resource sensitivity rankings used to describe the sensitivity of these resources.

a. Sensitive Vegetation Communities

Sensitive vegetation communities are those that are considered rare within the region, support sensitive plant and/or wildlife species, or are important in providing connections for wildlife movement. Eight sensitive vegetation communities or habitats were observed on the site, including wetlands and Tier I, Tier II, and Tier II uplands. These eight sensitive vegetation communities include (1) vernal pools, (2) freshwater marsh, (3) southern willow scrub, (4) maritime succulent scrub, (5) Diegan coastal sage scrub, (6) mule fat scrub, (7) non-native grassland, and (8) Diegan coastal sage scrub/non-native grassland.

b. Sensitive Plant Species

Special status plants are defined as any species covered by the Chula Vista MSCP Subarea Plan, including sensitive species and MSCP narrow endemics, federal and state threatened or endangered plants and any plant on CNPS List 1-4 (see Table 5.6-2). In total, four sensitive plant species occur within the project area and off-site improvement areas, and there are two sensitive plant species that were not observed but have a potential to occur within the project site. Observed sensitive plant species include San Diego sunflower, San Diego barrel cactus, Palmer's grapplinghook, and ashy spike-moss. Non-observed species with potential to occur include narrow-leaved nightshade and Otay tarplant. Each sensitive plant species is described below and identified in Figures 5.6-1a and 5.6-1b.

Table 5.6-2 SUMMARY OF CNPS LIST, GLOBAL, AND STATE SENSITIVITY RATINGS

CNPS List	Description
List 1A – Presumed Extinct in California	Thought to be extinct in California based on a lack of observation or detection for many years.
List 1B – Rare of Endangered in California	Species that are generally rare throughout their range and are also judged to be vulnerable to other threats such as declining habitat.
List 2 – Rare or Endangered in California, More Common Elsewhere	Species that are rare in California, but more common outside of California.
List 3 – Needs More Information	Species that are thought to be rare or in decline but CNPS lacks the information needed to assign to the appropriate list. In most instances, the extent of surveys for these species is not sufficient to allow CNPS to accurately assess whether these species should be assigned to a specific list. In addition, many of the List 3 species have associated taxonomic problems such that the validity of their current taxonomy is unclear.

Table 5.6-2 (cont.) SUMMARY OF CNPS LIST, GLOBAL, AND STATE SENSITIVITY RATINGS

CNPS List	Description
List 4 – Plants of Limited Distribution	Species that are currently thought to be limited in distribution or range whose vulnerability or susceptibility to threat is currently low. In some cases, as noted above for List 3 species above, CNPS lacks survey data to accurately determine status in California. CNPS recommends that species currently included on this list should be monitored to ensure that future substantial declines are minimized.
List is followed by threat code (e.g., CNPS List 1B.2)	.1 - Seriously endangered in California (over 80% of occurrences threatened / high degree and immediacy of threat)
	.2 – Fairly endangered in California (20-80% occurrences threatened)
	.3 – Not very endangered in California (<20% of occurrences threatened)
Global and State Rankings	Description
G1/S1	Critically Imperiled — At very high risk of extinction due to extreme rarity (often 5 or fewer populations), very steep declines, or other factors.
G2/S2	Imperiled — At high risk of extinction or elimination due to very restricted range, very few populations, steep declines, or other factors.
G3/S3	Vulnerable — At moderate risk of extinction or elimination due to a restricted range, relatively few populations, recent and widespread declines, or other factors.
G4/S4	Apparently Secure — Uncommon but not rare; some cause for long-term concern due to declines or other factors.
G5/S5	Secure — Common; widespread and abundant.

San Diego sunflower (*Bahiopsis laciniata*). San Diego sunflower is a relatively common species in the coastal sage scrub vegetation community within the project site. The San Diego sunflower is on CNPS List 4.2 and is a yellow-flowered, spring-blooming (February-August), xerophytic shrub that occurs in coastal sage scrub. Approximately 376 individuals were recorded within the project site.

San Diego barrel cactus (*Ferocactus viridescens*). Approximately 67 individuals of San Diego barrel cactus occur within the project site, with a majority occurring within the Lake Property (60 individuals). San Diego barrel cactus is listed on CNPS List 2.1 and is a MSCP covered species. Optimal habitat includes Diegan coastal sage scrub hillsides, often at the crest of slopes and growing among cobbles.

Palmer's grapplinghook (*Harpagonella palmeri*). Two individuals of Palmer's grappling-hook were detected within the proposed off-site sewer alignment to serve the Lake Property. Palmer's grappling-hook is on CNPS List 4.2. It occurs in dry in clay soils in annual grasslands and coastal sage scrub.

Ashy spike-moss (*Selaginella cinerascens*). Ashy spike-moss occurs in flat mesas in coastal sage scrub and chaparral and is a good indicator of site degradation, as it rarely inhabits

disturbed soils. Ashy spike-moss is included on CNPS List 4.1 and was detected on the eastern side of the Main Campus Property and on the Lake Property in patches ranging from 3 to 30 square meters, in open areas.

Narrow-leaved nightshade (*Solanum xanti*). Narrow-leaved nightshade is a non-listed, MSCP-covered species that has a high potential to occur within portions of the Main Campus Property, Lake Property, and off-site areas east of the Lake Property characterized by Diegan coastal sage scrub underlain with Olivenhain cobbly loam. If present, this species would be expected to occur in low numbers, based on the lack of prime rocky microhabitat.

Otay tarplant (*Deinandra conjugens*). Otay tarplant is a listed, MSCP-covered, Narrow Endemic Species that has a high potential to occur within portions of the main campus and Lake Property characterized by non-native grassland and Diegan coastal sage scrub, as well as similar areas off-site. If present, this species could occur in moderate numbers based on the presence of suitable conditions.

c. Sensitive Wildlife Species

Special status wildlife species are defined as any species covered by the Chula Vista MSCP Subarea Plan, including covered species and MSCP narrow endemics and federal and state threatened or endangered wildlife. Six sensitive animal species were observed on the project site during surveys, including: (1) Belding's orange-throated whiptail, (2) coastal California gnatcatcher, (3) least bell's vireo, (4) northern harrier, (5) southern California rufous-crowned sparrow, and (6) San Diego black-tailed jackrabbit. A brief description of the observed wildlife within the project site is provided below. These wildlife species are described below and shown in Figures 5.6-1a and 5.6-1b.

Belding's orange throated whiptail (*Aspidoscelis hyperthyra beldingi*). One individual of Belding's orange-throated whiptail was observed in the eastern part of the Main Campus Property in 2016.

Coastal California gnatcatcher (*Polioptila californica californica*). Coastal California gnatcatcher was observed in both the Main Campus Property and Lake Property in 2013, 2014, and 2016. Specifically, this species was observed in 2013 at two locations within the Main Campus Property, in 2014 at a single location within the Main Campus Property and at a single location within the Lake Property, and in 2016 at two locations on the Lake Property, one location along the off-site sewer alignment for the Lake Property, and seven locations on the Main Campus Property.

Least Bell's vireo (*Vireo bellii pusillus*). One individual of least Bell's vireo was incidentally detected by call within riparian habitat along eastern boundary of Main Campus Property during April 2016 survey.

Northern harrier (*Circus cyaneus*). One individual of northern harrier was observed foraging in the Main Campus Property in 2013.

Southern California rufous-crowned sparrow (*Aimophila ruficeps canescens*). One individual of southern California rufous-crowned sparrow was observed in the northeast corner of the Main Campus Property in 2013.

San Diego black-tailed jackrabbit (*Lepus californicus bennettii*). One individual San Diego black-tailed jackrabbit was observed in the east end of the Main Campus Property in 2013 and in 2014. Three individuals observed on the eastern side of the Main Campus Property in 2016.

5.6.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines and related City criteria, impacts regarding biological resources would be significant if the project would:

- **Threshold 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.

- **Threshold 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.

- **Threshold 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.

- **Threshold 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.

- **Threshold 5:** Conflict with any local policies or ordinances protecting biological resources, including an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan.

5.6.3 Impact Analysis

A. Threshold 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.

1. Sensitive Plants

a. Direct Impacts

Implementation of the Project has the potential to result in direct impacts to San Diego sunflower, Palmer's grapplinghook, ashy spike-moss, San Diego barrel cactus, narrow-leaved nightshade, and Otay tarplant; however, direct impacts would only be significant for San Diego barrel cactus and Otay tarplant (Impact 5.6-1a).

San Diego barrel cactus impacts would occur through removal or disturbance of habitats from construction activities involving clearing, grading, re-contouring of topography, earth moving activities and the construction of buildings, pipelines, and other facilities. The Project would result in direct impacts to approximately two individuals of San Diego barrel cactus on the Main Campus Property and 29 on the Lake Property. This species is MSCP-covered and is regarded as rare, threatened or endangered in California but more common elsewhere (CNPS-List 2.1), and as "seriously threatened" in California due to more than 80 percent of occurrences threatened. Impacts to this non-listed, MSCP-covered species would be considered a significant impact and mitigation would be required. Compliance with the Otay Ranch RMP and MSCP salvage and relocation measures will be required.

Impacts on Otay tarplant could occur within portions of the Main Campus Property and Lake Property characterized by non-native grassland and Diegan coastal sage scrub, as well as similar areas off site. If present, this species could occur in moderate numbers based on the presence of suitable conditions. Impacts on Otay tarplant would be considered significant as it is a listed, MSCP-covered, Narrow Endemic Species.

Other sensitive plant species that are not covered by the MSCP that would be impacted by construction of the Project include San Diego sunflower, Palmer's grapplinghook, and ashy spike-moss. Impacts to these species are not considered significant because these species are relatively common in the region and the habitats that support these species are adequately protected under the MSCP.

b. Indirect Impacts

Indirect impacts to sensitive plant species communities would result primarily from adverse "edge effects." Edge effects may include excess dust or construction-related soil erosion and runoff. Excess dust from construction work could disrupt short-term plant vitality by clogging reproductive structures. Long-term indirect impacts on vegetation communities include intrusions by exotic species, continued exposure to agricultural pollutants (fertilizers, pesticides, and herbicides), soil erosion, and fire. As described in Section 3.0, *Project Description*, a Preserve Edge Plan was developed as part of the UID SPA Plan; the purpose of the Preserve Edge Plan is to offset and minimize potential edge effects within 100 feet of the Preserve, consistent with adjacency management requirements in the MSCP.

There are no known populations of high-sensitivity plant species in the Preserve near the project boundary; San Diego barrel cactus is the only sensitive MSCP-covered species known to occur in the vicinity of either the Main Campus Property or Lake Property. Indirect impacts to sensitive plant species during construction could include fugitive dust, erosion, and runoff. Long-term effects on sensitive plant species could include trampling by humans and domestic animals, collecting, lighting, runoff of herbicides or fertilizers, fire, and hydrological changes. Indirect impacts to San Diego barrel cactus are considered potentially significant (Impact 5.6-1b).

2. Sensitive Wildlife

a. Direct Impacts

Implementation of the project has the potential to result in habitat loss or disturbance from construction and operational activities. Loss of habitat may result in direct impacts to the candidate, sensitive, or special status wildlife species that are dependent on these habitats. Direct impacts to sensitive wildlife species that would occur from implementation of the project are described below and include potential impacts on species known to occur as well as species with potential to occur.

San Diego fairy shrimp. San Diego fairy shrimp has potential to occur within the vernal pools and road ruts on the Lake Property. The project has been specifically designed to avoid vernal pools and watershed areas; however, three road ruts that could support San Diego fairy shrimp occur within the impact footprint. Additional road ruts may occur in the off-site impact areas. The potential for the road ruts to support San Diego fairy shrimp is considered low, as these ruts are apparently of recent origin and likely do not hold water long enough to allow fairy shrimp to complete their life-cycle. Moreover, such road ruts are routinely disturbed by passing vehicles. Impacts to this listed, MSCP-covered species would be considered potentially significant (Impact 5.6-2).

Quino checkerspot butterfly. Quino checkerspot butterfly has potential to occur within grassland and scrub habitats on both the Main Campus Property and Lake Property. Host plants and owl's clover are known to occur on the northern slopes of Salt Creek valley in Otay Ranch Village 10 and the Salt Creek Preserve area immediately south of the Main Campus Property. Quino checkerspot butterfly was observed on the south slopes of Salt Creek Valley, south of the Main Campus Property, during focused surveys conducted in 2009 (Dudek 2009). Focused surveys in Village 10 conducted in 2011 were negative, although host plants were observed in the same locations reported in 2010 (Dudek 2014). The Biological Technical Report for Village 10 concluded that Quino checkerspot butterfly has a "moderate" potential to occur in Village 10 (Dudek 2014). Dudek has not conducted protocol Quino surveys of Village 10 since 2011. No Quino host plants have been observed in the Project site (either parcel); however, focused surveys have not been performed on either parcel. As such, the presence of host plants or Quino checkerspot butterfly cannot be ruled out entirely.

Potential for Quino checkerspot on the Main Campus Property and Lake Property, and off-site impact areas for the Lake Property, is considered low because of the lack of host plants; however, potential in the off-site impact areas south of the Main Campus Property associated with drainage improvements is considered moderate. Impacts to this listed, MSCP-covered species would be considered significant, including impacts to occupied habitat. The Subarea Plan requires that impacts to Quino checkerspot habitat in the Preserve east of SR-125 be avoided to the maximum extent practicable. Patches of dot-seed plantain at least 50 square meters in area, or groups of patches within 200 meters of each other with a combined area of at least 50 square meters, are considered significant Quino habitat. No significant patches of dot-seed plantain have been mapped in the off-site impact areas south of the Main Campus Property, and none are expected to occur. Off-site impacts would be situated so as to avoid any significant Quino habitat

in the Otay River Valley; however, there is still a potential for impacts to the Quino checkerspot butterfly, and these impacts would be potentially significant (Impact 5.6-3).

Coastal California gnatcatcher. The proposed Project would result in impacts to occupied habitat of the federally-listed threatened coastal California gnatcatcher which is known to occur on the Project site. This species is presumed to occupy the Diegan coastal sage scrub on the Main Campus Property and the Lake Property. Surveys conducted for Otay Ranch Village 10 found no coastal California gnatcatcher in the vicinity of the off-site impact areas in Salt Creek south of the Main Campus Property and as such, gnatcatcher individuals are not expected in the off-site impact areas south of the Main Campus Property. Off-site impact areas between the Lake Property and Wueste Road contain Diegan coastal sage scrub habitat equivalent to habitat on the Lake Property, and gnatcatcher is presumed to occupy those areas. Impacts to this listed MSCP-covered species would be considered potentially significant (Impact 5.6-4).

Least Bell's vireo. Least Bell's vireo is federally- and State-listed as endangered and is an MSCP-covered species with certain avoidance requirements. Vireo is known to occur and was incidentally observed within the riparian habitat along the northeastern and eastern portion of the Main Campus Property. While direct impacts to vireo and its habitat would not occur, potential indirect construction noise-related and operation impacts could occur and are considered potentially significant (Impact 5.6-5).

Burrowing owl. Suitable grassland habitat for burrowing owl exists on the Main Campus Property; therefore, protocol burrowing owl surveys were completed in 2016. Burrowing owl is a non-listed, MSCP-covered species with potential to occur on the Main Campus Property and off-site areas south of it based on habitat affinities and species range. Only a few suitable burrows have been observed during biological surveys of the Main Campus Property, and rodent activity on the parcel is not apparently high. Protocol surveys completed in 2016 were negative; thus, the site is considered unoccupied at this time, and the potential for burrowing owl to occur on the Main Campus Property in the future is considered low. Burrowing owl is not expected on the Lake Property and off-site impact areas east of it due to lack of suitable extensive grassland habitat. Potential for burrowing owl in Village 10, south of the Main Campus Property, is considered "moderate to high" in a previous study (Dudek 2014). Impacts to burrowing owl or occupied burrowing owl habitat as defined by CDFW (2012) would be considered potentially significant (Impact 5.6-6).

Northern harrier. Northern harrier is a non-listed, MSCP-covered species that was observed foraging over the Main Campus Property in 2013. Potential for northern harrier to occur on the Main Campus Property as a resident is considered low, due to presence of only marginal nesting habitat. The loss of foraging habitat would be considered less than significant due to the amount of habitat that is adequately protected in the Otay Ranch Preserve and local area. Potential impacts to nesting northern harrier would be considered potentially significant (Impact 5.6-7).

Southern California rufous-crowned sparrow. Southern California rufous-crowned sparrow was observed immediately outside of the proposed impact footprint and is presumed to occupy Diegan coastal sage scrub in the proposed development area including off-site impacts. Impacts to this non-listed, MSCP-covered species would be considered potentially significant if

nesting/breeding individuals are present during construction and removal of habitat (Impact 5.6-8a).

Coastal cactus wren. Coastal cactus wren has potential to occur within portions of the Main Campus Property that support maritime succulent scrub. This non-listed, MSCP-covered species is known to occur in the local area and has been previously observed within scrub habitat to the immediate south of the Main Campus Property and west of the Lake Property. Impacts to coastal cactus wren would be considered potentially significant (Impact 5.6-8b).

Other Sensitive Wildlife. The San Diego black-tailed jackrabbit was observed in the northern portion of the Main Campus Property, outside of the project impact footprint. This species is likely to occupy the scrub and chaparral habitat types on the Main Campus Property, Lake Property, and off-site areas in relatively low numbers. Belding's orange-throated whiptail was observed in the eastern portion of the Main Campus Property in a single location in 2016. San Diego horned-lizard was not observed but has a high potential to occur within Diegan coastal sage scrub on the Main Campus Property and Lake Property. Impacts to these non-listed species would be less than significant, as local populations of San Diego black-tailed jackrabbit, Belding's orange-throated whiptail, and San Diego horned-lizard are considered to be adequately conserved in the local area under the MSCP. No mitigation measures would be required.

b. Indirect Impacts

Short-term Impacts. Short-term indirect impacts to sensitive wildlife species would occur during construction activities and would potentially consist of noise, lighting, presence of toxic substances, degradation of water quality. The Project would result in the removal of trees, shrubs, and other vegetation that provide suitable nesting habitat for common birds, including raptors, protected under the MBTA and CFG Code. Construction of the Project could result in the removal or trimming of trees and other vegetation during the general bird nesting season (January 15 through September 15) and, therefore, could result in impacts to nesting birds. 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. These impacts would be considered potentially significant (Impact 5.6-8c).

Long-term Impacts. Long-term edge effects could include noise, lighting, domestic animal predation, and attraction of natural predators such as ravens, skunks, and raccoons. Indirect impacts to sensitive wildlife are considered potentially significant (Impact 5.6-9).

B. Threshold 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.

Any removal of a sensitive vegetation community is considered a significant impact because these habitats have the potential to support sensitive species, including those discussed under Threshold 1. Implementation of the Project would result in direct impacts to five sensitive vegetation communities, including (1) maritime succulent scrub, (2) Diegan coastal sage scrub, (3) mule fat scrub, (4) non-native grassland, and (5) Diegan coastal sage scrub/non-native

grassland. Impacts to sensitive vegetation communities are identified in Table 5.6-3, *Sensitive Vegetation Community Direct Impacts*, for the Main Campus Property and the Lake Property. Impacts to these vegetation communities would be considered potentially significant (Impacts 5.6-10a through 5.6-10e).

Table 5.6-3 SENSITIVE VEGETATION COMMUNITY DIRECT IMPACTS

Community	Existing Acreage[1]	Impacts							
		Development Area Outside the Preserve[2]	Temporary Impacts Outside the Preserve[3]	Future Facilities Outside the Preserve	Planned Facilities Inside the Preserve	Future Facilities Inside the Preserve [4]	Temporary Impacts Inside the Preserve[5]	Planned Facilities Outside the Preserve	Total Impacts
Main Campus Property									
Diegan Coastal Sage Scrub ‡	79.10	64.49	0.02	--	0.01	0.51	0.25	--	65.28
Diegan Coastal Sage Scrub/Non-native Grassland	0.37	0.37	--	--	--	--	--	--	0.37
Freshwater Marsh	0.05	--	--	--	--	--	--	--	--
Maritime Succulent Scrub	0.38	0.04	--	--	0.03	--	0.31	--	0.38
Mule Fat Scrub	0.08	0.08	--	--	--	--	--	--	0.08
Non-native Grassland	93.79	81.62	--	--	--	3.71	0.27	--	85.60
Southern Willow Scrub	1.12	--	--	--	--	--	--	--	--
MAIN CAMPUS PROPERTY TOTALS	***174.88***	***146.6***	***0.02***	***--***	***0.04***	***3.95***	***0.83***	***--***	***151.44***
Lake Property									
Diegan Coastal Sage Scrub ‡	28.98	9.18	0.24	0.45	0.03	0.05	0.41	0.03	10.39
Non-native Grassland	1.93	0.78	--	--	--	--	--	--	0.78
Vernal Pool	<0.01	--	--	--	--	--	--	--	--
LAKE PROPERTY TOTALS	***30.91***	***9.93***	***0.24***	***0.45***	***0.03***	***0.05***	***0.41***	***0.03***	***11.14***

Notes:

1. Total of on-site existing and off-site impacts. Non-sensitive acreage is rounded to 0.1; sensitive acreage is rounded to 0.01. Totals reflect rounding error.
2. Includes off-site impacts outside the Preserve in the Village 10 SPA
3. Off-site only.
4. This includes 0.04 acre of Diegan coastal sage scrub and 0.007 acre of developed land to be impacted east of the Lake Property that is located in the City of Chula Vista but designated as MHPA by the City of San Diego. Although designated as City of San Diego MHPA, that area is subject to Chula Vista HLIT because it is within Chula Vista jurisdiction. The acreages in this column represent off-site areas.
5. This includes temporary impacts for both Future and Planned Facilities. The sewer alignment for the Lake Property is preliminary, and the final design will follow existing dirt roads wherever possible; therefore, a 12-foot wide permanent impact footprint was centered on the existing dirt road with a 4-foot wide temporary impact on each side. This also includes temporary impact buffers for drainage outlets east of the Lake Property that are located in the City of Chula Vista but designated as MHPA by the City of San Diego.

‡ Includes disturbed phase

C. Threshold 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.

1. Direct Impacts

Impacts on jurisdictional waters and wetlands are summarized in Table 5.6-4, *Impacts to Jurisdictional Waters*, below. A total of 0.44 acre of USACE-, CDFW-, and RWQCB-jurisdictional waters and 0.08 acre of CDFW jurisdictional mule fat scrub in the western portion of the Main Campus Property would be impacted as a result of Project implementation (refer to Figures 5.6-1a and 5.6-1b). Impacts to USACE, CDFW, and RWQCB jurisdictional waters and CDFW jurisdictional mule fat scrub would be considered significant and would require mitigation in accordance with the terms and conditions of a Section 404 permit from the USACE. A Section 401 Water Quality Certification from the RWQCB would be required to be issued prior to the project receiving a Section 404 permit. A Streambed Alteration Agreement would also be required from the CDFW. Additionally, impacts to wetlands and channels would be required to be consistent with the City's wetlands protection program. Impacts to jurisdictional water and wetlands are considered potentially significant (Impact 5.6-11).

Table 5.6-4 IMPACTS TO JURISDICTIONAL WATERS (acres)

Wetland Vegetation Community	Jurisdiction	Main Campus Property	Lake Property	Total
Development Area Outside of Preserve (On Site)				
Mule Fat Scrub	CDFW	0.08	--	0.08
Streambed	USACE/RWQCB/CDFW	0.36	--	0.36
	Subtotal	*0.44*	--	*0.44*
Development Area Outside of Preserve (Off Site)				
Streambed	USACE/RWQCB/CDFW	0.02	--	0.02
	Subtotal	*0.02*	--	*0.02*

Wetland impacts are to be avoided or minimized to the greatest extent practicable. All USACE-jurisdictional wetlands on the Main Campus Property and Lake Property would be avoided; however, impacts to 0.08 acre of CDFW-jurisdictional mule fat scrub would be unavoidable. Impacts to natural drainage channels are minimized to the maximum extent practicable. The jurisdictional streambed to be impacted in the western portion of the Main Campus Property is the result of an engineered storm drain outfall, and the steep-sided, eroded, gullied nature of the channel suggests that it is of recent origin and was not a natural drainage channel prior to the construction of the storm drain outfall. In addition, the downstream portion of the westernmost drainage will be permanently impacted as a result of Village 10, so that the on-site drainage section will likely not have downstream connectivity when the UID project is built. The jurisdictional streambed to be impacted in the center of the Main Campus Property is also the result of an engineered storm drain outfall but has an intermittent channel with less evidence of flow, and also likely was not a natural drainage channel prior to the construction of High Tech K-12 School.

The Project includes storm water collection systems and detention basins with energy-dissipating outfalls to prevent discharge of sediment-containing storm flows or water at erosive velocities into Salt Creek, Otay River, or Lower Otay Lake. Because the hydrology of the Otay River is controlled by Savage Dam, storm water and runoff from the proposed development would not significantly alter the hydrology of the Otay River downstream of the Project. Additional information regarding potential hydrological impacts of the Project is provided in Section 5.11, *Hydrology and Water Quality.*

The Project would impact 0.001 acre of USACE-, RWQCB-, and CDFW-jurisdictional waters off-site, in the form of streambed, where the proposed storm water conveyance pipeline crosses an unnamed tributary to Salt Creek. These impacts would be temporary or could be avoided by using jack-and-bore construction methods to go under the streambed without disturbing the ground surface. The project would also impact 0.019 acre of USACE-, RWQCB-, and CDFW-jurisdictional waters off-site, in the form of streambed, in the off-site grading area for the Main Campus Property, within the Village 10 project footprint.

The Project would not impact any known vernal pools; however, development of the Lake Property would impact road ruts that could potentially support fairy shrimp, and road ruts and potential vernal pools occur in off-site impact areas.

2. Indirect Impacts

Indirect adverse effects to USACE and CDFW jurisdictional waters and channels that would potentially occur as a result of the project include increased runoff, sedimentation, erosion, and invasive exotic plant introduction. However, any potential indirect impact to jurisdictional waters would be reduced to below significant levels through compliance with the drainage and hydromodification design features outlined in the water quality and drainage report prepared for the UID (Appendix K), including compliance with the Chula Vista Development Storm Water Manual requirements and a project-specific Storm Water Pollution Prevention Plan (SWPPP). Additional information on these requirements is provided in Section 5.11, *Hydrology and Water Quality.*

The UID Water Quality Technical Report (see Appendix H) outlines the post-construction water quality requirements and related BMPs to be implemented during the operation of the Project. Implementation of the drainage and hydromodification design features identified in these plans and compliance with existing regulations, would reduce potential indirect impacts to areas downstream of the UID to less than significant (refer to Section 5.11, *Hydrology and Water Quality*, for details).

D. Threshold 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.

Analysis of the UID plan in Section 3.1.5.4 of the MSCP Subarea Plan concluded that the UID plan as adopted in the MSCP Subarea Plan provides important wildlife movement features in the form of a connection between Preserve lands in Salt Creek and Lower Otay Reservoir, and enhanced connection of Preserve lands in Salt Creek to the Otay River Valley. The connection to

Lower Otay Reservoir consisted of an open space corridor across the northern edge of the Lake Property, separating it from the Olympic Training Center to the north. This corridor connects to an archipelago of Diegan coastal sage scrub habitat that reaches to Upper Otay Lake and open space to the north and east. Improved connection of Salt Creek to the Otay River Valley comes from the elimination of an originally planned active recreation area in the eastern Otay River Valley and the elimination of an extension of Alta Road across Salt Creek and the Otay River. A subsequent revision analyzed in the University Villages EIR further improved open space connectivity by providing a second Preserve connection south of the Lake Property.

Off-site Planned and Future Facilities in the Preserve would be underground (conveyance pipelines) or below-grade (storm water detention basin) and thus would not affect line of sight in the Preserve. Construction of the basins and associated outfall would not preclude wildlife from using the area. The detention basin and pipelines would be located on an existing dirt road and access roads are not expected to preclude wildlife from using the area because wildlife would be able to traverse the road. In addition, the roads are not expected to receive much traffic as they are used for periodic maintenance and not on a daily basis. Construction of the storm and sewer facilities would not preclude wildlife from using the area in the long-term as these facilities are underground. Temporary ground disturbance (which is addressed under Threshold 2 above; Impact 5.6-10) would require revegetation with native upland herbaceous species to restore any removed upland species. The area would need to be revegetated with native upland herbaceous species so as to not preclude movement of wildlife through the area and also to provide foraging opportunities. Accordingly, impacts to wildlife movement corridor and nursery sites would be less than significant.

E. Threshold 5: Conflict with any local policies or ordinances protecting biological resources, including an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan.

1. Chula Vista MSCP Subarea Plan/Otay Ranch RMP

The Otay Ranch RMP and the Otay Ranch Preserve were the primary basis for CEQA mitigation of biological impacts identified in the 1993 Otay Ranch GDP Program EIR. The RMP includes conveyance procedures for dedicating parcels of land to the Otay Ranch Preserve and for determining the proportionate share for each village. The Otay Ranch GDP identified that the entire Otay Ranch GDP area contained 9,575 developable acres. The estimated conveyance obligation of 11,375 acres to the Otay Ranch Preserve would be met on a village-by-village basis. The conveyance ratio for all development is 1.188 acres for each acre of Project area, less common areas, including schools, parks, and roadways (see Table 5.6-5, *UID Preserve Conveyance Obligation*). The Project would have significant impacts related to biological resources management if it did not comply with the Chula Vista MSCP and Otay Ranch RMP (Impact 5.6-12).

The Project would be consistent with the City's MSCP Subarea Plan through adherence to project-specific conditions in the Otay Ranch RMP for development on the Main Campus Property, conformance with the HLIT for development on the Lake Property and in off-site areas between it and Lower Otay Lake, and through adherence to Facilities Siting Criteria in

Section 6.3.3.4 of the MSCP Subarea Plan inside the Preserve for off-site impacts located in the Preserve south of the Main Campus Property and southwest of the Lake Property. Off-site impacts inside the City of San Diego's MHPA in Chula Vista jurisdiction are an approved use in both the City of San Diego MHPA and City of Chula Vista Preserve and would be mitigated according to the HLIT. Land use compatibility with the Preserve area is further described in Section 6.0 of the Chula Vista MSCP Subarea Plan. Project components located within the Preserve are subject to the Facilities Siting Criteria contained in Section 6.3.3.4 of the MSCP Subarea Plan. Compliance with the Facilities Siting Criteria demonstrates that impacts to the Preserve have been minimized to the maximum extent practical. The following section provides an analysis of the Facilities Siting Criteria relative to the Project's off-site planned and future facilities components.

Table 5.6-5 UID PRESERVE CONVEYANCE OBLIGATION

Development	Description	Acreage
Total Land Uses		383.78
Public and Common Uses No Calculated as Part of the Conveyance Obligation	Land affiliated with the University and campus support uses; academic space and supporting uses, physical education/recreation/athletics uses, student support space, campus housing, parking lots/structures, and open space	-252.78
Total Developable Acreage (minus acreage for common uses)		**131.00**
Per Acre Conveyance		1.188
Estimated Total Conveyance		155.63*

Source: Michael Baker International, June 2017.

* Final conveyance acreage will be determined at the time of recordation of each final map.

a. Planned and Future Facilities/Siting Criteria Located within the Preserve

Some of the Future Facilities associated with the Lake Property would be located between the Lake Property and Lower Otay Reservoir outside of the City of Chula Vista's Preserve. These Future Facilities would include storm water conveyance pipelines and a detention basin located between the Lake Property and Wueste Road in an area currently mapped as Diegan coastal sage scrub and storm water outfalls that would cross Wueste Road into the City of San Diego's MHPA. These areas are currently developed as a parking lot and boat launch facility. The northernmost storm water pipeline crosses the Preserve before crossing Wueste Road and entering the MHPA. In addition, the sewer line for the Lake Property runs south and then northwest through the Preserve to reach the Salt Creek Interceptor. These off-site impacts associated with the Lake Property would be subject to the Facilities Siting Criteria in Section 6.3.3.4 of MSCP Subarea Plan, which are discussed immediately below.

***Criterion 1* – Such facilities will be located in the least environmentally sensitive location feasible, and use existing roads, trails, and other disturbed areas, including use of the active recreation areas in the Otay River Valley, as much as possible (except where such areas are occupied by the Quino checkerspot butterfly). Facilities should be routed through developed or developing areas where possible. If no other routing is feasible, alignments should follow**

previously existing roads, easements, rights of way, and disturbed areas, minimizing habitat fragmentation.

Wastewater conveyance pipelines associated with the Salt Creek Interceptor are Planned Facilities in Table 6-1 of the MSCP Subarea Plan. The Project includes a wastewater conveyance pipeline connecting the Main Campus Property to the Salt Creek Interceptor (Figure 3-10a*)*. This Planned Facility would begin at the southern tip of the development area at approximately the east-west midpoint of the Main Campus Property and follow an existing dirt road to within 400 feet of the Salt Creek Interceptor. This existing dirt road is currently unmaintained and the width of a single vehicle. The existing dirt road would be widened to a maximum of 12 feet in accordance with restrictions in the Otay Ranch RMP, though temporary disturbance would be up to 20 feet wide for installation of the co-located underground sewer and storm drain lines. The sewer line would traverse the final 400 feet to the Salt Creek Interceptor along another existing dirt road that runs east-west along the northern edge of the Otay River Valley from the Salt Creek Interceptor. The precise nature of this existing dirt road is unknown, as it lies outside the area of HELIX surveys and no descriptions of it could be found in other documents, but it is at least comparable to the existing road leading from the Main Campus Property and likely is wider. Temporary impact areas would be revegetated following conclusion of construction activities.

No previously existing rights-of-way or easements are available to connect the Main Campus Property to the Salt Creek Interceptor. The area these roads traverse is known to support populations of host plants for Quino checkerspot butterfly (Dudek 2009, 2014; RECON 2015), but no individuals of that species have been recorded in the area. The use of existing roads with only minor improvements would result in no significant increases in habitat fragmentation, and the proposed Planned Facility would be underground and thus have no permanent impact on surface resources beyond the improving of the access road.

The proposed project includes a second wastewater conveyance pipeline connecting the Lake Property to the Salt Creek Interceptor, which is a Planned Facility per Table 6-1 of the MSCP Subarea Plan. This Planned Facility would begin in the middle of the Lake Property and follow an existing dirt road to the south, then turn west into the Preserve and follow another existing dirt road northwest to the Salt Creek Interceptor (Figure 3-10b). There is an approximately 290-foot section between the two dirt roads; this is necessary in order avoid making an acute angle.

Access to the sewer lateral should be provided by an existing utility road used by Chula Vista and the San Diego County Water Authority (SDCWA); if necessary, the existing dirt roads would be widened to a maximum of 12 feet in accordance with restrictions in the Otay Ranch RMP, though temporary disturbance would be up to 20 feet wide for installation of the underground sewer line. Temporary impact areas would be revegetated following conclusion of construction activities.

No previously existing rights-of-way or easements are available to connect the Lake Property to the Salt Creek Interceptor. The area these roads traverse within the Preserve is not known to support populations of host plants for Quino checkerspot butterfly (RECON 2015), and no individuals of that species have been recorded in the area. The use of existing roads with only minor improvements would result in no significant increases in habitat fragmentation, and the

proposed Planned Facility would be underground and thus have no permanent impact on surface resources beyond the improving of the access road.

The proposed storm drain conveyance pipeline and detention basin south of the Main Campus Property are Future Facilities anticipated as necessary to support development of the Project. The storm drain line would be co-located with the wastewater line from the Main Campus Property boundary to the second of the two existing dirt roads described above, where the sewer line would turn east to the Salt Creek Interceptor. This segment of the sewer lateral will be co-located in an Otay Valley River Park (OVRP) trail connector sited in conjunction with Village 10. This co-locating/clustering of facilities serves to minimize impacts/habitat fragmentation as required by this criterion. From that point, the storm drain line would traverse currently undeveloped land mapped as non-native grassland, cross a non-wetland jurisdictional stream channel, and reach another existing dirt road, at which point it would follow the road west to the location of the proposed detention basin. The proposed detention basin is within the Village 10 SPA, located near the Village 10 detention basins, in a former planned active recreation area that was removed from the plan in the University Redesign for the final 2003 MSCP Subarea Plan. This area is currently mapped as supporting Diegan coastal sage scrub, riparian scrub, and non-native grassland (Figure 5.6-1a). The proposed detention basin is located between the toe of a slope to the north, and a jurisdictional channel supporting freshwater marsh to the south. The slope supports Diegan coastal sage scrub vegetation and was occupied by coastal California gnatcatcher during previous surveys (Dudek 2014). The detention basin would be sited to avoid wetland vegetation and jurisdictional resources.

The only Future Facility inside the Preserve proposed for the Lake Property is a storm water conveyance pipeline that would cross a corner of the Preserve north of the parcel (Figure 5.6-1b). This pipeline would be underground, and all impacts associated with it would be temporary. There are no existing roads or easements available in that portion of the preserve for the pipeline to follow; however, it is located in a corner of the Preserve near the Lake Property and Wueste Road and would not constitute a permanent surface disturbance in the Preserve.

***Criterion 2* – Such facilities shall avoid, to the maximum extent practicable, impacts to covered species and wetlands, and will be subject to the provisions, limits, and mitigation requirements for narrow endemic species and wetlands pursuant to Section 5.2.3 and 5.2.4 of the Subarea Plan.**

The conceptual locations for the off-site facilities are within the least environmentally sensitive locations within the Preserve based on available information to minimize impacts to sensitive species and their habitats. Given the presumed presence of coastal sage scrub, maritime succulent scrub, and non-native grassland located on either side of the alignment and basin footprint, alternate siting would not be expected to substantially reduce impacts to these habitat communities and the sensitive species that they may support. Although sensitive habitat communities would not be entirely avoided, the majority of the off-site facilities have been sited through existing access roads and less biologically sensitive areas based on available information. Presence of narrow endemic species and other sensitive species is not known. The boundaries of potential wetlands located within Salt Creek immediately adjacent to the detention basin have not been formally delineated; however, based on mapped vegetation information, it appears as though wetlands would be avoided by the conceptual location for the basin. Further,

trenchless construction methods could be implemented for construction of conveyance facilities in order to avoid impacts to sensitive resources. This criterion will be satisfied once additional studies are completed to verify boundaries of potential wetlands and the presence or absence of narrow endemics and other sensitive species.

***Criterion 3** – Where roads cross the Preserve, they should provide for wildlife movement in areas that are graphically depicted on and listed in the MSCP Subregional Plan generalized core biological resource areas and linkages map as a core biological area or a regional linkage between core biological areas. All roads crossing the Preserve should be designed to result in the least impact feasible to covered species and wetlands. Where possible at wildlife crossings, road bridges for vehicular traffic rather than tunnels for wildlife use will be employed. Culverts will only be used when they can achieve the wildlife crossing/movement goals for a specific location. To the extent feasible, crossings will be designed as follows: the substrate will be left in a natural condition or revegetated if soils engineering requirements force subsurface excavation and vegetated with native vegetation if possible; a line-of-sight to the other end will be provided; and if necessary, low-level illumination will be installed in the tunnel.*

This criterion applies primarily to public circulation elements that span the Preserve. The proposed off-site impacts include two unpaved utility access roads that would not be open to the driving public and would not regularly carry traffic. The Main Campus Property road would provide access to both the co-located sewer and storm drain lines, and serve as a trail, avoiding redundant roads in the Preserve. The Lake Property road would be used for sewer access only. Both roads would follow existing access roads wherever possible. The proposed facilities would not include lighting and would be restricted to the northern edge of the Salt Creek and Otay River Valley regional linkage. Temporary impacts associated with the installation of these conveyance pipelines would be revegetated.

***Criterion 4** – To minimize habitat disruption, habitat fragmentation, impediments to wildlife movement and impact to breeding areas, road and/or right-of-way width shall be narrowed from existing City design and engineering standards, to the maximum extent practicable. In addition, roads shall be located in lower quality habitat or disturbed areas to the maximum extent practicable.*

Existing access roads will be utilized for the off-site storm water pipeline and sewer line. Improvements may be required in some areas to achieve roadway widths of 12 feet. The access roads would be used to access the storm water and sewer facilities, thus avoiding the need to construct redundant access roads through the Preserve and minimizing impacts to wildlife habitats. The proposed roads are located in lower quality habitat or on existing dirt roads. The proposed storm water and wastewater conveyance pipelines have been co-located as far as possible to minimize disturbance. The proposed detention basin would be located in uplands and as much as possible in areas of non-native grassland. Therefore, this criterion has been satisfied.

***Criterion 5** – Impacts to covered species and habitats within the Preserve resulting from construction of future facilities will be evaluated by the city during project review and permitting. The city may authorize "take" for impacts to covered species and habitats resulting*

from construction of future facilities located outside the Preserve, pursuant to the Chula Vista MSCP Subarea Plan and consistent with the facility siting criteria in this section.

This siting criteria analysis is preliminary, because the Project facility needs, designs, and locations might change as more detailed Project information becomes available during additional design phases. This preliminary siting criteria analysis has been performed with City oversight, and additional review would be required to affirm these preliminary conclusions once final project designs are available.

Criterion 6 – The City may authorize "take" for impacts to covered species resulting from construction of future facilities located within the Preserve, subject to a limitation of two acres of impact for individual projects and a cumulative total of 50 acres for all future facilities. Wildlife agency concurrence will be required for authorization of take for any impacts to covered species and habitat within the Preserve that exceed two acres that may result from construction of any individual future facility. Wildlife agency concurrence will be required for authorization of take for impacts to covered species and habitat within the Preserve that exceed 50 acres that may result from all future facilities combined.

The total permanent impact from proposed Future Facilities within the Preserve would be 4.30 acres (Table 5.6-3). Because the permanent impact from the detention basin exceeds the two-acre per facility limit, wildlife agency concurrence will be required. The 2014 Otay Ranch University Villages EIR identified 6.2 acres of cumulative impacts to covered habitat from Future Facilities within Otay Ranch. After adding the 4.30 acres proposed with this Project, the cumulative total would be 10.5 acres, still well below the 50-acre cumulative limit.

Criterion 7 – Planned and future facilities must avoid impacts to covered narrow endemic species and the Quino checkerspot butterfly to the maximum extent practicable. When such impacts cannot be avoided, planned and future facilities located within the Preserve are subject to the provisions of Section 5.2.3.6 of the Chula Vista MSCP Subarea Plan. Impacts to Quino checkerspot butterfly that will result from construction of planned and future facilities within the Preserve are subject to the provisions of Section 5.2.8 of the Chula Vista MSCP Subarea Plan.

The proposed Planned and Future Facilities for the Main Campus Property are located in an area that supports sparse populations of host (dot-seed plantain) and nectar (owl clover) plants for Quino checkerspot butterfly but is not considered significant Quino habitat (Dudek 2014). The proposed sewer connection for the Lake Property is located outside of potential Quino habitat (RECON 2015). ~~Historic sightings of Quino checkerspot butterfly in this part of the Salt Creek Valley are rare and generally considered to be transient individuals (Dudek 2009).~~ No other Narrow Endemic Species have been mapped in the location of the proposed facilities.

b. Additional Measures

In accordance with Section 5.2.8.1 of the MSCP Subarea Plan, infrastructure projects constructed within the Preserve would be subject to the following sequence of measures to avoid and minimize impacts to Quino checkerspot butterfly and Quino checkerspot butterfly habitat.

- Measure 1 – A habitat assessment will be conducted in potential facility locations as part of the project siting and design process. Habitat assessments conducted for the Village 10 SPA, in which the proposed Future Facilities are partially located, concluded that Quino checkerspot butterfly has "moderate" potential to occur in the Village 10 SPA and that the location of the proposed detention basin is not significant Quino checkerspot butterfly habitat. Habitat assessment conducted for the Otay Ranch Preserve – Salt Creek Parcels concluded that the Lake Property sewer connection alignment is not significant Quino checkerspot butterfly habitat (RECON 2015).

- Measure 2 – Quino checkerspot butterfly surveys will be conducted in appropriate habitat by a qualified biologist in accordance with the most recent survey protocol adopted by the USFWS. The habitat assessment data currently available indicate that the proposed Planned and Future Facilities are located in habitat that is at best low-quality or marginally suitable for Quino checkerspot butterfly, and not expected to warrant protocol surveys. However, a subsequent habitat assessment will be required once project level infrastructure plans are available. Based on the results of the project level habitat assessment, Quino checkerspot butterfly surveys will be conducted in appropriate habitat by a qualified biologist in accordance with the most recent survey protocol adopted by the USFWS.

- Measure 3 – If Quino checkerspot butterfly are observed within the project area, the project will be designed to avoid impacts to Quino checkerspot butterfly habitat to the maximum extent practicable. This measure would be satisfied upon completion of the required Quino checkerspot butterfly surveys, which would be conducted when the final design for the off-site facilities is developed.

- Measure 4 – The following avoidance criteria will be applied specifically to Preserve Habitat-Category A[2] areas located east of SR 125.

    - For Preserve Habitat-Category A areas east of SR 125 that are within the Salt Creek drainage and the Otay River Valley and associated with the property known as the Millenia Property, single patches of plantago equal to or greater than 50 square meters, or if less than 50 square meters any combination of patches within 200 meters of each other which are equal to or greater than 50 square meters, and as mapped in the habitat assessment prepared by Dudek and Associates (Appendix J of the Chula Vista MSCP Subarea Plan) will be considered "significant QCB [Quino checkerspot butterfly] habitat patches."

  The Project is not located on the Millenia property, so this criterion does not apply.

    - For Preserve Habitat-Category A areas located east of SR-125 that are within the Salt Creek drainage and the Otay River Valley and outside of the Millenia Property, a detailed habitat assessment will be conducted using the same methodology

[2] "Category A" includes (1) areas with a positive 2001 Quino checkerspot butterfly survey and (2) areas with no 2001 Quino checkerspot butterfly protocol survey within 0.6 mile of a known Quino checkerspot butterfly location.

employed by Dudek and Associates (1999) to identify patches of QCB habitat, including mapping patches of Plantago erecta and other host plants, if applicable. In this area, single patches of plantago equal to or greater than 50 square meters, or if less than 50 square meters any combination of patches within 200 meters of each other which are equal to or greater than 50 square meters, will be considered "significant QCB habitat patches."

The off-site impact areas and a small portion of the Main Campus Property are apparently within Preserve Habitat-Category A as shown on Chula Vista MSCP Subarea Plan Figure 4-1; therefore, a detailed habitat assessment using this methodology will be conducted when the final design for the off-site facilities is developed, prior to the issuance of any land development permits, including clearing, grubbing, and grading permits within land development permits, including clearing, grubbing, and grading permits within Preserve Habitat-Category A.

- Projects shall be designed to avoid "significant QCB habitat patches" to the maximum extent practicable, regardless of whether QCB are observed. If impacts to these habitat patches cannot be avoided, the City will consult with the Wildlife Agencies and the Wildlife Agencies will cooperatively work with the City to site the proposed facility in a location that will best minimize impacts to QCB habitat. The City will submit a written request for input to the Wildlife Agencies. The Wildlife Agencies will meet and confer with the City and, no later than 60 days after receipt by the Wildlife Agencies of written notice from the City, resolution on the appropriate location of the proposed facility will be completed.

The Project will comply with this criterion when the detailed habitat assessment is completed, prior to the issuance of any land development permits, including clearing, grubbing, and grading permits within Preserve Habitat-Category A.

- During joint review of a project proposing to impact one or more "significant QCB habitat patches," a cooperative assessment will be made by the City and Wildlife Agencies to determine the overall significance of the proposed impacts to "significant QCB habitat patches." The assessment will be made within the context of the quality and location of other QCB habitat within the Preserve at the time of the assessment. Evaluation of proposed project impacts to significant habitat patches shall also take into consideration all of the other components of the City's QCB program. In particular, if the planned QCB habitat restoration/enhancement component has demonstrated success, the City and the Wildlife Agencies shall consider the restoration/enhancement component in their evaluation of the individual project's impacts.

This measure would be completed if necessary, although the project is not currently expected to impact "significant QCB habitat patches."

- When the City has successfully completed, as determined by the Wildlife Agencies, at least 10 acres of QCB restoration/enhancement within the Preserve in the Salt Creek/Otay River Valley area, the provisions of Section 5.2.8.1 (4)(a-d) will no longer be applicable.

The City has not received sign-off from the Wildlife Agencies to date; therefore, the provisions of Section 5.2.8.1 (4)(a-d) are still applicable.

- Measure 5 – For construction in areas adjacent to occupied habitat, dust control measures (i.e., watering) will be applied during grading activities.

Air quality dust control measures required as part of air district regulations and additional measures as part of Mitigation Measure 5.4-1 are described in Section 5.4, *Air Quality*, of this EIR and would be implemented during project construction, which would minimize potential indirect fugitive dust-related impacts to sensitive biological resources.

- Measure 6 – As part of the overall Preserve management strategy, a weed control program will be established for all water/sewer line access roads built through potential Quino checkerspot butterfly habitat. This will include road construction using a concrete-treated base material with aggregate rock to prevent vegetation growth on the road surface, while allowing sufficient percolation to minimize flows. The zone of influence to be subject to the weed control program will be determined by the City Habitat Manager based on site-specific conditions.

  The proposed Planned and Future Facilities are not located in an area that is currently considered significant Quino habitat; however, this will be confirmed by subsequent studies once project level infrastructure plans are available. Proposed access roads would conform to the construction specifications of this Measure. Approval of a weed control program for the proposed Planned and Future Facilities will be a condition of final Project approval.

c. Implementation Criteria/Assurances

Table 6-1 of the MSCP Subarea Plan identifies implementation criteria/assurances for planned facilities. The off-site storm water pipeline, detention basin, and sewer pipeline would serve the University Park and Research Center SPA. These implementation criteria/assurances include the following:

Assurance 1 – Siting of the facilities is subject to the Otay Ranch RMP Phase 1 Policy 6.6 and the Otay Ranch RMP Infrastructure Plan, Section 6.0; and Otay Ranch RMP Phase 2 Conceptual Infrastructure Plan.

The development associated with the off-site facilities in the Preserve is consistent with the Otay Ranch RMP Phase 2 Conceptual Infrastructure Plan in that UID has been sited primarily in low quality habitat areas to the extent practicable; temporary impacts to habitat would be mitigated; potential impacts to sensitive species would be mitigated; erosion control would be implemented through the BMPs required by a project-specific SWPPP; and wetland impacts would be avoided and minimized through site design. An MSCP siting criteria analysis in accordance with the

MSCP Subarea Plan Section 6.3.3.4 is provided in Section 6.1.9.1 of this report. Additional information on the SWPPP requirements is provided in Section 5.11, *Hydrology and Water Quality.*

***Assurance 2* – BMPs will be used to design and maintain these facilities.**

Prior to issuance of land development permits, including clearing or grubbing and grading and/or construction permits, the applicant would prepare a SWPPP to the satisfaction of the City Engineer. The BMPs contained in the SWPPP shall include, but are not limited to, silt fences, fiber rolls, gravel bags, and soil stabilization measures such as erosion control mats and hydroseeding. Therefore, this assurance is expected to be met.

***Assurance 3* – Storm water lines will be sited to avoid mitigation sites created as mitigation for other projects.**

No mitigation sites are known to occur within the immediate vicinity of the off-site pipeline alignments; therefore, this assurance is expected to be met.

***Assurance 4* – Maintenance access roads related to the facilities will be sited to avoid to the maximum extent practicable impacts to covered species and habitats, including covered narrow endemic species, pursuant to the facilities siting criteria in Section 6.3.3.4 of the Chula Vista MSCP Subarea Plan.**

The Project has reduced widths, co-located infrastructure, and located facilities within the least environmentally sensitive areas to avoid to the maximum extent practicable impacts to covered species and habitats. Therefore, this assurance is expected to be met.

***Assurance 5* – Through Salt Creek where new maintenance access roads must be developed, road widths will be limited to 12 feet, within a 20-foot disturbance corridor.**

Through the Otay River Valley where existing unpaved roads will be utilized, road widths will be limited to 20 feet. Maintenance access roads will be constructed as follows: access roads will be constructed of concrete-treated base material with aggregate rock to minimize frequency of maintenance; where access roads exceed a 5 percent grade, concrete or asphalt may be permitted to ensure maintenance vehicle traction; where cross-drainage occurs, concrete aprons may be permitted to minimize erosion.

Existing access roads will be utilized for the off-site storm water and sewer pipelines and will not be widened beyond 20 feet. Any new access roads will be limited to 12 feet and will follow the construction specifications above. The western access road would also be used to access the storm water facilities, thus avoiding the need to construct redundant access roads through the Preserve and minimizing impacts to wildlife habitats. Therefore, this assurance is expected to be met.

Assurance 6* – *Temporary impacts related to these sewer facilities will be revegetated pursuant to Section 6.3.3.5 of the Chula Vista MSCP Subarea Plan.

All temporary impacts resulting from the off-site components would be revegetated per an approved revegetation plan; therefore, this assurance would be met.

Assurance 7* – *Public access to finger canyons associated with the primary canyons involving these facilities will be limited, pursuant to the Otay River Valley Framework Management Plan, Section 7.6.3 of the Chula Vista MSCP Subarea Plan.

The northern portion of the shared sewer/ storm water access road is also proposed as a rural trail to be built by UID, while the west-east connection to the Salt Creek Interceptor is proposed as a rural trail to be built by Village 10. According to the Village 10 EIR, post and rail fencing and signage would be placed along the connector trail out of the eastern side of Village 10, to alert the user to the sensitive nature of the habitat; this also serves to limit public access. By co-locating trails and sewer access roads, additional access points into finger canyons will be limited. Also, Section 7.6.3 of the MSCP Subarea Plan specifically addresses finger canyons tributary to Wolf Canyon, which is outside of the UID impact area. Therefore, this assurance is expected to be met.

d. Adjacency Management

Both the Main Campus Property and the Lake Property border the Preserve within the Otay Ranch Preserve (Preserve). A small extension of the Preserve across the north edge of the Lake Property is in the Central City Preserve Management Area (PMA), but all other Preserve lands bordered by the Lake Property, and all Preserve lands bordered by the Main Campus Property, are in the Otay Ranch PMA. In accordance with Otay Ranch RMP Policy 7.2, an Edge Plan has been prepared as Appendix D to the UID SPA Plan to ensure that proposed land uses will not adversely affect resources within the adjacent Preserve. Adjacency management measures addressed in the UID Edge Plan include: noise, lighting, landscaping, water quality/drainage and brush management.

In order to prevent discharge of toxins and other pollutants into the Preserve, the proposed Project would utilize detention basins to be constructed on Otay Ranch Village 10 for Phases 1 and 2 and an off-site detention basin for storm water conveyance and treatment for Phase 3 of the Project on the Main Campus Property. This detention basin would allow for control, treatment, and filtration of runoff from development on the Main Campus Property so that the Otay River is unaffected by project runoff. Drainage from the Lake Property would be controlled and treated on-site as part of the Project's storm drain system. BMPs would be integrated into the Project design to ensure water quality impacts to downstream drainages would be avoided.

All lighting in the Project would be directed away from the Preserve or shielded from it using appropriate means including lighting fixture design and vegetation where there is potential for overspill into the Preserve. According to the UID SPA Plan Appendix D, the UID Design Plan includes criteria for the design of lighting for the District, including the 100-foot Preserve Edge.

Improvement plans for the areas within the 100-foot Preserve Edge will include shielded lighting designs that avoid spillover light in the Preserve. Lighting Plans and a photometric analysis shall be prepared to illustrate the location of proposed lighting standards and type of shielding measures.

Lighting Plans and accompanying photometric analyses must be prepared in conjunction with improvement plans for any improvements within the 100-foot Preserve Edge to identify the location of proposed lighting fixtures and the type of light shielding measures. The Lighting Plan must demonstrate that light spillage into the Preserve is avoided to the greatest extent possible. City of Chula Vista updated street lighting standards require installation of energy saving LED lamps on all City streets.

The proposed development footprint in the Lake Property would be confined to the eastern half of the parcel, 300 to 400 feet from the nearest boundary with the Preserve. The portions of the Main Campus Property adjacent to the Preserve would be situated at the top of manufactured slopes that place the development substantially above the Preserve topographically. These manufactured slopes, along with areas within the parcel boundary but outside the development footprint, also provide a buffer of 100 to 200 feet between proposed development and the Preserve boundary. These Project features in the form of setbacks would combine with lighting plan design to eliminate the potential for overspill of project lighting into the Preserve.

The same setbacks and manufactured slopes that would reduce the potential for lighting spillover into the Preserve (described above) would also serve to minimize operational noise impacts from campus development. The land uses within the 100-foot Preserve Edge are low noise-generating uses, comprised of native vegetation and trail connections. The land use zone adjacent to the Preserve Edge is T-1: Future Development, which is a low intensity area. Parks with active recreation such as playgrounds and sports courts would be allowed in the T-1 zone and would be expected to generate noise levels of 60 dBA L_{EQ} up to 60 feet from the source; therefore, given the 100-foot buffer zone, these noise levels would not be expected to be significant in the Preserve (for additional information on noise impacts on the MSCP, see Section 5.5, *Noise,* of this EIR).

Landscape plans for all development associated with the project would avoid use of invasive species in their designs. According to the Preserve Edge Plan, landscape plans adjacent to the Preserve will not contain any invasive species, as determined by the City of Chula Vista and identified in the MSCP Subarea Plan, Appendix N, *List of Invasive Species.* Landscape areas within the 100-foot Preserve Edge including, but not limited to, manufactured slopes, street-adjacent landscaping and Village Trail feature must comply with the Approved Plant List provided as Attachment "A" to the SPA Plan. This list also meets the requirements outlined in the attachment in the UID Fire Protection Plan as these manufactured slopes are also within the 100-foot Brush Management Zone required by the MSCP Subarea Plan. Any changes to the Approved Plant List must be approved by the Development Services Director or the Director's designee. The area may be planted with container stock (liners) or a hydroseed mix.

The Project is consistent with the Otay Ranch RMP, which requires a 100-foot edge buffer between development and the Preserve within the Otay Ranch PMA. Each SPA must prepare an Edge Plan with consultation by a qualified biologist, who will provide a list of species acceptable

for planting in the edge. The edge may not contain any structures except for fences and walls, and those must be designed and landscaped so as to have no adverse visual effect on the Preserve. Fuel modification zones may be included in the edge.

5.6.4 Level of Significance Prior to Mitigation

A. Sensitive Plant and Wildlife Species

Impact 5.6-1a: Implementation of the Project would result in significant direct impacts to two sensitive plant species: San Diego barrel cactus and Otay tarplant.

Impact 5.6-1b: Implementation of the Project could potentially result in significant indirect impacts to San Diego barrel cactus.

Impact 5.6-2: Implementation of the Project could potentially result in potential significant direct and indirect impacts to the San Diego fairy shrimp.

Impact 5.6-3: Implementation of the Project could potentially result in potential significant direct impacts to the Quino checkerspot butterfly.

Impact 5.6-4: Implementation of the Project could potentially result in potential significant direct and indirect impacts the coastal California gnatcatcher.

Impact 5.6-5: Implementation of the Project could potentially result in potential significant direct and indirect impacts to the least Bell's vireo.

Impact 5.6-6: Implementation of the Project could potentially result in potential significant direct and indirect impacts to the burrowing owl.

Impact 5.6-7: Implementation of the Project could potentially result in potential significant direct and indirect impacts to the northern harrier.

Impact 5.6-8a through 8c: Implementation of the Project could potentially result in potential significant direct and indirect impacts to the southern California rufous-crowned sparrow and coastal cactus wren, as well as potential impacts to raptors and breeding migratory birds.

Impact 5.6-9: Significant short-term indirect impacts to sensitive wildlife species would occur during construction activities and would potentially consist of noise, lighting, presence of toxic substances, degradation of water quality. In addition, significant long-term edge effects could include noise, lighting, domestic animal predation, and attraction of natural predators.

B. Riparian Habitat and Other Sensitive Natural Communities

Impact 5.6-10a: Implementation of the Project would result in significant direct impacts to five sensitive habitats, including maritime succulent scrub, Diegan coastal sage scrub, mule fat scrub, non-native grassland, and Diegan coastal sage scrub/non-native grassland, as shown in Table 5.6-3.

Impact 5.6-10b: Implementation of the Project would result in significant direct impacts to maritime succulent scrub.

Impact 5.6-10c: Implementation of the Project would result in significant direct impacts to Diegan coastal sage scrub.

Impact 5.6-10d: Implementation of the Project would result in significant direct impacts to Diegan coastal sage scrub/non-native grassland.

Impact 5.6-10e: Implementation of the Project would result in significant direct impacts to sensitive vegetation communities.

C. Federally Protected Wetlands

Impact 5.6-11: Implementation of the Project would result in significant direct impacts to USACE regulated jurisdictional waters and CDFW jurisdictional channels.

D. Wildlife Movement Corridors and Nursery Sites

Impacts to wildlife movement corridor and nursery sites would be less than significant.

E. Consistency with Local Policies, Ordinances, HCP and NCCP

Impact 5.6-12: Implementation of the Project would result in potentially significant impacts related to consistency with local plans related to biological resources.

5.6.5 Mitigation Measures

Development of the UID site would occur as future applicants apply for various permits. The measures below identify that a future applicant would be responsible for the implementation of the mitigation measures.

A. Sensitive Plant and Wildlife Species

Implementation of the Project would result in significant direct impacts to two sensitive plant species: San Diego barrel cactus and Otay tarplant (Impact 5.6-1a) and potentially significant indirect impacts to San Diego barrel cactus (Impact 5.6-1b). Mitigation Measures 5.6-1a through 5.6-1c would reduce impacts to sensitive plants to less than significant levels:

5.6-1a Pre-Construction Rare Plant Surveys for Impacts Outside of Covered Projects. Prior to issuance of any land development permits, including clearing, grubbing, and grading permits for the Lake Property and off-site impact areas, the project applicant shall retain a City-approved biologist to conduct rare plant surveys for sensitive plant species, including, but not limited to, Otay tarplant (*Deinandra conjugens*) and San Diego barrel cactus (*Ferocactus viridescens*), which are species determined to be present or to have a high potential to occur and that require additional measures for unavoidable impacts.

If plant species requiring transplantation – snake cholla (*Opuntia parryi* var. *serpentine*), San Diego barrel cactus, dot-seed plantain (*Plantago erecta)*, coast cholla (*Cylindropuntia prolifera*), Otay tarplant – are found within the impact areas, the applicant shall implement Mitigation Measure 5.6-2, which includes measures for plant salvage and relocation, and preparation and implementation of a resource salvage plan.

Should narrow endemic species listed in Table 5-4 of the Chula Vista MSCP Subarea Plan be identified in the proposed off-site impact areas, the project shall be designed so as to avoid them to the maximum extent practicable. If impacts to narrow endemics are unavoidable, they shall be limited as follows: impacts within the Lake Property shall be no more than 20 percent of the total population within the project area; off-site impacts outside of the Preserve shall be no more than 20 percent of the total population within the project area; and off-site impacts within the Preserve shall be no more than 5 percent of the total population within the project area. In addition, impacts shall be mitigated at ratios of 1:1 to 3:1, depending on the sensitivity of the species. The proposed project design, including mitigation, shall result in conservation of the species that is functionally equivalent to its status without the project, including species numbers and area, and must ensure adequate Preserve design to protect the species in the long-term. The proposed Project design, including mitigation, shall result in conservation of the species that is functionally equivalent to its status without the Project, including species numbers and area, and must ensure adequate Preserve design to protect the species in the long-term.

5.6-1b Plant Resource Salvage Plan. Prior to issuance of land development permits, including clearing or grubbing and grading permits for the Main Campus Property, Lake Property and all off-site impact areas, the applicant shall prepare a resource salvage plan for areas with salvageable plant resources, including Otay tarplant (*Deinandra conjugens*), San Diego barrel cactus (*Ferocactus viridescens*), dot-seed plantain (*Plantago erecta*, Quino checkerspot butterfly larval host plant), and coast cholla and snake cholla (*Cylindropuntia prolifera* and *Opuntia parryi* var. *serpentine*, habitat for cactus wren). The resource salvage plan shall, at a minimum, evaluate options for plant salvage and relocation, including native plant mulching, selective soil salvaging, application of plant materials on manufactured slopes, and application/relocation of resources within the Preserve. Relocation efforts may include seed collection and/or transplantation to a suitable receptor site and will be based on the most reliable methods of successful relocation. The program shall contain a recommendation for method of salvage and relocation/application based on feasibility of implementation and likelihood of success. The program shall include, at a minimum, an implementation plan, maintenance and monitoring program, estimated completion time, and any relevant contingency measures. The resource salvage plan shall be prepared by a City-approved biologist. The applicant shall also be required to implement the resource salvage plan subject to the oversight of the Development Services Director (or their designee).

Implementation of the Project could potentially result in significant impacts to San Diego fairy shrimp (Impact 5.6-2). Mitigation Measures 5.6-2a through 5.6-2b would reduce impacts to less than significant levels:

5.6-2a **Fairy Shrimp Surveys.** Prior to issuance of any land development permits, including clearing, grubbing, and grading permits for the Lake Property and off-site impact areas, the project applicant shall retain a qualified biologist possessing a valid ESA Section 10(a)(1)(A) Recovery Permit to survey potential habitat (i.e., road ruts) inside the proposed impact footprint in the Lake Property and off-site impact areas for presence of listed branchiopod species. The surveys shall be conducted in accordance with the most recent protocol survey guidelines established by the USFWS. If sensitive fairy shrimp species are found within the impact areas, the applicant shall implement Mitigation Measure 5.6-2b, which includes measures for obtaining take authorization and preparation and implementation of a resource salvage plan.

5.6-2b **Fairy Shrimp Take Authorization and Resource Salvage Plan.** Prior to issuance of land development permits, including clearing or grubbing and grading permits for the Lake Property and off-site impact areas, if fairy shrimp surveys required by Mitigation Measure 5.6-2a show the project would have unavoidable impacts to listed fairy shrimp species, the applicant shall consult with the City and USFWS to obtain take authorization pursuant to ESA and the Chula Vista MSCP Subarea Plan. The applicant shall provide for mitigation as required by the City and USFWS, which may include, but is not limited to, preparation of a resource salvage plan and translocation of cysts by inoculation into existing suitable habitat within approved preserve areas or into created habitat on-site or within the Preserve, or acquisition and preservation of occupied habitat off-site.

Implementation of the Project could potentially result in significant impacts to Quino checkerspot butterfly (Impact 5.6-3). Mitigation Measure 5.6-3 would reduce impacts to less than significant levels:

5.6-3 **Quino Checkerspot Butterfly and Host Plant Surveys.** Prior to issuance of any land development permits, including clearing, grubbing, and grading permits for the Lake Property, areas of the Main Campus Property mapped as Non-Preserve Habitat-Category A as shown on Chula Vista MSCP Subarea Plan Figure 4-1, and off-site impact areas in the Otay River Valley, the project applicant shall retain a qualified biologist possessing a valid ESA Section 10(a)(1)(A) Recovery Permit to perform a site assessment and presence/absence survey for the Quino checkerspot butterfly. The surveys shall be conducted in accordance with the most recent protocol survey guidelines established by the USFWS. The survey shall include an inventory and mapping of locations of Quino checkerspot and its host plant, *Plantago erecta*. For areas within Preserve Habitat-Category A as shown on Chula Vista MSCP Subarea Plan Figure 4-1, a detailed habitat assessment shall be conducted to identify patches of QCB habitat and delineate "significant QCB habitat patches" as described in the Chula Vista MSCP Subarea Plan Section 5.2.8.1 (4). Any "significant QCB habitat patches" within Preserve Habitat-Category A shall be avoided to the maximum extent practicable according to Section 5.2.8.1 (4). The applicant shall implement Mitigation Measure 5.6-2, which includes measures for preparation and implementation of a resource salvage plan for *Plantago erecta*. The Applicant shall notify the City and Wildlife Agencies if QCB are observed within 300 feet of the Preserve boundary, and shall work with the Wildlife Agencies to enable one-time only salvage by the Wildlife

Agencies of larvae, butterflies and/or appropriate habitat constituents in areas identified to have QCB in accordance with section 5.2.8.2.

Implementation of the Project could potentially result in significant impacts to coastal California gnatcatcher (Impact 5.6-4). Mitigation Measure 5.6-4 would reduce impacts to less than significant levels:

5.6-4 Coastal California Gnatcatcher Avoidance. For any work proposed between February 15 and August 15, prior to issuance of any land development permits for the Main Campus Property, Lake Property, and off-site impact areas, including clearing, grubbing, grading, and construction permits within or adjacent to suitable breeding habitat for the coastal California gnatcatcher, pre-construction surveys shall be performed in order to determine the presence or absence of the species and extent of occupied habitat. The pre-construction survey area for the coastal California gnatcatcher shall encompass suitable habitat within the project work zone, as well as a 300-foot buffer.

The pre-construction survey shall be performed to the satisfaction of the Development Services Director (or their designee) by a qualified biologist familiar with the City's MSCP Subarea Plan. The results of the pre-construction survey must be submitted in a report to the Development Services Director (or their designee) for review and approval prior to the issuance of any land development permits and prior to initiating any construction activities. If the coastal California gnatcatcher is detected, a minimum 300-foot buffer delineated by orange biological fencing shall be established around the detected species to ensure that no work shall occur within the occupied habitat from February 15 through August 15 and on-site noise reduction techniques shall be implemented to ensure that construction noise levels not exceed 60 dBA L_{EQ} (1 hour) at the location of any occupied sensitive habitat areas. The Development Services Director (or their designee) shall have the discretion to modify the buffer width depending on-site-specific conditions and in consultation with CDFW and USFWS. If the results of the pre-construction survey determine that the survey area is unoccupied, the work may commence at the discretion of the Development Services Director (or their designee) following the review and approval of the pre-construction report. The Applicant shall notify the City and Wildlife Agencies if QCB are observed within 300 feet of the Preserve boundary, and shall work with the Wildlife Agencies to enable one-time only salvage by the Wildlife Agencies of larvae, butterflies and/or appropriate habitat constituents in areas identified to have QCB in accordance with section 5.2.8.2.

Implementation of the Project could potentially result in significant impacts to least Bell's vireo (Impact 5.6-5). Mitigation Measure 5.6-5 would reduce impacts to less than significant levels:

5.6-5 Least Bell's Vireo Avoidance. For any work proposed between March 15 and September 15, prior to the issuance of any land development permits for the northern edge of the Main Campus Property and off-site impact areas, including clearing, grubbing, grading, and construction permits, a pre-construction survey for the least Bell's vireo shall be performed in order to reaffirm the presence and extent of occupied habitat. The pre-construction survey area for the species shall encompass all potentially

suitable habitat within the project work zone, as well as a 300-foot survey buffer. Habitat presumed to be occupied by least Bell's vireo is confined to southern willow scrub habitat approximately 200 feet northeast of the limit of proposed development. Buffer requirements for occupied habitat would encompass approximately 100 feet along the northeast edge of the proposed development area. The pre-construction survey shall be performed to the satisfaction of the Development Services Director (or their designee) by a qualified biologist familiar with the Chula Vista MSCP Subarea Plan. The results of the pre-construction survey must be submitted in a report to the Development Services Director (or their designee) for review and approval prior to the issuance of any land development permits and prior to initiating any construction activities. If least Bell's vireo is detected, a minimum 300-foot buffer delineated by orange biological fencing shall be established around the detected species to ensure that no work shall occur within occupied habitat from March 15 through September 15. On-site noise reduction techniques shall be implemented to ensure that construction noise levels not exceed 60 dBA L_{EQ} (1 hour) at the location of any occupied sensitive habitat areas. The Development Services Director (or their designee) shall have the discretion to modify the buffer width depending on site-specific conditions. If the results of the pre-construction survey determine that the survey area is unoccupied, the work may commence at the discretion of the Development Services Director (or their designee) following the review and approval of the pre-construction report.

Implementation of the Project could potentially result in significant impacts to burrowing owl (Impact 5.6-6). Mitigation Measure 5.6-6 would reduce impacts to less than significant levels:

5.6-6 Pre-Construction Burrowing Owl Survey. Prior to issuance of any land development permits, including clearing, grubbing, and grading permits for the Main Campus Property and off-site impact areas south of it, the project applicant shall retain a City-approved biologist to conduct focused pre-construction surveys for burrowing owls. The surveys shall be performed no earlier than 30 days prior to the commencement of any clearing, grubbing, or grading activities. If occupied burrows are detected, the City-approved biologist shall prepare a passive relocation mitigation plan subject to review and approval by the wildlife agencies and the City, including any subsequent burrowing owl relocation plans to avoid impacts from construction-related activities.

Implementation of the Project could potentially result in significant impacts to northern harrier (Impact 5.6-7). Mitigation Measure 5.6-7 would reduce impacts to less than significant levels:

5.6-7 Pre-Construction Northern Harrier Survey. Prior to issuance of any land development permits, including clearing, grubbing, and grading permits for the Main Campus Property and off-site impact areas south of it, the project applicant shall retain a City-approved biologist to conduct focused surveys for northern harrier to determine the presence or absence of this species within 900 feet of the construction area. The pre-construction survey must be conducted within 10 calendar days prior to the start of construction. The results of the survey must be submitted to the City for review and approval. If active nests are detected by the City-approved biologist, a 900-foot impact avoidance buffer around active nests will be established unless a different buffer is recommended by the City-approved biologist and approved by the City, CDFW, and

USFWS, and a bio-monitor shall be on site during construction to minimize construction impacts and ensure that no nests are removed or disturbed until all young have fledged.

Implementation of the Project could potentially result in significant impacts to southern California rufous-crowned sparrow, coastal cactus wren, and other nesting birds (Impacts 5.6-8a through 5.6-8c, respectively). Mitigation Measures 5.6-8a through 5.6-8e would reduce impacts to less than significant levels:

5.6-8a **Pre-Construction Nesting Bird Survey.** To avoid any direct impacts to raptors and/or any migratory birds protected under the Migratory Bird Treaty Act, removal of habitat that supports active nests on the proposed area of disturbance for the Main Campus Property and Lake Property and all off-site impact areas should occur outside of the breeding season for these species. The breeding season is defined as February 15 to August 15 for coastal California gnatcatcher and other non-raptor birds and January 15 to August 31 for raptor species. If removal of habitat on the proposed area of disturbance must occur during the breeding season, the project applicant 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~~ seven calendar days prior to the start of construction, and the results must be submitted 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 are avoided, including establishing a 300-foot avoidance buffer (500 feet for raptors), unless a different buffer is recommended by the City-approved biologist and approved by the City, CDFW, and USFWS. 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.

5.6-8b **Construction Fencing.** Prior to issuance of land development permits, including clearing, grubbing, grading, and/or construction permits, the project applicant shall install fencing in accordance with Chula Vista Municipal Code 17.35.030. Prominently colored, well-installed fencing and signage shall be in place wherever the limits of grading are adjacent to sensitive vegetation communities or other biological resources, as identified by the qualified monitoring biologist. Fencing shall remain in place during all construction activities. All temporary fencing shall be shown on grading plans for areas adjacent to the Preserve and for all off-site facilities constructed within the Preserve. Prior to release of grading and/or improvement bonds (as may be required by the City), a qualified biologist shall provide evidence that work was conducted as authorized under the approved land development permit and associated plans.

5.6-8c **Construction Staging Areas.** The project applicant shall ensure proper designation of construction staging areas for project activities such that no staging areas are located within Preserve areas or other sensitive habitat areas. Staging areas shall be identified following the advice of a qualified biologist, and with the approval of the City.

Designated staging areas shall be included on construction plans and if located outside of development areas, project plans shall include revegetation and/or mitigation for staging area impacts according to the HLIT. The construction contractor shall receive approval by the project applicant prior to mobilizations and staging of equipment outside of the project boundaries.

5.6-8d Biological Construction Monitor. Prior to issuance of land development permits, including clearing, grubbing, grading, and/or construction permits, for any areas adjacent to the Preserve and the off-site facilities located within the Preserve, the project applicant shall provide written confirmation that a City-approved biological monitor has been retained and shall be on site during clearing, grubbing, and/or grading activities. The biological monitor shall attend all pre-construction meetings and be present during the removal of any vegetation to ensure that the approved limits of disturbance are not exceeded and provide periodic monitoring of the impact area including, but not limited to, trenches, stockpiles, storage areas, and protective fencing. Monitoring adjacent to Preserve Habitat Category A shall be consistent with the Chula Vista MSCP Subarea Plan Section 5.2.8.2. The biological monitor shall be authorized to halt all associated project activities that may be in violation of the Chula Vista MSCP Subarea Plan and/or permits issued by any other agencies having jurisdictional authority over the project.

Before construction activities occur in areas containing sensitive biological resources within the off-site facilities area, all workers shall be educated by a City-approved biologist to recognize and avoid those areas that have been marked as sensitive biological resources.

5.6-8e Implement Preserve Edge Plan. Prior to the issuance of grading permits, the project applicant shall submit evidence, to the satisfaction of the Development Services Director (or their designee), showing that the following features of the Preserve Edge Plans have been incorporated into grading and landscaping plans:

- Provide post and rail fencing and signage for sensitive habitat adjacent to trails. Prior to the issuance of land development permits, including clearing or grubbing and grading and/or construction permits, for the project, the project owner shall submit wall and fence plans depicting appropriate barriers to prevent unauthorized access to the Preserve. The wall and fence plans shall, at a minimum, illustrate the locations and cross-sections of proposed walls, fences, informational and directional signage, access controls, and/or boundary markers along the Preserve boundary and off-site pedestrian trails as conceptually described in the Edge Plans. The required wall and fence plan shall be subject to the approval of the Development Services Director (or their designee).

- Install canyon subdrains to prevent erosion of drainage and wetlands within the Preserve.

- Prevent release of toxins, chemicals, petroleum products, exotic plant materials, and other elements that might degrade or harm the natural environment or ecosystem within the Preserve.

- Implement all necessary requirements for water quality as specified by the state and local agencies.

- Do not allow the introduction of invasive, non-native plant species into areas immediately adjacent to the Preserve. All slopes immediately adjacent to the Preserve shall be planted with native species that reflect the adjacent native habitat, per the Edge Plan. Prior to the issuance of land development permits, including clearing or grubbing and grading and/or construction permits, for areas within the 100-foot Preserve edge, the project applicant shall prepare and submit to the satisfaction of the Development Services Director (or their designee) landscape plans to ensure that the proposed plant palette is consistent with the plant list contained in the Preserve Edge Plans for each village. The landscape plan shall also incorporate a manual weeding program for areas adjacent to the Preserve. The manual weeding program shall describe, at a minimum, the entity responsible for controlling invasive species, the maintenance activities and methods required to control invasive species, and a maintenance/monitoring schedule.

- Incorporate all fuel modification areas into development plans and do not include any areas within the Preserve, consistent with the Fire Protection Plan (FPP).

- In compliance with the Chula Vista MSCP Subarea Plan, all lighting shall be shielded and directed away from the Preserve. Prior to issuance of a building permit, a lighting plan and photometric analysis shall be prepared pursuant to Mitigation Measures 5.2-1 and 5.2-2 provided in Section 5.2, *Aesthetics/Landform Alteration*.

- Noise impacts adjacent to the Preserve lands shall be minimized. Berms or walls shall be constructed adjacent to commercial areas and any other use that may introduce noises that could impact or interfere with wildlife utilization of the Preserve, although no such uses are currently proposed within or adjacent to the Preserve Edge. Construction activities shall include noise reduction measures or be conducted outside the breeding season of sensitive bird species, consistent with Mitigation Measure 5.5-5, provided in Section 5.5.

Long-term edge effects could include noise, lighting, domestic animal predation, and attraction of natural predators. These indirect impacts to sensitive wildlife would be significant (Impact 5.6-9). Mitigation Measures 5.6-9 would reduce impacts to less than significant levels:

5.6-9 **Siting Criteria Analysis.** Prior to the issuance of any land development permits, including clearing, grubbing, and grading permits for all Planned and Future Facilities within 100 percent Conservation Areas including Preserve areas south of the Main Campus Property and north and west of the Lake Property, the project applicant shall

complete an updated siting criteria analysis for all proposed Planned and Future Facilities, based on biological surveys completed within one year of construction.

B. Sensitive Vegetation Communities/Habitats

Implementation of the Project would result in significant direct impacts to five sensitive vegetation communities: maritime succulent scrub, Diegan coastal sage scrub, mule fat scrub, non-native grassland, and Diegan coastal sage scrub/non-native grassland (Impacts 5.6-10a through 5.6-10e). Mitigation Measures 5.6-10a through 5.6-10g would reduce impacts to less than significant levels:

5.6-10a Compensatory Mitigation for Impacts to Sensitive Habitat. Impacts to sensitive habitat types from development associated with the Lake Property and off-site impact areas will be mitigated as shown in Table 5.6-6, *Mitigation for Impacts to Vegetation in the Lake Property and Off-site Areas*, and in accordance with Table 5-3 of the Chula Vista MSCP Subarea Plan. Impacts associated with the Main Campus Property are in the Development Area of a Covered Project or are Planned and Future Facilities within 100 percent Conservation Areas of a Covered Project, and do not require compensatory mitigation above and beyond the restoration requirements specified in the Subarea Plan. Mitigation for impacts associated with the Lake Property will be in accordance with the Chula Vista MSCP Subarea Plan and the City's HLIT Ordinance and as provided in the HLIT Findings (Appendix E of this EIR). Areas within or adjacent to the Lake Property will be given priority for compensatory mitigation.

Prior to issuance of any land development permits, including clearing, grubbing, and grading permits for the Lake Property and off-site impact areas, the project applicant shall obtain an HLIT Permit from the City pursuant to Section 17.35.080 of the Chula Vista Municipal Code and shall mitigate for direct impacts pursuant to Sections 5.2.2 and 5.2.4 of the City's MSCP Subarea Plan, including any applicable wetland mitigation pursuant to table 5.6 of the City's MSCP Subarea Plan. In compliance with the Chula Vista MSCP Subarea Plan, the applicant shall secure the appropriate MSCP Tier mitigation credits within a City- and wildlife agency-approved mitigation bank or other approved location offering mitigation credits consistent with the ratios specified in Table 5.6-6.

Table 5.6-6 MITIGATION FOR IMPACTS TO VEGETATION IN THE LAKE PROPERTY AND OFF-SITE AREAS (HLIT)[1]

Community	Tier[2]	Impact (Acres)	Mitigation Ratio[3]	Required Mitigation[3] (Acres)
Diegan coastal sage scrub outside of the Preserve	II	9.63	1:1	9.63
Diegan coastal sage scrub inside of the Preserve	II	0.59	1.5:1	0.89
Non-native grassland outside of the Preserve	III	0.78	0.5:1	0.39
Non-native grassland inside of the Preserve	III	3.71	1:1	3.71

[1] For the Main Campus Property, this includes impacts of off-site Future Facilities inside the Preserve, since these impacts exceed the 2-acre per facility threshold to require mitigation. On-site impacts and Planned Facilities for the Main Campus Property do not require mitigation and are not included in this table. For the Lake Property, this includes on-site impacts (which are outside of the Preserve), off-site Future and Planned Facilities inside the Preserve, and off-site Future and Planned Facilities outside of the Preserve. This table does not include the temporary impacts inside the preserve; those will be restored/revegetated in place per Mitigation Measures 5.6-14 and 5.6-16.

[2] Tiers and mitigation ratios are in accordance with the Chula Vista MSCP Subarea Plan's HLIT Upland Habitat Mitigation Ratios. No mitigation is required for Tier IV habitat types (i.e., non-sensitive vegetation communities and land covers including disturbed land, ornamental, or developed land).

[3] It is assumed that mitigation will be located inside the Preserve. Mitigation outside of the Preserve (i.e., Chula Vista MSCP Subarea Plan or Planning Area boundary) will require increased mitigation per Table 5-3 of the City's MSCP Subarea Plan.

The project applicant shall be required to provide verification of purchase to the City prior to issuance of any land development permits.

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 MSCP Tier 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.

Prior to issuance of any land development permit, and to the satisfaction and oversight of the City's Development Services Director (or their designee), the applicant shall secure the parcel(s) that will be permanently preserved for impact mitigation, prepare a long-term management and monitoring plan 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 management and monitoring plan 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 management and monitoring plan. 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 ensure 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 management and monitoring plan 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.

5.6-10b Maritime Succulent Scrub Restoration Plan. Prior to the issuance of any land development permits (including clearing and grubbing or grading permits) on the Main Campus Property, the project applicant shall prepare a restoration plan to restore 0.31 acre of maritime succulent scrub in the temporary impact (grading) footprint within the Preserve. The maritime succulent scrub restoration shall be prepared by a City approved biologist and to the satisfaction of the Development Services Director (or their designee) pursuant to the Otay Ranch RMP restoration requirements. The restoration plan shall include, at a minimum, an implementation strategy; species salvage and relocation, appropriate seed mixtures and planting method; irrigation; quantitative and qualitative success criteria; maintenance, monitoring, and reporting program; estimated completion time; and contingency measures. The project applicant shall also be required to implement the restoration plan subject to the oversight and approval of the Development Services Director (or their designee).

5.6-10c Salt Creek Coastal Sage Scrub Restoration Plan. Prior to the issuance of any grading permits for the project, the project applicant shall prepare a restoration plan to restore 20.6 acres of disturbed habitat within Salt Creek (shown on Figure 3-2 of the Chula Vista MSCP Subarea Plan) to coastal sage scrub habitat. The restoration plan shall be prepared by a City approved biologist and to the satisfaction of the Development Services Director (or their designee) consistent with the guidelines established in the Otay Ranch Coastal Sage Scrub and Maritime Succulent Scrub Habitat Replacement Master Plan. 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. The project applicant shall also be required to implement the restoration plan subject to the oversight and approval of the Development Services Director (or their designee).

5.6-10d Coastal Sage Scrub and Non-Native Grassland Revegetation Plan. Prior to issuance of land development permits, including clearing, grubbing, grading and construction permits for the Future and Planned Facilities associated with the Main Campus Property and the Lake Property, the Project applicant shall provide a revegetation plan for temporary impacts of Planned and Future Facilities within the Preserve, estimated at 0.66 acre of coastal sage scrub and 0.27 acre of non-native grassland. The revegetation

plan must be prepared by a qualified City-approved biologist familiar with the City's MSCP Subarea Plan and must include, but not be limited to, an implementation plan; appropriate seed mixtures and planting method; irrigation method; quantitative and qualitative success criteria; maintenance, monitoring, and reporting program; estimated completion time; and contingency measures. The Project applicant shall be required to prepare and implement the revegetation plan subject to the oversight and approval of the Development Services Director (or their designee).

5.6-10e Annexation to Otay Ranch Preserve Community Facilities District (CFD) No. 97-2. Prior to the approval of the First Final Map for the Project on the Main Campus Property, the project applicant shall coordinate with the City Engineer and annex the project area within the Otay Ranch Preserve Community Facilities District (CFD) No. 97-2.

5.6-10f Land Conveyance to Otay Ranch Preserve Owner/Manager. Prior to recordation of each Final Map, project applicant shall convey land within the Otay Ranch Preserve to the Otay Ranch Preserve Owner/Manager (POM) or its designee at a ratio of 1.188 acres for each acre of development area (excluding "common use" areas as defined by the GDP and RMP), as defined in the RMP. Access for maintenance purposes shall also be conveyed to the satisfaction of the POM, and each tentative map shall be subject to a condition that the applicant shall execute a maintenance agreement with the POM stating that it is the responsibility of the applicant to maintain the conveyed parcel until the Preserve CFD has generated sufficient revenues to enable the POM to assume maintenance responsibilities. The applicant shall maintain and manage the offered conveyance property consistent with the RMP Phase 2 until the Preserve CFD has generated sufficient revenues to enable the POM to assume maintenance and management responsibilities.

5.6-10g Area Specific Management Directives for Conveyance Areas. Prior to the POM's formal acceptance of the conveyed land in fee title, the project applicant shall prepare, to the satisfaction of the POM, Area Specific Management Directives (ASMDs) for the associated conveyance areas. The ASMDs shall incorporate the guidelines and specific requirements of the Otay Ranch RMP plans and programs, management requirements of Table 3-5 of the MSCP Subregional Plan and information and recommendations from any relevant special studies. Guidelines and requirements from these documents shall be evaluated in relationship to the Preserve configuration and specific habitats and species found within the associated conveyance areas and incorporated into the ASMDs to the satisfaction of the POM.

C. Jurisdictional Water and Wetlands

Impacts to jurisdictional water and wetlands would be significant (Impact 5.6-11). Mitigation Measures 5.6-11a and 5.6-11b would reduce impacts to less than significant levels:

5.6-11a Wetland Delineation Studies. Prior to issuance of any land development permits, including clearing, grubbing, and grading permits on the Main Campus Property and Lake Property and off-site impact areas, the project applicant 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 in accordance with the methods 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.

5.6-11b Wetland Permits. Prior to issuance of land development permits, including clearing or grubbing and grading permits for areas that impact jurisdictional waters, the project applicant shall provide evidence that all required regulatory permits, such as those required under Section 404 of the federal CWA, Section 401 of the federal CWA, and Section 1600 of the California Fish and Game Code, and/or the Porter Cologne Water Quality Act, have been obtained from the appropriate agencies. Wetland mitigation requirements under these permits might include preparation of a Habitat Mitigation and Monitoring Plan approved by USACE, CDFW, and RWQCB.

D. Wildlife Movement Corridors and Nursery Sites

No mitigation is required.

E. Consistency with Local Policies, Ordinances, HCP, and NCCP

Implementation of the Project would result in potentially significant impacts related to consistency with local biology-related policies, ordinances, and plans related to biological resources (Impact 5.6-12). Implementation of all mitigation measures in this section (Mitigation Measures 5.6-1a through 5.6-11), as well as Mitigation Measure 5.11-1a (development and implementation of a SWPPP and monitoring plan), would reduce impacts due to inconsistencies with applicable biology-related policies, ordinances, and HCPs/NCCPs to less than significant levels.

5.6.6 Level of Significance After Mitigation

A. Sensitive Plant and Wildlife Species

Significant impacts to sensitive plant and animal species (Impacts 5.6-1a through 5.6-9) would be reduced to less than significant levels with implementation of Mitigation Measures 5.6-1a through 5.6-9, as well as Mitigation Measure 5.11-1a (development and implementation of a SWPPP and monitoring plan; refer to Section 5.11.5), because the mitigation would require surveys for sensitive biological resources prior to the issuance of construction permits that would conclude that the resource is either absent, or if present, that avoidance, relocation, or additional permitting would be required before construction permits are obtained.

B. Riparian Habitat and Other Sensitive Natural Communities

Significant direct impacts to eight sensitive vegetation communities (Impact 5.6-10) would be reduced to less than significant levels with implementation of Mitigation Measures 5.6-8b through 5.6-8e and 5.6-10a through 5.6-10g above, as well as Mitigation Measure 5.11-1a

(development and implementation of a SWPPP and monitoring plan; refer to Section 5.11.5) because the mitigation would require surveys that would conclude that the resource is either absent, or if present, that avoidance, relocation, or additional permitting would be required before construction permits are obtained. Fulfillment of mitigation requirements per the Chula Vista MSCP Subarea Plan would involve compensatory mitigation to offset impacts on riparian habitat and sensitive natural communities, and the preparation and implementation of restoration plans prior to the issuance of construction permits would describe the specific methods to reduce impacts to the satisfaction of the City.

C. Federally Protected Wetlands

Significant direct impacts to jurisdictional water and wetlands (Impact 5.6-11) would be reduced to less than significant levels with implementation of Mitigation Measures 5.6-8b, 5.6-8e, 5.6-10a, 5.6-11a, and 5.6-11b above, as well as Mitigation Measure 5.11-1a (development and implementation of a SWPPP and monitoring plan; refer to Section 5.11.5) because the mitigation would require fencing and avoiding sensitive biological resources, verifying that the Preserve Edge Plan has been incorporated into grading and landscaping plans, meeting compensatory mitigation requirements (if any), and obtaining regulatory permits for impacts on wetlands.

D. Wildlife Movement Corridors and Nursery Sites

Impacts to wildlife movement corridors and nursery sites would be less than significant without mitigation.

E. Consistency with Local Policies, Ordinances, HCP, and NCCP

Potentially significant impacts due to inconsistencies with applicable biology-related policies, ordinances, and plans (Impact 5.6-12) would be reduced to less than significant levels with implementation of all mitigation measures in this section (Mitigation Measures 5.6-1a through 5.6-11), as well as Mitigation Measure 5.11-1a (development and implementation of a SWPPP and monitoring plan; refer to Section 5.11.5), because the mitigation would including addressing and implementing actions that address applicable biology-related policies, ordinances, and HCPs/NCCPs.

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5.7 CULTURAL AND PALEONTOLOGICAL RESOURCES

This section discusses cultural and paleontological resources within the Otay Ranch GDP and evaluates the potential for impact to these resources due to implementation of the UID SPA Plan.

This EIR tiers from the Previous Environmental Review Documents, as described in Chapter 2.0, *Introduction*. The 2013 SEIR did not address cultural or paleontological resources, but relied on analysis in the 2005 GPU EIR (EIR 05-01) and the 1993 Program EIR for the GDP (EIR 90-01). Section 3.4, *Cultural Resources*, and Section 3.6, *Paleontological Resources*, of the 1993 Program EIR identified unmitigable impacts for cultural resources and less than significant impacts with mitigation for paleontological resources. Mitigation included subsequent resource evaluation when future development is proposed. Section 4.9, *Cultural Resources and Paleontological Resources*, of the 2001 SEIR (01-01) analyzed potential impacts associated with implementation of the EastLake III SPA, including the Lake Property, and concluded potentially significant impacts could be mitigated to a level below significance. Mitigation included testing of the four lithic scatter sites to determine significance. This testing has been completed. The analysis contained in this section includes subsequent resource evaluation. Therefore, these previous mitigation measures are not incorporated by reference as they have been satisfied.

Information contained in this section is based on a site-specific technical report related to cultural resources, prepared by HELIX, including a Cultural Resources Survey (Appendix F). The paleontological resources discussion in this section is based on the following materials: (1) Technical Report, Paleontological Resource Assessment, Otay Ranch –Village 9, prepared by the Department of PaleoServices, San Diego Natural History Museum (SDNHM), in September 2010 (provided in Appendix F2 of the Village 9 EIR); (2) the project-level Geotechnical Evaluation, prepared by Ninyo & Moore in September 2014 (provided as Appendix G of this EIR), and other published and unpublished technical materials. The HELIX technical report updates the applicable information contained in the SEIRs.

5.7.1 Existing Conditions

A. Regulatory Framework

1. Federal Regulations

a. National Historic Preservation Act

The National Historic Preservation Act of 1966 established the National Register of Historic Places (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. Properties listed in the NRHP, or determined eligible for listing, must meet certain criteria for historical significance and possess integrity of form, location, and setting. Under Section 106 of the Act and its implementing regulations, federal agencies are required to consider the effects of their actions, or those they fund or permit, on properties that may be eligible for listing or that are listed in the NRHP. The regulations in 36 CFR 60.4 describe the criteria to evaluate cultural resources for inclusion in the NRHP. Properties may be listed in the NRHP if they possess integrity of location, design, setting, materials, workmanship, feeling, and association, and they:

(A) Are associated with events that have made a significant contribution to the broad patterns of our history;

(B) Are associated with the lives of persons significant in our past;

(C) Embody the distinctive characteristics of a type, period, or method of construction, or represent the work of a master, or possess high artistic values, or represent a significant and distinguishable entity whose components may lack individual distinction; or

(D) Have yielded, or may be likely to yield, information important in prehistory or history.

These factors are known as "Criteria A, B, C, and D."

In addition, the resource must be at least 50 years old, except in exceptional circumstances. Eligible properties must meet at least one of the criteria and exhibit integrity, which is measured by the degree to which the resource retains its historical properties and conveys its historical character, the degree to which the original fabric has been retained, and the reversibility of the changes to the property. Archaeological sites are evaluated under Criterion D, which concerns the potential to yield information important in prehistory or history.

The Section 106 review process, typically undertaken between the U.S. Army Corps of Engineers as part of issuing a Section 404 permit and the State Historic Preservation Officer, involves a four-step procedure:

(1) Initiate the Section 106 process by establishing the undertaking, developing a plan for public involvement, and identifying other consulting parties.

(2) Identify historic properties by determining the scope of efforts, identifying cultural resources, and evaluating their eligibility for inclusion in the NRHP.

(3) Assess adverse effects by applying the criteria of adverse effect on historic properties (resources that are eligible for inclusion in the NRHP).

(4) Resolve adverse effects by consulting with the State Historic Preservation Officer and other consulting agencies, including the Advisory Council on Historic Preservation, if necessary, to develop an agreement that addresses the treatment of historic properties.

The Department of the Interior has set forth Standards and Guidelines for Archaeology and Historic Preservation. These standards and guidelines are not regulatory and do not set or interpret agency policy. A project that follows the standards and guidelines generally shall be considered mitigated to a less-than-significant level, according to Section 15064.5(b)(3) of the California Environmental Quality Act (CEQA) Guidelines (14 CCR 15000 et seq.).

b. Native American Graves Protection and Repatriation Act

Enacted in 1990, Native American Graves Protection and Repatriation Act (NAGPRA) transfers human remains, as well as funerary and religious items that were found on federal lands or are held by federal agencies and federally supported museums, to Native American Indians of

demonstrated lineal decent. It also makes the sale or purchase of those human remains illegal, whether or not they derive from federal or Native American (Bureau of Indian Affairs [BIA] or tribal) lands.

2. State Regulations

a. California Environmental Quality Act

Specific to cultural resources, Section 15064.5 of the CEQA Guidelines, as amended, state that a cultural resource would be considered significant if it is:

1. A resource listed in, or determined to be eligible by the State Historical Resources Commission for listing in, the California Register (Public Resources Code [PRC] §5024.1; Title 14 California Code of Regulations [CCR], Section 4850 et seq.).

2. A resource included in the local register of historical resources, as defined in Section 5020.1(k) of the PRC or identified as significant in an historical resource survey meeting the requirements of Section 5024.1(g) of the PRC, shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.

3. Any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be an historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the California Register of Historical Resources (PRC Section 5024.1, Title 14 CCR, Section 4852), including the following:

    A. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

    B. Is associated with the lives of persons important in our past;

    C. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or

    D. Has yielded, or may be likely to yield, information important in prehistory or history.

4. The fact that a resource is not listed in, or determined eligible for listing in the California Register of Historical Resources, not included in a local register of historical resources (pursuant to Section 5020.1[k] of the PRC), or identified in an historical resources survey (meeting the criteria in Section 5024.1[g] of the PRC) does not preclude a lead agency

from determining that the resource may be an historical resource as defined in PRC Sections 5020.1(i) or 5024.1.

In addition, a project with an effect that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment. The following clarifies what constitutes as a potentially significant impact under CEQA.

(1) Substantial adverse change in the significance of an historical resource means physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired.

(2) The significance of an historical resource is materially impaired when a project:

(A) Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register of Historical Resources; or

(B) Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to Section 5020.1(k) of the Public Resources Code or its identification in a historical resources survey meeting the requirements of Section 5024.1(g) of the Public Resources Code, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or

(C) Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register of Historical Resources as determined by a lead agency for purposes of CEQA.

CEQA applies to effects on archaeological sites.

(1) When a project will impact an archaeological site, a lead agency shall first determine whether the site is an historical resource, as defined in subsection (a).

(2) If a lead agency determines that the archaeological site is an historical resource, it shall refer to the provisions of Section 21084.1 of the Public Resources Code, and this section, Section 15126.4 of the Guidelines, and the limits contained in Section 21083.2 of the Public Resources Code do not apply.

(3) If an archaeological site does not meet the criteria defined in subsection (a), but does meet the definition of a unique archaeological resource in Section 21083.2 of the Public Resources Code, the site shall be treated in accordance with the provisions of Section 21083.2. The time and cost limitations described in Public Resources Code Section 21083.2 (c-f) do not apply to surveys and site evaluation activities intended to determine whether the project location contains unique archaeological resources.

(4) If an archaeological resource is neither a unique archaeological nor a historical resource, the effects of the project on those resources shall not be considered a significant effect on the environment. It shall be sufficient that both the resource and the effect on it are noted in the Initial Study (IS) or Environmental Impact Report (EIR), if one is prepared to address impacts on other resources, but they need not be considered further in the CEQA process.

Section 15064.5 (d) & (e) contain additional provisions regarding human remains. Regarding Native American human remains, paragraph (d) provides:

(a) When an Initial Study identifies the existence of, or the probable likelihood, of Native American human remains within the project, a lead agency shall work with the appropriate Native Americans as identified by the Native American Heritage Commission as provided in Public Resources Code §5097.98. The applicant may develop an agreement for treating or disposing of, with appropriate dignity, the human remains and any items associated with Native American burials with the appropriate Native Americans as identified by the Native American Heritage Commission. Action implementing such an agreement is exempt from:

(1) The general prohibition on disinterring, disturbing, or removing human remains from any location other than a dedicated cemetery (Health and Safety Code Section 7050.5).

(2) The requirements of CEQA and the Coastal Act.

In accordance with CEQA, therefore, cultural resources must be assessed for project-related actions that could directly or indirectly impact them. Under this scenario, impacts to cultural resources not deemed important according to the above criteria would be considered less than significant. A summary of on-site and off-site cultural resources is provided in the discussion of Known Cultural and Paleontological Resources (Section 5.7.1 D), along with a determination as to the significance of the impact pursuant to Section 15064.5 of the CEQA Guidelines and City thresholds.

b. California Register of Historical Resources

The California Department of Parks and Recreation, Office of Historic Preservation (OHP), implements the policies of the NHPA within California. The OHP also maintains the California Historic Resources Inventory. The State Historic Preservation Officer (SHPO) is an appointed official who implements the state's historic preservation programs.

Created by AB 2881 (signed into law in 1992), the California Register of Historic Resources (CRHR) constitutes an authoritative listing of existing state historical resources of the state and indicates those resources worthy of protection, as prudent and feasible, from "substantial adverse change" (Section 5024.1[a] of the PRC). To be eligible for the California Register, a prehistoric or historic property must be significant at the local, state, and/or federal level under one or more of the four criteria (A through D) listed above. An historical resource can include any object, building, structure, site, area, or place that is determined to be historically or archaeologically significant.

The CRHR also identifies historical resources for state and local planning purposes, determines eligibility for State historic preservation grant funding, and provides a certain measure of protection under CEQA, including Traditional Cultural Properties.

Certain resources are determined by the statute to be automatically included in the California Register. These include:

- California properties listed on the National Register and those formally determined eligible for the National Register
- California Registered Historical Landmarks from No. 770 onward
- Those California Points of Historical Interest that have been evaluated by the OHP and have been recommended to the State Historical Commission for inclusion on the California Register

Other resources that may be nominated to the California Register include:

- Historical resources with a significance rating of identified as eligible for listing in the National Register of Historic Places, the California Register of Historical Resources, and/or a local jurisdiction register
- Individual historical resources
- Historical resources contributing to historic districts
- Historical resources designated or listed as local landmarks, or designated under any local ordinance, such as an historic preservation overlay zone

c. Native American Graves Protection and Repatriation Act

This 2001 State Act was enacted to enhance the Federal NAGPRA at the state level and requires human remains and funerary items that are held by state agencies and museums to be transferred to Native Americans of demonstrated lineal descent.

d. Health and Safety Code Sections 7050.5, 7051, and 7054 – Human Remains

California Health and Safety Code sections 750.5, 7051, and 7054 collectively address the illegality of interference with human burial remains as well as the disposition of Native American burials in archaeological sites. Health and Safety Code Section 7050.5(b) provides required action when any human remains are discovered outside a dedicated cemetery. This includes immediate stoppage of excavation and any site disturbance (as well as any nearby area reasonably suspected to overlie adjacent remains) until the County Coroner has determined, in accordance with Chapter 10 (commencing with Section 27460) of Part 3 of Division 2 of Title 3 of the Government Code, that the remains are not subject to the provisions of Government Code Section 27492, or any other related provisions of law concerning investigation of the circumstances, manner and cause of death; and that recommendations concerning treatment and disposition of the human remains have been made to the appropriate individual per PRC Section 5097.98.

e. PRC 5097.9-5097.991 – Native American Heritage

PRC Sections 5097.9-5097.991 state that no public agency, and no private party using, occupying or operating on public property under a public license, permit, grant, lease, or contract, shall in any manner interfere with the free expression or exercise of Native American religion as provided in the U.S. Constitution and the California Constitution. Nor shall any such agency or party cause severe or irreparable damage to any Native American sanctified cemetery, place of worship, religious or ceremonial site, or sacred shrine located on public property, except on a clear and convincing showing that the public interest and necessity so require it.

This section also addresses the composition and responsibilities of the Native American Heritage Commission (NAHC). The NAHC strives for the preservation and protection of Native American human remains, associated grave goods, and cultural resources. The NAHC has developed a strategic plan to assist the public, development community, local, and federal agencies, educational institutions and California Native Americans to better understand problems relating to the protection and preservation of cultural resources and to serve as a tool to resolve these problems and create an awareness among lead agencies and developers of the importance of working with Native Americans. PRC Sections 5097.91 and 5097.98 were amended by AB 2641 in 2006. This bill authorizes the NAHC to bring an action to prevent damage to Native American burial grounds or places of worship and establishes more specific procedures to be implemented in the event that Native American remains are discovered.

f. Senate Bill 18

Senate Bill 18 (SB 18; Government Code sections 653.52.3, 65352.4) requires that prior to the adoption or any amendment of a city or county's general plan, that agency shall conduct consultations with California Native American tribes that are on the contact list maintained by the NAHC for the purpose of preserving or mitigating impacts to places, features, and objects described in Sections 5097.9 and 5097.995 of the Public Resources Code that are located within the city or county's jurisdiction.

g. Assembly Bill 52

On September 25, 2014 Governor Brown signed Assembly Bill No. 52 (AB 52), which creates a new category of environmental resources that must be considered under the California Environmental Quality Act: "tribal cultural resources." The legislation imposes new requirements for consultation regarding projects that may affect a tribal cultural resource, includes a broad definition of what may be considered to be a tribal cultural resource, and includes a list of recommended mitigation measures.

AB 52 adds tribal cultural resources to the categories of cultural resources in CEQA, which had formerly been limited to historic, archaeological, and paleontological resources. "Tribal cultural resources" are defined as either (1) "sites, features, places cultural landscapes, sacred places and objects with cultural value to a California Native American tribe" that are included in the state register of historical resources or a local register of historical resources, or that are determined to be eligible for inclusion in the state register; or (2) resources determined by the lead agency, in its discretion, to be significant based on the criteria for listing in the state register.

Moreover, AB 52 requires a meaningful consultation process between California Native American tribal governments and lead agencies, respecting the interests and roles of all California Native American tribes and project proponents, and the level of required confidentiality concerning tribal cultural resources, at the earliest possible point in the CEQA environmental review process, so that tribal cultural resources can be identified, and culturally appropriate mitigation and mitigation monitoring programs can be considered by the decision-making body of the lead agency. This law addresses projects for which an NOP was released on or after June 15, 2015.

h. PRC 5097.5 – Paleontological Resources

Consideration of paleontological resources is required by CEQA (see Appendix G). Other state requirements for paleontological resource management are found in PRC Chapter 1.7, Section 5097.5, Archaeological, Paleontological, and Historical Sites. This statute specifies that state agencies may undertake surveys, excavations, or other operations as necessary on state lands to preserve or record paleontological resources. This statute does not apply to the project because none of the property is state owned.

No state or local agencies have specific jurisdiction over paleontological resources. No state or local agency requires a paleontological collecting permit to allow for the recovery of fossil remains discovered as a result of construction-related earth moving on state or private land in a project site.

3. Local Regulations

The City addresses the presence of, potential impacts to, and mitigation of significant cultural resources resulting from private and public development projects in compliance with CEQA and in accordance with Chula Vista Municipal Code (CVMC) Title 21. Historical resources protected by the City are not limited to officially listed resources, but also include resources found to be eligible for listing at the local, state and federal levels.

a. City of Chula Vista General Plan

Both the Land Use and Transportation and the Environmental Elements of the City General Plan include objectives to protect important cultural resources and support and encourage their accessibility to the public (Objective E 9), as well as to protect important paleontological resources and support and encourage public education and awareness of such resources (Objective E 10).

b. Chula Vista Municipal Code, Title 21, Historic Preservation Ordinance (HPO)

In CVMC Title 21, the City Council declares that the identification, recognition, preservation, protection and adaptive reuse of historical resources are essential for the health, prosperity, social and cultural enrichment, and general welfare of the citizens who live in, work and visit Chula Vista. The purposes of Title 21 are to:

A. Serve as the regulatory document of the Chula Vista Historic Preservation Program;

B. Promote and accomplish the historic preservation goals, policies, and strategies of the Chula Vista 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 Interior Standards for 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 NHPA 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 a historic preservation plan that is maintained up to date and valid.

Title 21 addresses Historic Preservation, including historical and archaeological resources. Section 21.03.004 defines archaeological resources as "subsurface or aboveground material remains of past human life or activities that are at least one hundred years of age, and may yield additional information about prehistory and history" (Chula Vista 2011a: 2). Significance standards are based upon the Secretary of the Interior Standards and Guidelines to determine appropriate "preservation, rehabilitation, restoration, and reconstruction" (Chula Vista 2011a: 9). These are addressed in more depth in the City's Historic Preservation Program (2011b) addressed below. Section 21.04.040 addresses the criteria for a historical resource to be included in the Chula Vista Register of Historical Resources, commonly referred to as the Local Register. Qualified resources include:

- Those properties previously designated prior to the effective date of [the] ordinance;
- Those properties designated by the [Historic Preservation Commission (HPC)] or Council;
- Any Chula Vista Resource listed as a National Historic Landmark;
- Any Chula Vista Resource listed on the National Register of Historic Places; and
- Any Chula Vista Resource listed on the California Register of Historical Resources by the California State Historical Resources Commission (Chula Vista 2011a: 11).

Designation of Historical resources, excluding exceptional resources by the HPC may occur when the following findings of fact are made:

A. A Resource is at least 45 years old; and

B. A Resource possesses historical integrity defined under Chula Vista Municipal Code §21.03.084 and the Resource is determined to have historical significance by meeting at least one of the following criteria:

1. It is associated with an event that is important to prehistory or history on a national, state, regional, or local level.

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.

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.

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.

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 (Chula Vista 2011a: 13).

c. Chula Vista Municipal Code, Title 2, Historic Preservation Commission (HPC)

CVMC Section 21.49.010 establishes the Historic Preservation Commission (HPC). The HPC meets the certified local government requirements, as defined by the NHPA, to serve as the authority on historic preservation matters and to advise the City Council (and other City boards and commissions, as needed), on historic preservation matters. The function and duties of the HPC are to:

A. Uphold the goals and policies of the General Plan related to historic preservation.

B. Carry out the purpose and intent of CVMC Title 21, Historic Preservation.

C. Assist staff in the development and maintenance of a certified historic preservation program that carries out the provisions of the certified local government program.

D. Ensure that appropriate historic contexts are identified and utilized for resource interpretation, evaluation, and recognition.

E. Assist staff in the preparation and maintenance of a historical resources survey of recognized and potentially historically and architecturally significant structures and areas.

F. Approve designations of historical resources to the Chula Vista Register of Historical Resources.

G. Recommend to City Council delistings from the Chula Vista Register of Historical Resources.

H. Grant or deny applications for permits for demolition, or major alterations of historical resources.

I. Grant or deny appeals from decisions of the Zoning Administrator for applications of minor alterations of historical resources.

J. Encourage public understanding of and involvement in the unique historical, architectural, and environmental heritage of the City through educational programs.

K. Explore means and support implementation strategies for the protection, retention and use of any historical resource, historic preservation district, or potential historical resource.

L. Support the use of incentives and benefits for the protection, retention, and preservation of historical resources.

M. Make recommendations to City Council on applications for participation in City approved historic preservation incentive programs including but not limited to the Mills Act Property Tax Abatement Program.

N. Encourage cooperation between public and private historical and cultural preservation groups.

O. Advise the City Council and other boards, commissions and committees as necessary on historic preservation issues.

P. Perform other functions as appropriate to safeguard the City's historic, aesthetic, social, economic, political and architectural past. (Ord. 3197 § 3, 2011).

d. Historic Preservation Program

In addition to the General Plan and ordinances noted above, the City implements a Historic Preservation Program (HPP) to inform citizens, staff and elected and appointed officials of the regulatory requirements, program options and features, surveyed and designated properties, and economic benefits and incentives related to historic preservation in Chula Vista. The program was adopted by City Resolution No. 2011-147 on July 19, 2011 and is referenced in section 21.03.070 of the CVMC.

The HPP cites the Secretary of the Interior Standards for historical significance as including the importance in history, the physical condition, the proposed use, and the mandated code requirements (Chula Vista 2011b: 49). Cultural resources are addressed specifically under HPP Section 2.2, which references Chula Vista General Plan Chapter 9 (Chula Vista 2011b: 18-27). The goal of Objective E9 is to protect cultural resources in accordance with CEQA and encourage

their accessibility to the public for "educational, religious, cultural, scientific, and other purposes" (Chula Vista 2011b: 27).

B. Definition of Cultural Resources

CEQA defined cultural resources include prehistoric resources and historical-period resources. Title 21 Section 21.03 governs the meaning of words used in both Title 21 and the City's Historic Preservation Program. 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 consist of physical properties, structures, or built items resulting from human activities after the time of written records. In North America, the historical-period is generally considered equivalent to the time period since European contact, beginning in A.D. 1492. Historic resources can include archaeological remains and architectural structures.

Paleontology is defined as the science dealing with prehistoric plant and non-human animal life. Paleontological resources (or fossils) typically encompass the remains or traces of hard and resistant materials such as bones, teeth, or shells, although plant materials and occasionally less resistant remains (e.g., tissue or feathers) can also be preserved. The formation of fossils typically involves the rapid burial of plant or animal remains and the formation of casts, molds, or impressions in the associated sediment (which subsequently becomes sedimentary rock). Because of this, the potential for fossil remains in a given geologic formation can be predicted based on known fossil occurrences from similar (or correlated) geologic formations in other locations. Accordingly, paleontological resources include not only the actual fossil remains, but also the collecting localities and associated geologic formations.

C. Existing Cultural Setting

A number of technical works discuss the prehistory of San Diego County and provide a background for understanding the archaeology of the general area surrounding the project (see Appendix F to this EIR). The following is a brief discussion of the culture history of the San Diego region.

1. Prehistoric Setting

a. Archaic Period (10,000 – 1,300 years before present)

The earliest accepted archaeological manifestation of Native Americans in the San Diego area is the San Dieguito complex, dating to approximately 10,000 years ago (Warren 1966). The material culture of the San Dieguito complex consists primarily of scrapers, scraper planes, choppers, large blades, and large projectile points; generally including tools and debitage made of fine-grained green metavolcanic material (locally known as felsite), and often heavily patinated. Sleeping circles, trail shrines, and rock alignments have also been associated with early San Dieguito sites. The San Dieguito complex is chronologically equivalent to other Paleoindian complexes across North America, and sites are sometimes called "Paleoindian" rather than "San Dieguito."

The traditional view of San Diego prehistory has the San Dieguito complex followed by the La Jolla complex at least 7,000 years ago, possibly as long as 9000 years ago (Rogers 1966). Until relatively recently, many archaeologists felt that the San Dieguito culture lacked milling technology and saw this as an important difference between the San Dieguito and La Jolla complexes. San Dieguito material also underlies La Jolla complex strata at the C.W. Harris type site in San Dieguito Valley (Warren, ed. 1966).

The La Jolla complex is part of the Encinitas tradition; generally "recognized by millingstone assemblages in shell middens, often near sloughs and lagoons" (Moratto 1984:147). "Crude" cobble tools, especially choppers and scrapers, characterize the La Jolla complex (Moriarty 1966). Basin metates, manos, discoidals, a small number of Pinto series and Elko series points, and flexed burials are also characteristic.

Warren et al. (1961) proposed that the La Jolla complex developed with the arrival of a desert people on the coast who quickly adapted to their new environment. Others have suggested an in situ development of the La Jolla people from the San Dieguito, or a Pleistocene migration of an ancestral stage of the La Jolla people to the San Diego coast.

Since the 1980s, archaeologists in the region have begun to question the traditional definition of San Dieguito people simply as makers of finely crafted felsite projectile points, domed scrapers, and discoidal cores, who lacked milling technology. The traditional defining criteria for La Jolla sites (manos, metates, "crude" cobble tools, and reliance on lagoonal resources) have also been questioned. There is speculation that differences between artifact assemblages of "San Dieguito" and "La Jolla" sites reflect functional differences rather than temporal or cultural variability; and that the San Dieguito, La Jolla, and Pauma complexes are manifestations of the same culture, with differing site types "explained by site location, resources exploited, influence, innovation and adaptation to a rich coastal region over a long period of time" (Gallegos 1987:30). The classic "La Jolla" assemblage has been identified as one adapted to life on the coast and appearing to continue through time, inland sites adapted to hunting containing a different tool kit, regardless of temporal period.

Other archaeologists in San Diego, however, do not subscribe to the Early Prehistoric/Late Prehistoric chronology; and believe that an apparent overlap among assemblages identified as "La Jolla," "Pauma," or "San Dieguito" does not preclude the existence of a separate Early Milling period culture in the San Diego region, whatever name is used to identify it. One problem these archaeologists perceive is that many site reports in the San Diego region present conclusions based on interpretations of stratigraphic profiles from sites at which stratigraphy cannot validly be used to address chronology or changes through time. Archaeology emphasizes stratigraphy as a tool, but many of the sites known in the San Diego region are not in depositional situations. In contexts where natural sources of sediment or anthropogenic sources of debris to bury archaeological materials are lacking, other factors must be responsible for the subsurface occurrence of cultural materials, including rodent burrowing and insect activity. Many sites that have been used to help define the culture sequence of the San Diego region are the result of just such non-depositional stratigraphy.

b. Late Period (1,300 years before present - A.D. 1492)

The Late Prehistoric period is represented by San Luis Rey complex in the northern portion and the Cuyamaca complex in the southern portion of San Diego County. The Cuyamaca complex is the archaeological manifestation of the Yuman forebears of the Kumeyaay people, while the San Luis Rey complex represents the Shoshonean predecessors of the ethnohistoric Luiseño. The name Luiseño derives from Mission San Luis Rey de Francia and has been used to refer to the Indians associated with that mission, while the Kumeyaay people are also known as Ipai, Tipai, or Diegueño (named for Mission San Diego de Alcala). Although Agua Hedionda Creek is often described as the division between the territories of the Luiseño and the Kumeyaay people, various researchers have described somewhat different boundaries for traditional use areas, and there has long been interaction among the groups. The UID project area is within Kumeyaay territory.

Elements of the late prehistoric complexes include small, pressure-flaked projectile points; milling implements, including mortars and pestles; Olivella shell beads; ceramic vessels; and pictographs. Of these elements, mortars and pestles, ceramics, and pictographs are not associated with earlier sites. The Cuyamaca complex differs from the San Luis Rey complex in the following points:

- Defined cemeteries away from living areas
- Use of grave markers
- Cremations placed in urns
- Use of specially made mortuary offerings
- Cultural preference for side-notched points
- Substantial numbers of scrapers, scraper planes, etc., in contrast to small numbers of these implements in San Luis Rey sites
- Emphasis placed on use of ceramics, with a wide range of forms and several specialized items
- Steatite industry
- Substantially higher frequency of milling stone elements compared with San Luis Rey
- Clay-lined hearths

Historic Context

Spanish, Mexican and "American" cultures have all played a role in post-contact historic activities. A summary of the three periods of San Diego County history is provided below, as well as summary of the local history of Otay Ranch.

a. Spanish Period

While Juan Rodriguez Cabrillo visited San Diego briefly in 1542, the beginning of the historic period in the San Diego area is generally given as 1769. It was that year that the Royal Presidio and the first Mission San Diego were founded on a hill overlooking Mission Valley (the first mission founded in Southern California). The Mission San Diego de Alcala was constructed in its

current location five years later. Mission San Luis Rey, in Oceanside, was founded in 1798. Asistencias (chapels) were established at Pala (1816) and Santa Ysabel (1818). The Spanish Colonial period lasted until 1821 and was characterized by religious and military institutions bringing Spanish culture (including new architectural styles) to the area and attempting to convert the Native American population to Christianity. Horses, cattle, new food products and reliance on agricultural practices, and new diseases, were all introduced by the European settlers.

b. Mexican Period

The Mexican period lasted from 1821, when California became part of Mexico, to 1848, when Mexico ceded California to the United States under the treaty of Guadalupe Hidalgo at the end of the Mexican-American War. Following secularization of the missions in 1834, mission lands were given as large land grants to Mexican citizens as rewards for service to the Mexican government. The society made a transition from one dominated by the church and the military to a more civilian population, with people living on ranchos or in pueblos. The Pueblo of San Diego was established during the period, and transportation routes were expanded. Cattle ranching prevailed over agricultural activities.

c. American Period

The American period began in 1848, when California was ceded to the United States. The territory became a state in 1850. Terms of the Treaty of Guadalupe Hidalgo brought about the creation of the Lands Commission in response to the Homestead Act of 1851, which was adopted as a means of validating and settling land ownership claims throughout the state. Few of the large Mexican ranchos remained intact, due to legal costs and the difficulty of producing sufficient evidence to prove title claims. Much of the land that once constituted rancho holdings became available for settlement by immigrants to California. The influx of people to California and to the San Diego region resulted from several factors, including the discovery of gold in the state, the end of the Civil War, the availability of free land through passage of the Homestead Act, and later, the importance of San Diego County as an agricultural area supported by roads, irrigation systems, and connecting railways. During the late nineteenth and early twentieth centuries, rural areas of San Diego County developed small agricultural communities centered on one-room schoolhouses. Such rural farming communities consisted of individuals and families tied together through geographical boundaries, a common schoolhouse, and a church. Farmers living in small rural communities were instrumental in the development of San Diego County. They fed the growing urban population and provided business for local markets. Rural farm school districts represented the most common type of community in the county from 1870 to 1930. The growth and decline of towns occurred in response to boom and bust cycles in the 1880s.

d. Local History of Otay Ranch

Otay Ranch was originally comprised of two 1829 Mexican-period land grants (to Doña Magdalena Estudillo and her brother, José Antonio Estudillo) made by Governor José María Echendia in 1829. The overall area encompassed the Native American village of Otai. The Land Act of 1851 required all holders of property in California to prove their rights of ownership to the lands they claimed. The Estudillos petitioned for their properties for 10 years before the United States Land Commission confirmed their claims to the properties known as Rancho Otay.

The first American owner of the property (in 1872) was Solon S. Sanborn. Following that purchase, the ranch changed ownership several times before it was purchased around 1900 by John D. Spreckles, who sold the properties to sportsman Elisha Spurr Babcock. Babcock and Spreckles built a hunting lodge on the property. The property continued to change ownership, however, and by 1936, it had become the property of Stephen Birch, Sr. At this point, the original area of Rancho Otay (almost 6,658 acres) expanded to about 29,000 acres. The Birch family resided in the on-site hunting lodge and engaged in farming (principally lima beans, hay, and grain) and livestock operations. Lima beans were abandoned as a major crop when bindweed morning glory infested the fields; the last year of lima bean production was 1949. Later crops included barley, wheat, and oat hay. Following the deaths of the last Birch family owner (Stephen Birch, Sr.'s daughter Mary) in 1983, the property was sold to the Baldwin Company of Irvine in 1988.

D. Known Cultural and Paleontological Resources

Assessment of cultural resources included a cultural resources records search conducted through the California Historical Resources Information System - South Coastal Information Center (CHRIS-SCIC) located at San Diego State University. As previously noted, the evaluation of paleontological resources is based on review of the Village 9 Paleontological Resources Assessment (SDNHM 2010), the Project Geotechnical Evaluation (Ninyo & Moore 2016a), and published/unpublished SDNHM paleontological locality data and geologic/paleontological materials.

The Main Campus Property is within a large area surveyed for cultural resources by ERCE as part of the studies for the Otay Ranch project (Carrico et al. 1992). A very small portion of the Main Campus Property was surveyed for the Otay Ranch project at a later date by Brian F. Smith and Associates (BFSA) (Smith 1996). Studies for High Tech K-12 School also covered a portion of this parcel (Smith and Moreno 2006). Based on site records on file at the SCIC at San Diego State University, other portions of both the Main Campus Property and the Lake Property have been addressed by previous studies; however, reports were not available, so the extent of these studies and the precise areas covered are not known.

1. Cultural Records Search and Project Field Efforts

a. Records Search

A records search was obtained from the SCIC for the Project site and a one-mile radius around it. An effort was made to find and review reports of past archaeological studies covering the Project area. Reports were not available for some survey and testing projects (e.g., Otay Ranch Village 10), but the reports that could be obtained were reviewed.

The Main Campus Property is within a large area surveyed for cultural resources by ERCE as part of the studies for the Otay Ranch project (Carrico et al. 1992). A very small portion of the Main Campus Property was surveyed for the Otay Ranch project at a later date by Brian F. Smith and Associates (BFSA) (Smith 1996). Studies for High Tech K-12 School also covered a portion of this parcel (Smith and Moreno 2006). Based on site records on file at the SCIC, other portions of both the Main Campus Property and the Lake Property have been addressed by previous studies; however, reports were not available for these studies, so the extent of these studies and the precise

areas covered are not known. In addition, reports of cultural resource studies for the Otay Ranch Villages project (also known as the University Villages project) (Smith and Stropes 2014) and Otay Ranch Village 9 (Guerrero and Gallegos 2009, revised by Noah 2010a) became available subsequent to the background research and field survey conducted for the current UID project; these were reviewed in 2016, when they were made available to HELIX.

The proposed off-site sewer line and detention basin located south of the Main Campus is within the area surveyed for Otay Ranch by BFSA (Smith 1996), as is the western portion of the off-site sewer line from the Lake Property. The north-south portion of the Lake Property off-site sewer alignment was surveyed as part of proposed improvements for the Otay Water District (Kyle and Gallegos 1994).

Fifteen archaeological sites and one isolate have been previously recorded (and in some instances tested) within the UID boundaries and one additional site is recorded within off-site improvement areas, for a total of 17 recorded resources overall. Several of these sites include only a portion within the UID area, extending off-property; in some cases, the vast majority of the site is off-property. Twelve of the sites have been tested to assess site significance. For the other four sites, there is no record at SCIC that testing has been undertaken (see Table 1 of Appendix F). Of the 12 sites that have been assessed, two were noted on the site record as not significant resources under CEQA, and testing reports were available for six sites. For four of the sites, significance was not noted on the site record, and no reports are available for these sites at SCIC. Based on the information on the site records, however, none of the sites tested appear to represent significant cultural resources, at least for the portion within the UID project site (e.g., CA-SDI-7217 has loci that are significant, but the portion within the project site is not). The NAHC was contacted for a Sacred Lands File Check and a list of Native American contacts. Letters were sent to the contacts listed by the NAHC.

b. Project Field Efforts

The Main Campus Property and Lake Property also were surveyed for cultural resources by Affinis archaeologists and Native American monitors from Red Tail Monitoring and Research on April 18 to 23, 2013 (personnel are listed in Chapter VIII, *Personnel*, in Appendix F to this EIR). To the extent feasible the Project area was surveyed using parallel transects spaced approximately 15 meters apart. In some areas, survey was impeded by steep slopes and thick brush. Ground visibility was generally poor, especially in the western half of the Main Campus Property. A proposed off-site pipeline and detention basin also were surveyed on March 28, 2014 by an Affinis archaeologist and a Native American monitor from Red Tail Monitoring and Research. Additional site specifics are provided in Appendix F to this EIR. A proposed off-site sewer associated with the Lake Property was surveyed for cultural resources by a HELIX archaeologist and a Native American monitor from Red Tail Monitoring and Research on April 15, 2016.

The cultural resources survey resulted in the identification of 11 isolates and one archaeological site that had not been previously recorded. Four of the isolates are within the Main Campus, five are within the Lake Property, and two are in the alignment for the off-site sewer from the Lake Property. The archaeological site, a small lithic scatter, is located on the Lake Property.

Appropriate site record forms were submitted to SCIC for the newly identified resources.

c. Resource Descriptions

CA-SDI-7217: This large site includes multiple loci, with the majority of the site is located outside the project. While the overall site covers approximately 20 acres, the portion of the site within the Main Campus Property measures 76 meters by 61 meters and was tested by BFSA in 2010. Identified artifacts include lithics, including cores and some tools. A total of 25 shovel test pits (STPs) and 2 test units are identified on site documentation. All visible surface artifacts were collected during the 2010 testing program. No significance determination is given on the site record, and there is no report available, but the site record does note that based on the excavations, the site is a surface deposit with no subsurface component. The artifact listing on the site record shows that in 25 STPs and two test units, only one flake was recovered. Given the lack of a subsurface deposit and any cultural features or diagnostic material, the portion of CA-SDI-7217 within the project site is not a significant resource under CEQA or the City's guidelines presented in the General Plan and the Historic Preservation Program. A single flake was observed during the current survey. No further work is recommended at this site for the proposed project. Other portions of CA-SDI-7217 outside the Project area may retain significance.

CA-SDI-13-453: This site is mapped as partially within the off-site sewer line extending south from the Lake Property. This resource was originally recorded in conjunction with Otay Water District improvements and described as over 10 flakes and two cores in and adjacent to a dirt road. The site was tested by BFSA in 2010 and described as "an artifact scatter of over 100 metavolcanic lithics, cores, hammerstones and steep-edge tools" covering an area of 225 meters by 95 meters (2010 site record). The test unit excavated at the site yielded only five artifacts: four pieces of debitage and one tool. Although significance was not specifically noted on the site record, it was noted that sites such as this are common in the Otay Mesa area. Given the lack of a subsurface deposit and any cultural features or diagnostic material, the site does not meet the significance criteria of CEQA or the City's guidelines. In addition, BFSA collected all visible surface artifacts. The site is mapped as mainly to the east of the proposed sewer alignment, but the dirt road in which the alignment would be located crosses the site.

CA-SDI-13-454: A small lithic scatter consisting of three artifacts in a dirt road was recorded in conjunction with a water project in 1993 in the Lake Property. The site was not within any of the preferred alignments for that water project, so it was not tested, and there is no subsequent site record update indicating that any testing has been conducted. One artifact was noted in the mapped area of this site during the current survey. Because the site has not been evaluated, it is considered a potentially significant resource under CEQA and the City's guidelines.

CA-SDI-14-224: Although dense vegetation obscured visibility, a sparse lithic scatter including a number of flakes, two scrapers, and one core was recorded during Otay Ranch surveys. CA-SDI-14-224 could not be relocated during a 2010 survey for the SDG&E wood to steel pole conversion project, and there is no record that the site was tested to assess significance. A small portion of the site was mapped within the current UID project area, within the Main Campus Property. No artifacts were observed during the current survey, but ground visibility was again poor. Pending testing, the site is considered potentially significant under CEQA and the City's guidelines, but appears to be located outside the Project area.

CA-SDI-14-225: This lithic scatter also was recorded during the Otay Ranch survey, just east of the project boundary of the Main Campus Property. Flakes, at least five scrapers, and one core were noted. Site boundaries were expanded in 2001 (to the west, and onto the project) as a result of surface collection of artifacts and excavation of 10 STPs in conjunction with a detention basin project. "The site area is heavily disturbed and subsurface testing recovered no artifacts, leading to a 2001 determination that the site was not significant under CEQA. Based on this disturbance and lack of a subsurface deposit and any cultural features or diagnostic material, the site would not be a significant resource under City guidelines. Only the (not significant) portion of CA-SDI-14-225 tested in 2001 is within the current project area and no artifacts were observed during the current survey. No further work is recommended at this site related to the Project.

CA-SDI-14-228: CA-SDI-14-228 was recorded as a lithic scatter with artifacts including a core, a scraper, a retouched flake, a hammerstone, and flakes; located in the Lake Property. There is no indication that testing was ever conducted at the site. Only a portion of the site is mapped within the Project area, and no artifacts were noted during the current survey. Because the site has not been evaluated, it is considered a potentially significant resource under CEQA and the City's guidelines. The Project as proposed would have no impacts to the site, so no further work is recommended related to the Project.

CA-SDI-18-136: A small scatter of marine shell was recorded during an archaeological study for High Tech K-12 School. Testing at the site consisted of three shovel scrapes, 10 shovel tests, and one test unit. No cultural material was found other than shell. Due to the low recovery and extensive disturbance, the site was determined not to be a significant resource under CEQA or City guidelines and the site was removed during development of the high school.

CA-SDI-20-155: This site was recorded in conjunction with environmental review for off-site grading for Village 9. It was described as three concentrations of a marine shell and flaked lithic and ground stone scatter, with shellfish thinly spread between the concentrations. Much of the shellfish noted was highly fragmented; noted on the site record as most likely being the result of agricultural activity (the site area having been disked for many years). The site record also noted that site artifacts appear to comprise a generally surficial scatter, which has been pushed to a depth of approximately 20 centimeters by the noted repeated agricultural disking. Cultural material collected during the testing included 750 shellfish fragments, one fish scale, two manos, and additional lithics and flakes.

A 2010 testing program at CA-SDI-20-155 consisted of mapping and collecting surface artifacts, surface collection of a 10-meters-by-10-meters grid in an area of relatively high shell density, excavation of STPs and a 1-meter-by-1-meter unit, as well as cataloging and analysis of cultural material collected. AMS radiocarbon dates of 3100 ±40 years BP and 3540 ±40 years Before Present (BP) were obtained on samples of shell from the site. The excavator confirmed that the site appeared to be a surface scatter dominated by shellfish remains, which repetitive agricultural disking has fragmented to a high degree and moved both laterally and vertically along the mesa top. The site was identified as not significant under Chula Vista and CEQA criteria and was recommended as ineligible for listing on the CRHR. Monitoring of grading was recommended for the site, due to the potential for subsurface features, such as hearths.

Only a small portion of CA-SDI-20-155 is located within the Main Campus Property. A thin shell scatter was noted between this site and CA-SDI-20-441, connecting the two sites, during current UID project surveys, and consistent with notations on the site record that marine shell was dispersed across the area by years of agricultural use. No change is recommended to the significance evaluation provided in 2010.

CA-SDI-20-160: This lithic scatter, recorded by BFSA in 2010, includes flakes, a core, a hammerstone, and a tool. The site is located within the Main Campus Property. The site map shows the excavation of 13 STPs and one test unit at the site in 2010. Based on those excavations, the site identifies the site as a surface deposit with no subsurface component. Accordingly, the site is not a significant cultural resource under CEQA or the City's guidelines. No cultural material was found during the current survey and no further work is recommended for this site.

CA-SDI-20-162: This site, which is located on the Main Campus property, was recorded in 2010 and was tested with the excavation of 15 STPs, 1 test unit, and surface collection. The site is described as containing metavolcanic lithics and tools. All the STPs were negative, and the site record notes "the site is a surface deposit with a minimal subsurface component. Given the lack of a subsurface deposit and any cultural features or diagnostic material, CA-SDI-20-162 does not represent a significant cultural resource under CEQA or the City's guidelines. No cultural material was found during the current survey, and no further work is recommended.

CA-SDI-20-165: Recorded in 2010, CA-SDI-20-165 also was described as an artifact scatter of metavolcanic lithics and tools. This site is located within the Main Campus Property. The site record noted that 50 percent of the ground surface was visible. While surface artifacts were recovered, 15 STPs and 1 test unit yielded only one subsurface hammerstone, which was in the 0- to 10-centimeter level. Although significance was not specifically addressed in the site record, it was noted that (based on the excavations) the site is a surface deposit with a minimal subsurface component. Given the lack of a subsurface deposit and any cultural features or diagnostic material, CA-SDI-20-165 is not considered a significant cultural resource under CEQA or City of Chula Vista guidelines. No cultural material was found during the current survey; no further work is recommended.

CA-SDI-20-441: This site was recorded in 2011 as a large dispersed scatter of marine shell with three pieces of debitage. The site record noted that 12 STPs and 2 test units were excavated. The site sketch map did not show the locations of excavation, however, nor did it show the areas that were inaccessible due to property boundaries.

The Otay Ranch Villages cultural resource report noted that "The area defined by the surface scatter of artifacts and ecofacts is 82,709 square meters (889,949 square feet)" (Smith and Stropes 2014:5.0-503). Although the site record only noted the excavation of 12 STPs, the report indicated that 12 STPs were excavated in the eastern portion of the site, which is located within the Main Campus Property, and two additional STPs were excavated in the southern portion of the site, within the Otay Ranch Villages project site. Two 1-meter-by-1-meter test units were also excavated within what is now the Main Campus Property. "Subsurface test results did not identify any significant cultural deposits, as only marine shell was recovered from the site" (Smith and Stropes 2014:5.0-504). A total of 10 pieces of debitage was collected from the surface of the site. The vast majority of the site as it is mapped is within the Project area.

Test excavations, surface scrapes, and surface collection at CA-SDI-20-441 yielded only 10 pieces of debitage and 340.9 grams of marine shell over a large area. The cultural material is concentrated within the upper 30 centimeters. The only cultural material found during the current survey was marine shell; including the above-noted thin shell scatter between this site and CA-SDI-20-155. The site record for CA-SDI-20-155 noted that marine shell was dispersed across the area by years of agricultural use. Based on the almost total lack of subsurface cultural material at both CA-SDI-20-155 and CA-SDI-20-441 and the extremely limited research potential at both sites, no further assessment is recommended. Given these data, the site is not a significant resource under CEQA or the City's guidelines.

CA-SDI-20-551: CA-SDI-20-551 is located near the border of the Main Campus Property. The site was described as a sparse scatter of debitage. The 2012 site record indicated that the site is most likely a surface deposit. The Otay Ranch Villages cultural resources report describes CA-SDI-20-551 as a sparse lithic and marine shell scatter. Testing by BFSA in 2012 resulted in the collection of 12 pieces of marine shell but no artifacts; surface artifacts noted during the January 2012 survey could not be seen during the May 2012 testing program, due to vegetation growth (Smith and Stropes 2014). Excavation of six shovel tests and one 1-meter-by-1-meter test unit yielded no subsurface cultural material. "The testing of Site SDI-20-551 has exhausted the research potential of this site" (Smith and Stropes 2014:5.0-578). Given the lack of a subsurface deposit and any cultural features or diagnostic material, the site is not a significant resource under CEQA and the City's guidelines. No cultural material was observed during the current survey.

CA-SDI-20-552: This site was recorded in 2010 as a small dispersed shell consisting primarily of Chione and Argopecten shell species. The site appears to have been removed during construction of Eastlake Parkway and Hunte Parkway. No evidence of this site was found during the current survey. Given the nature of the site as described (small, dispersed shell scatter), no subsurface deposits would be expected to be present. Because the site has been destroyed, there would be no Project-related impacts.

CA-SDI-20-553: CA-SDI-20-553 was recorded as a scatter of marine shell, primarily Chione. No artifacts were noted on the site record. During the current survey, this site was found essentially as previously recorded. Testing of the site consisted of the mapping and recordation of all surface artifacts, and the excavation of 10 STPs and one standard test unit. The field investigations were conducted in February of 2012 (Smith and Stropes 2014:5.0-603). No cultural material was found on the surface during the testing program, but marine shell was recovered in six of the STPs. "The analysis of the cultural materials recovered from SDI-20-553 revealed a localized, shallow cultural deposit. Based on the information derived from the testing program, the site is not considered to retain any research potential" (Smith and Stropes 2014:5.0-604). Accordingly, the site is not a significant resource under CEQA or the City's guidelines.

CA-SDI-20-554: CA-SDI-20-554 was described in 2012 as a small dispersed shell scatter consisting primarily of Chione and Argopecten shell species. The site, which is located in the Main Campus Property, was tested by BFSA in 2012; the testing program included excavation of 10 STPs and one test unit. No surface artifacts were observed, but 110.3 grams of shell was collected, 99.7 grams of which came from the test unit. As stated in the report, "the site exhibits a shell scatter, but no segregated special-use areas/features or other unique elements…. The level of information already obtained from this site represents a large portion of the research potential of

the site and it is unlikely that any significantly different information would be gathered from further investigation." The report also concluded that the site would not be considered significant according to CEQA criteria. (Smith and Stropes 2014:5.0-610). The site also does not meet the City's significance criteria, which are essentially the same as those of CEQA. No cultural material was observed during the current survey, but ground visibility was quite poor.

Site 1: This small lithic was found during the survey of the off-site sewer associated with the Lake Property; it is located within the Lake Property. The site consists of approximately five flakes and debitage (metavolcanic and quartzite) over an area approximately 15 meters in diameter. The area is disturbed by an existing road, so the potential for subsurface cultural resources is considered to be low; however, the potential must be explored in order to assess site significance.

ISOLATES. As summarized in Table 5.7-1, *Isolates within Project Area*, 11 isolated artifacts were found during the current survey: four in the Main Campus Property, five in the Lake Property, and two in the off-site improvement areas. The isolates include one hammerstone, five flakes, three cores, one possible core, and one bifacial mano. None of the isolates were collected. In addition, one isolate was recorded in the Main Campus Property during the Otay Ranch survey: P-37-015140. That artifact, a flake, was collected during the Otay Ranch survey.

Table 5.7-1 ISOLATES WITHIN PROJECT AREA

Isolate (P-37-#)	Description
015140	Flake, porphyritic metavolcanic
033126	Hammerstone, medium- to coarse-grained metavolcanic
033127	Flake, secondary, fine-grained metavolcanic
033128	Core, multidirectional, medium- to coarse-grained metavolcanic
033129	Mano, bifacial with battering, medium- to coarse-grained metavolcanic
033130	Flake, primary, medium- to coarse-grained metavolcanic
033131	Core, bidirectional, medium- to coarse-grained metavolcanic
033132	Flake, Secondary, fine-grained metavolcanic
OS-I-2	Core, fine-grained metavolcanic
OS-I-7	Possible core, fine-grained metavolcanic
OS-I-9	Flake, tertiary, fine-grained metavolcanic
OS-I-10	Flake, tertiary, fine-grained metavolcanic

2. Native American Concerns

Although AB 52 consultation with Native American tribes is not required for this EIR because the NOP was released prior to the effective date of AB 52, the NAHC was contacted for a search of their Sacred Lands Files and a list of Native American contacts for this area. Letters were sent to those contacts identified by the NAHC in May 2013. The Sacred Lands File search did not indicate the presence of significant Native American cultural resources in the immediate project area. To date, the only response received has been from the Campo Band of Mission Indians, who indicated they have no comments at this time.

3. Historical Map Review

Early maps of the project vicinity were reviewed for historical structures, features, and roads. No items of historical significance were identified within the Project area on the early maps.

4. Paleontological Resources

a. Stratigraphic Rock Units

Based on the previously described project-related and background technical materials, the principal surficial deposits and underlying geologic formations present within the project site include the following (in order of decreasing age): (1) two units of the Oligocene Otay Formation, including the Otay Formation (To) and the Otay Formation-Fanglomerate Facies (Tof); (2) Quaternary alluvial terrace deposits (Qvoa); and (3) Holocene alluvial deposits (Qya). These formations are described in more detail in Section 5.8, *Geology and Soils*, with on-site locations shown on Figure 5.8-1, *Geologic Map*. Additional surficial materials present on-site include Holocene native topsoil deposits and colluvium, and recent artificial fill. Generally thin (1 to 4 feet) topsoil deposits are present in most undeveloped portions of the site, while colluvium is typically gravity-deposited at the bottoms of slopes. Artificial fill is associated with development such as roads, trails and the existing high school campus, with colluvium, fill and topsoil deposits not depicted on Figure 5.8-1.

Numerous fossil localities have been discovered in the Otay Formation in the Otay Mesa area. These localities have produced well-preserved remains of a diverse assemblage of terrestrial vertebrates, including tortoises, lizards, snakes, birds, shrews, rodents, rabbits, dogs, foxes, rhinoceros, camels, mouse-deer, and oreodonts (SDNHM 2010). Based on these fossil discoveries, both noted units of the Otay Formation are assigned a high sensitivity for paleontological resources, with these units underlying a large portion of the Project site.

No fossils are known from Quaternary alluvial terrace deposits in the Otay Mesa area, with these deposits limited to relatively small occurrences in the southern portion of the project site. Significant land mammal fossils have been found in similar deposits throughout coastal San Diego County, with undisturbed portions of the on-site Quaternary alluvial terrace deposits therefore assigned a high sensitivity for paleontological resources.

Based on their relatively young age and lack of known fossil occurrences, Holocene alluvial deposits are assigned a low paleontological resource sensitivity.

Additional surficial materials present on-site, including Holocene native topsoil, colluvium and recent artificial fill, exhibit no potential for the occurrence of sensitive paleontological resources. This assessment is based on the recent age of these deposits, as well as their high-energy methods of formation and/or deposition (e.g., mechanical production such as crushing/screening for fill; and physical/chemical weathering and transportation/deposition by water, wind, and/or gravity for colluvium and soil).

b. Results of Record Search

Thirteen previously recorded fossil collecting localities were documented within the general project site vicinity during analysis of the adjacent Village 9 site. Specifically, these localities were discovered during paleontological monitoring of construction projects in the Otay Formation to the north and west of the Village 9 (and the proposed project) site. Fossils recovered during these efforts included plants, invertebrates and vertebrates, such as unidentified bird and lizard remains, extinct mammals, and a fossilized eggshell discovered during grading at the Village 7 project site to the north (SDNHM 2010).

5.7.2 Thresholds of Significance

According to the CEQA Guidelines, Appendix G and associated City criteria, impacts to cultural and paleontological resources would be significant if the Project would:

- **Threshold 1**: Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5.
- **Threshold 2**: Cause a substantial adverse change in the significance of an archaeological resource as defined in CEQA Guidelines Section 15064.5.
- **Threshold 3**: Disturb any human remains, including those interred outside of formal cemeteries.
- **Threshold 4**: Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

5.7.3 Impact Analysis

A. Threshold 1: Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5.

CEQA Guidelines Section 15064.5 recognizes that historical resource includes: (1) a resource in the CRHR; (2) a resource included in a local register of historical resources, as defined in PRC Section 5020.1(k) or identified as significant in a historical resource survey meeting the requirements of PRC Section 5024.1(g); and (3) any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California by the lead agency, provided the lead agency's determination is supported by substantial evidence in light of the whole record.

The cultural resource record search and historic map survey conducted for the project determined that no historic or potential historic structural resources occur in the project area. The project site is currently undeveloped. Therefore, there would be no impacts from the Project on structural historic resources.

B. Threshold 2: Cause a substantial adverse change in the significance of an archaeological resource as defined in CEQA Guidelines Section 15064.5.

As defined in PRC Section 21083.2 a "unique" archaeological resource is an archaeological artifact, object, or site about which it can be clearly demonstrated that without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

1. Contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information.

2. Has a special and particular quality such as being the oldest of its type or the best available example of its type.

3. Is directly associated with a scientifically recognized important prehistoric or historic event or person.

A number of archaeological sites and isolates were identified within the project area. Of the 17 archaeological sites identified within the project (Main Campus Property and Lake Property) and off-site improvement areas, 12 have been determined not to be significant resources under CEQA and the City's guidelines. One previously recorded site has been removed by grading during construction of an abutting project. The four remaining sites are potentially significant resources pending evaluation. Two of these sites would not be subject to impacts from the project as proposed, and no further work is recommended. The remaining two known potentially significant sites within the project impact footprint (CA-SDI-13-454 and Site 1) will need to be tested to assess site significance and the significance of Project impacts. If these sites are determined to be significant resources, appropriate mitigation measures would be developed and implemented in order to mitigate Project impacts to below a level of significance. The isolates are not significant resources, and no further work is required for them.

In addition to the known resources detailed above, there is a potential for additional cultural resources to be present that could not be seen due to the limited ground visibility over a majority of the Project area. Based on this, monitoring of brushing/grubbing and initial grading by an archaeologist and a Native American monitor is recommended. A monitoring program would be required during ground-disturbing activities in previously undisturbed soils. If cultural material is encountered, monitors will have the authority to temporarily halt or redirect grading while the resources are documented and assessed. Impacts are assessed as potentially significant (Impact 5.7-1).

C. Threshold 3: Disturb any human remains, including those interred outside of formal cemeteries.

Results of the cultural resources record search and survey did not identify any human remains or records of human remains in the project areas. Given the presence of archaeological resources on the site, however, a conservative assumption is being made that previously unknown human remains may be present in the project area and off-site improvement areas. Ground-disturbing construction activities, grading, and trenching associated with the project would have the potential to uncover unknown human remains. If human remains are inadvertently uncovered, projects are required to comply with NAGPRA, PRC Section 5097.98, California NAGPRA, and Health and

Safety Code Section 7050.5, described above in Section 5.7.1, *Regulatory Framework*. However, without an archaeological monitor on the site during construction to identify evidence of remains and ensure proper regulatory compliance, ground-disturbing construction activities associated with project implementation would have the potential to result in a significant impact to human remains (Impact 5.7-2).

D. Threshold 4: Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

As previously noted, most of the project site is underlain by the Otay Formation, while Quaternary alluvial terrace deposits occur in the southeastern portion of the Main Campus site. These deposits are assigned as having a high paleontological resource sensitivity, and important fossils have been recovered from the Otay Formation in the project site vicinity. As a result, significant direct impacts to paleontological resources could potentially occur during project-related construction activities such as grading and trenching (Impact 5.7-3).

5.7.4 Level of Significance Prior to Mitigation

A. Historical Resources

The Project would have no impact to structural historical resources.

B. Archaeological Resources

The Project would not adversely affect known archaeologically significant resources on the site.

Impact 5.7-1: Pending testing for significance, two sites within the Project area have been identified as potentially culturally significant, and construction activities associated with the Project could inadvertently result in adverse impacts to presently unknown archaeological resources that may be uncovered during clearing and grading.

C. Human Remains

No known human remains have been identified within the Project and none of the identified sites appear to be primary habitation sites.

Impact 5.7-2: Although it is not considered likely, construction activities (e.g., clearing and grading) during Project implementation could inadvertently uncover unknown human remains. If such remains are adversely affected, the impact would be potentially significant.

D. Paleontological Resources

Impact 5.7-3: The Project site includes surficial deposits and underlying geologic formations with high paleontological resource sensitivity. As a result, Project-related construction activities would have potentially significant impact to these resources.

5.7.5 Mitigation Measures

As noted above, no historical structural resources would be impacted. Mitigation measures are identified below to address archaeological and paleontological resources. Development of the Project site would occur as future applicants apply for various permits. The measures below identify that a future applicant would be responsible for the implementation of the mitigation measures.

A. Historical Resources

No mitigation measures are required.

B. Archaeological Resources

Project construction activities could inadvertently result in adverse impacts to presently unknown archaeological resources that may be uncovered during clearing and grading (Impact 5.7-1). Implementation of Mitigation Measures 5.7-1a and 5.7-1b would reduce impacts to less than significant levels:

5.7-1a **Archaeological Monitor.** Prior to issuance of land development permits, including clearing or grubbing and grading permits, the applicant shall provide written confirmation and incorporate into grading plans, to the satisfaction of the Development Services Director (or their designee), that a principal investigator as listed by the Secretary of the Interior (CFR Title 36, Section 61) has been retained in an oversight capacity to ensure that an archaeological monitor will be present during all cutting of previously undisturbed soil. If these cutting activities would occur in more than one location, multiple monitors shall be provided to monitor these areas, as determined necessary by the principal investigator.

5.7-1b **Resource Discovery Procedure.** During the initial grading of previously undisturbed soils within the UID project area and any off-site improvement areas, prehistoric and historic resources may be encountered. In the event that the monitor identifies a potentially significant site, the archaeological monitor shall secure the discovery site from further impacts by delineating the site with staking and flagging, and by diverting grading equipment away from the archaeological site. Following notification to the Development Services Director (or their designee), the archaeological monitor shall conduct investigations as necessary to determine if the discovery is significant under the criteria listed in CEQA and the environmental guidelines of Chula Vista.

If the discovery is determined to be not significant, grading operations may resume and the archaeological monitor shall summarize the findings in a letter report to the Development Services Director (or their designee) following the completion of mass grading activities. The letter report shall describe the results of the on-site archeological monitoring, each archaeological site observed, the scope of testing conducted, results of laboratory analysis (if applicable), and conclusions. The letter report will be completed to the satisfaction of the Development Services Director (or their designee) prior to release of grading bonds. Any artifacts recovered during the evaluation shall be curated at a curation facility approved by the Development Services Director (or their designee).

For those prehistoric/historic resources that are determined to be significant, the following measures shall be implemented by the applicant:

i. An alternate means of achieving mitigation shall be pursued. In general, these forms of mitigation include: (1) site avoidance by preservation of the site in a natural state in open space or in open space easements; (2) site avoidance by preservation through capping the site and placing landscaping on top of the fill; (3) data recovery through implementation of an excavation and analysis program; or (4) a combination of one or more of the above measures. Procedures for implementing the alternative forms of mitigation described herein are further detailed in the Mitigation Monitoring and Reporting Program adopted as part of the 1993 Otay Ranch General Development Plan Program EIR (EIR 90-01).

ii. For those sites for which avoidance and preservation is not feasible or appropriate, the applicant shall prepare a Data Recovery Plan. The plan will, at a minimum, include the following: (1) a statement of why data recovery is appropriate as a mitigating measure; (2) a research plan that explicitly provides the research questions that can reasonably be expected to be addressed by excavation and analysis of the site; (3) a statement of the types and kinds of data that can reasonably be expected to exist at the site and how these data will be used to answer important research questions; (4) a step-by-step discussion of field and laboratory methods to be employed and (5) a statement regarding provisions for curation and storage of the artifacts, notes, and photographs. In cases involving historic resources, archival research and historical documentation shall be used to augment field-testing programs. Grading operations within the affected area may resume once the site has been fully evaluated and mitigated to the satisfaction of the Development Services Director (or their designee). All significant artifacts collected during the implementation of the Data Recovery Plan shall be curated at a facility approved by the Development Services Director (or their designee).

iii. Following the completion of mass grading operations, the applicant shall prepare a plan that addresses the temporary on-site presentation and interpretation of the results of the results of the archaeological studies for the project. This could be accomplished through exhibition within a future community center, civic building and/or multi-purpose building. This exhibition will only be for temporary curation of those materials being actively used for interpretation and display, and that permanent curation of artifacts and data will be at a regional repository when one is established. All significant artifacts collected during the implementation of the Data Recovery Plan shall be permanently curated at a facility approved by the Development Services Director (or their designee).

C. Human Remains

Project construction activities could inadvertently uncover unknown human remains (Impact 5.7-2). Implementation of Mitigation Measure 5.7-2 would reduce impacts to less than significant levels:

5.7-2 Human Remains Disturbance Protocol. If human remains are discovered during grading or site preparation activities within the UID on-site development or off-site improvement project areas, the archaeological monitor shall secure the discovery site from any further disturbance. State Health and Safety Code Section 7050.5 requires that no further disturbance shall occur until the San Diego County Coroner has made the necessary findings as to the origin and disposition of the remains pursuant to PRC Section 5097.98. If the remains are determined to be of Native American descent, the coroner has 24 hours to notify the NAHC. The Native American Heritage Commission will then identify the person(s) thought to be the Most Likely Descendent of the deceased Native American. The Most Likely Descendent will assist the Development Services Director (or their designee) in determining what course of action shall be taken to deal with the remains. Grading operations within the affected area may resume once the site has been fully evaluated and mitigated to the satisfaction of the Development Services Director (or their designee). The Archaeological Monitor shall summarize the findings in a letter report to the Development Services Director (or their designee) following the completion of mass grading activities.

D. Paleontological Resources

Project construction activities could impact surficial deposits and/or underlying geologic formations with high paleontological resource sensitivity (Impact 5.7-3). Implementation of Mitigation Measures 5.7-3a through 5.7-3d would reduce impacts to less than significant levels:

5.7-3a Paleontological Resource Mitigation Program. Prior to the issuance of grading permits for the proposed on-site development or off-site improvement Project areas, the applicant shall provide written confirmation to the Development Services Director (or their designee) that a qualified paleontologist has been retained to carry out an appropriate mitigation program. A qualified paleontologist is defined as an individual with a M.S. or Ph.D. in paleontology or geology who is familiar with paleontological procedures and techniques. A pre-grade meeting shall be held between the paleontologist and the grading and excavation contractors.

5.7-3b Paleontological Monitor. A paleontological monitor shall be on-site at all times during the original cutting of previously undisturbed areas of the Otay Formation or Quaternary alluvial terrace deposits to inspect cuts for contained fossils. A paleontological monitor is defined as an individual who has experience in the collection and salvage of fossil materials. The paleontological monitor shall work under the direction of a qualified paleontologist.

i. The monitor shall be on the site at least on a quarter-time basis during the original cutting of previously undisturbed sediments of low sensitivity geologic formations (Holocene alluvial deposits) to inspect cuts for contained fossils. He or she shall periodically (every several weeks) inspect original cuts in deposits with unknown resource sensitivity, if applicable (e.g., Quaternary alluvium).

ii. In the event that fossils are discovered in unknown, low or high sensitivity materials, the per-day field monitoring time shall be increased. Conversely, if

fossils are not discovered, the monitoring, at the discretion of the Planning Department, shall be reduced. A paleontological monitor is not needed during grading in areas with deposits exhibiting no resource sensitivity (topsoil and artificial fill).

5.7-3c **Fossil Discovery Procedure.** If fossils are discovered, the paleontologist (or paleontological monitor) shall recover them. In most cases, this fossil salvage can be completed in a short time frame, although some fossil specimens (e.g., a complete whale skeleton) may require an extended salvage time. In these instances, the paleontologist (or paleontological monitor) shall be allowed to temporarily direct, divert, or halt grading to allow recovery of fossil remains in a timely manner. Because of the potential for the recovery of small fossil remains such as isolated mammal teeth, it may be necessary in certain instances, and at the discretion of the paleontological monitor, to set up a screen-washing operation on the site.

5.7-3d **Fossil Recording.** Prepared fossils, along with copies of all pertinent field notes, photos, and maps, shall be deposited in a scientific institution with paleontological collections such as the San Diego Natural History Museum. A final summary report shall be completed, and shall include discussions of the methods used, stratigraphy exposed, fossils collected, and significance of recovered fossils.

5.7.6 Level of Significance After Mitigation

A. Historic Resources

Impacts to historic resources would be less than significant without mitigation.

B. Archaeological Resources

Potential impacts to unknown archaeological resources (Impact 5.7-1) would be reduced to less than significant levels with implementation of Mitigation Measures 5.7-1a and 5.7-1b because archaeological monitoring would occur during Project construction. If a potentially significant site is identified, construction activities would halt and resource discovery procedures would be followed.

C. Human Remains

Potential impacts to unknown human remains (Impact 5.7-2) would be reduced to less than significant levels with implementation of Mitigation Measure 5.7-2 because State Health and Safety Code Section 7050.5 would be implemented and impacts related to human remains discovered during Project construction would be less than significant.

D. Paleontological Resources

Potential impacts to paleontological resources (Impact 5.7-3) would be reduced to less than significant levels with implementation of Mitigation Measures 5.7-3a through 5.7-3d because a resource mitigation monitoring program would be implemented in the event paleontological resources are discovered, which would reduce impacts to less than significant.

5.8 GEOLOGY AND SOILS

This section describes the geologic setting of the Project site and applicable off-site areas, and evaluates the potential for impacts related to geologic and soil conditions/resources from implementation of the Project.

This EIR tiers from the Previous Environmental Review Documents, as described in Chapter 2.0, *Introduction*. The 2013 SEIR 09-01 did not address geology and soils, but relied on analysis in the 1993 Program EIR for the GDP (EIR 90-01). Section 3.8, *Geology and Soils*, of the Otay Ranch GDP Program EIR, analyzed geology and soils impacts for the entire Otay Ranch site, including the UID Main Campus Property. This analysis concluded that potentially significant but mitigable impacts regarding seismic-related hazards, erosion, unstable soils, and expansive soils would occur with implementation of the Otay Ranch GDP, and is hereby incorporated by reference (along with the associated Geotechnical Investigation included as Appendix G of the GDP Program EIR). Mitigation included requiring site-specific geotechnical analyses and compliance with the Uniform Building Code to mitigate these effects to a level below significance. Section 4.6, *Geology/Geologic Hazards*, of the East Lake III SPA Plan analyzed geology and soils impacts, including the Lake Property. This analysis concluded that potentially significant but mitigable impacts regarding expansive soils would occur with implementation of the EastLake III SPA Plan, and is hereby incorporated by reference (along with the associated Geotechnical Investigation included as Appendix E of the EastLake III Subsequent EIR). Mitigation included site-specific geotechnical and soils analyses to reduce impacts to less than significant. A site-specific Geotechnical Evaluation was prepared for the proposed Project; therefore, mitigation from previous environmental review is not incorporated by reference for geology and soils impacts because it has been satisfied.

Information contained in this section is based on a site-specific Geotechnical Evaluation prepared for the proposed Project by Ninyo & Moore. This report is summarized below along with other applicable data, and the complete technical report is included as Appendix G of this EIR. The technical report updates the applicable information contained in the SEIRs.

5.8.1 Existing Conditions

A. Regulatory Framework

1. Federal

a. Federal Earthquake Hazards Reduction Act

Passed by Congress in 1977, the Federal Earthquake Hazards Reduction Act is intended to reduce the risks to life and property from future earthquakes. The Act established the National Earthquake Hazards Reduction Program (NEHRP). The goals of NEHRP are to educate and improve the knowledge base for predicting seismic hazards, improve land use practices and building codes, and to reduce earthquake hazards through improved design and construction techniques.

2. State

a. California Geological Survey

The California Geological Survey (CGS) provides guidance with regard to addressing seismic hazards. Specifically, CGS Special Publication 117A, *Guidelines for Evaluating and Mitigating Seismic Hazards in California* (2008), provides guidance to evaluate and mitigate earthquake-related hazards for projects within designated zones of required investigation.

b. Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act of 1972 (formerly the Special Studies Zoning Act) regulates the development and construction of buildings intended for human occupancy to avoid surface fault rupture hazards. The Act helps define areas where fault rupture is most likely to occur, and groups faults into categories of active, potentially active, and inactive. Specifically, active faults are defined as those exhibiting historic seismicity and/or displacement of Holocene (less than approximately 11,000 years old) strata, while potentially active faults have no historic seismicity and displace Pleistocene (between approximately 11,000 and 2 million years old) but not Holocene materials. Faults that exhibit evidence of only pre-Quaternary (more than approximately 2 million years old) movement are generally considered inactive.

The Act also requires the State Geologist to establish regulatory zones known as Earthquake Fault Zones around the surface traces of active faults, which are generally intended to "[r]egulate development near active faults so as to mitigate the hazard of surface fault rupture" (CGS 2008). Additional requirements under the Alquist-Priolo Act include distributing Earthquake Fault Zone maps to all affected cities, counties, and state agencies, as well as mandating completion of geologic investigations prior to applicable project approvals, to demonstrate that associated structures would not be placed across active faults, and/or that appropriate set-backs from such faults (generally 50 feet) are included in the project design.

c. California Seismic Hazards Mapping Act

The California Seismic Hazards Mapping Act (CSHMA) provides a statewide seismic hazard mapping and technical advisory program to assist local governments in protecting public health and safety relative to seismic hazards. The CSHMA provides direction and funding for the State Geologist to compile seismic hazard maps and to make those maps available to local governments. The CSHMA, along with related standards in the Seismic Hazards Mapping Regulations (CCR Title 14, Division 2, Chapter 8, Article 10, Section 3270 et seq.), also directs local governments to require the completion and review of appropriate geotechnical studies prior to approving development projects. These requirements are implemented on a local level through means such as General Plan directives and regulatory ordinances.

d. California Building Code (CBC) and International Building Code (IBC) Standards

The CBC guidelines are derived from the IBC (as described below), and encompass criteria specific to California such as geologic and seismic characteristics. Specifically, the CBC includes the following requirements related to geologic issues: general provisions (Chapter 1); structural design, including soil and seismic loading (Chapters 16/16A); structural tests and special

inspections, including seismic resistance (Chapters 17/17A); soils and foundations (Chapters 18/18A); construction safeguards (Chapter 33); and grading, including excavation, fill, drainage, and erosion control criteria (Appendix J).

The IBC, which encompasses the former Uniform Building Code (UBC), is produced by the International Code Council, Inc. (ICC) to provide standard specifications for engineering and construction activities, including measures to address geologic and soil concerns. Specifically, these measures encompass issues such as seismic loading (e.g., classifying seismic zones and faults), ground motion, and engineered fill specifications (e.g., fill composition, compaction levels, and moisture content). The referenced guidelines, while not comprising formal regulatory requirements per se, are widely accepted by regulatory authorities and are routinely included in related standards such as local development codes. The IBC guidelines are regularly updated to reflect current industry standards and practices including criteria such as the American Society of Civil Engineers (ASCE) and ASTM International (formerly known as the American Society for Testing and Materials [ASTM]).

3. Local

a. Chula Vista General Plan

The Chula Vista General Plan Environmental Element requires that individual development projects under City jurisdiction address potential geologic hazards through conformance with applicable regulatory requirements (e.g., the CBC and IBC). Specifically, Objective E 14 of the Environmental Element is intended to "…Minimize the risk of injury, loss of life, and property damage associated with geologic hazards...", with associated policies (E 14.1 through E 14.3) requiring the completion of appropriate engineering and geotechnical investigations for proposed development to reduce potential impacts associated with geologic hazards and public safety.

B. Geologic Setting

The project site is located within the coastal foothill section of the Peninsular Ranges Geomorphic Province (Province), a region characterized by northwest-trending structural blocks and intervening fault zones. The Province extends from the Los Angeles Basin to the tip of Baja California, and generally consists of rugged mountains underlain by Jurassic (between approximately 145 and 200 million years old) metamorphic rocks intruded by Cretaceous (between approximately 65 and 145 million years old) plutonic rocks of the southern California batholith (a large igneous intrusive body). In the coastal foothill section, the metamorphic and plutonic basement rocks are typically overlain by Cretaceous- to Pleistocene-age sedimentary strata (as outlined below).

Topographically, the Province is composed of generally parallel ranges of steep hills and mountains separated by alluvial valleys. The project site is located on Otay Mesa, a broad, uplifted highland, with local topography varying from rolling hills and canyons to relatively level mesa tops. Drainage within the site and vicinity is characterized by generally south-flowing tributaries of the Otay River (including Salt Creek), which is located south of the site and flows generally west to San Diego Bay. On-site elevations range from approximately 340 to 620 feet AMSL on the Main Campus Property, and from approximately 500 to 560 feet AMSL on the Lake Property.

Surficial and geologic exposures within or underlying the Project site and vicinity are described below in order of increasing age, with the principal units shown on Figure 5.8-1, *Geologic Map*.

1. Historic Undocumented Fill (Not Mapped)

Undocumented fill is present in the northern portion of the site in association with development including Hunte Parkway and High Tech K-12 School. Shallow fill may also be present locally in areas with buried utilities and unpaved roads/trails. Fill materials typically consist of sandy deposits with variable amounts of gravel and cobble-size materials and the project Geotechnical Evaluation notes that "the nature and depth of these fill materials is not known." As a result, in order to provide a conservative analysis, it is assumed that on-site fill deposits do not conform to applicable engineering standards for characteristics such as composition, compaction and moisture content (i.e., they do not constitute engineered fill).

2. Holocene Native Topsoils (Not Mapped)

Native topsoils are expected to be present in undeveloped portions of the site at depths ranging from approximately 1 to 4 feet (with thicker deposits generally occurring along the base of existing slopes and grading into alluvial materials in local drainages). Mapped topsoils consist of Olivenhain cobbly loams on the Lake Property, while the Main Campus Property includes primarily Diablo clays and relatively minor areas of Olivenhain cobbly loams and Linne clay loams in the southern areas (Bowman R.H., 1973). All of the noted soil types are derived from local sedimentary rocks and/or associated alluvial deposits, and include substantial clay content and/or clay subsoils.

3. Holocene Colluvial Deposits (Not Mapped)

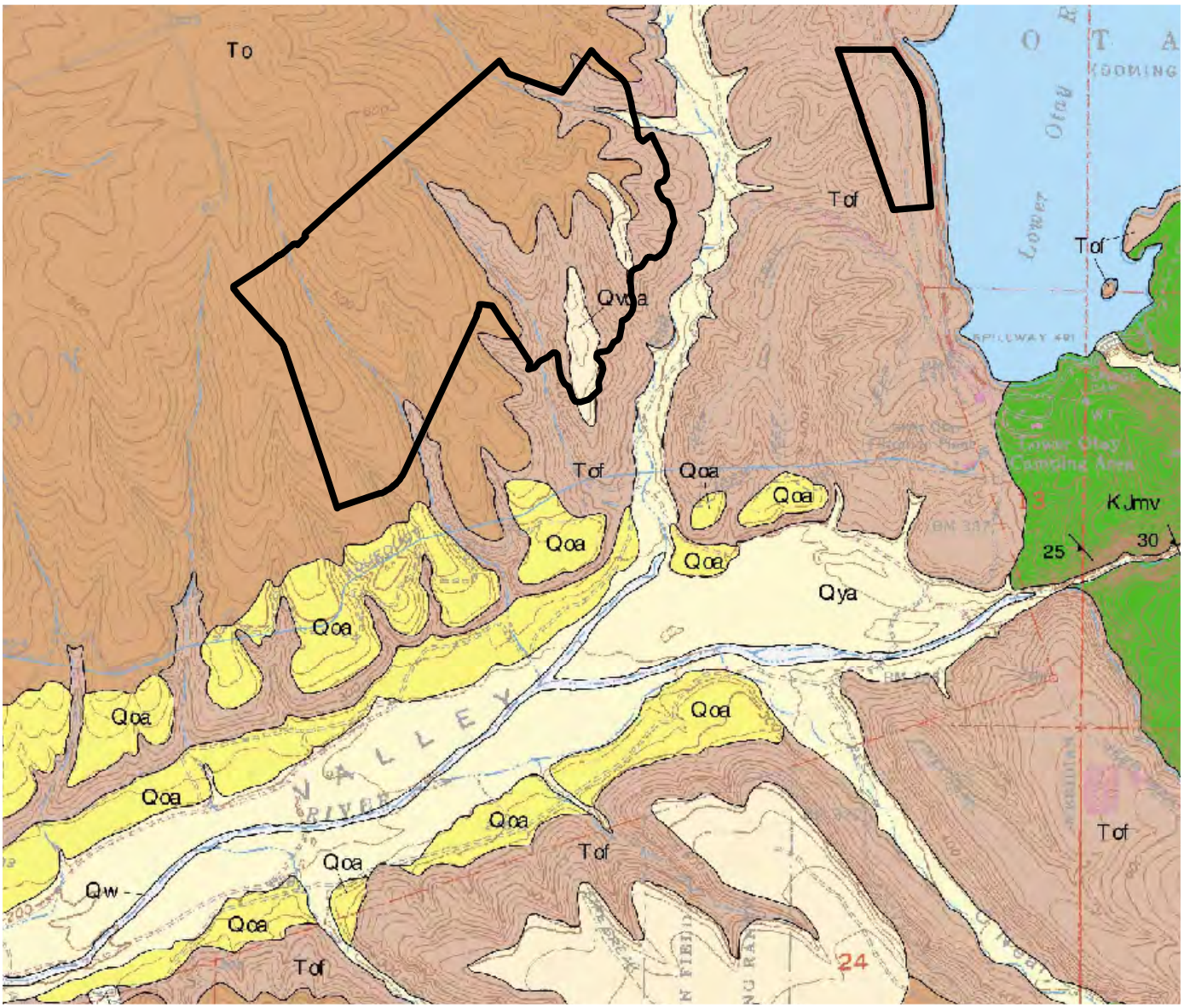
Colluvial deposits are transported by gravity, and are anticipated to be present along the bottoms of on-site canyon slopes and drainages. These materials are generally on the order of 4 to 6 feet thick, and consist of poorly sorted (variable grain sizes) sandy clay and clayey sand with scattered gravel and cobbles (and are generally more angular and less well-rounded than alluvial deposits).

4. Holocene Alluvial Deposits (Qya)

Holocene alluvial deposits are mapped in on- and off-site portions of Salt Creek, as well as the Otay River Valley in off-site areas to the south. Alluvial deposits typically consist of unconsolidated sandy materials with variable amounts of gravel, cobbles, and occasional boulders.

5. Quaternary Alluvial Terrace Deposits (Qvoa)

Alluvial terrace deposits consist of poorly consolidated and poorly sorted floodplain materials, and typically include variable amounts of silt, sand, gravel, and clay. These deposits are mapped in larger drainages in the eastern and southern portions of the site, and may also be present in other on-site drainage courses.



Source: Ninyo and Moore 2016a

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Geologic Map

UNIVERSITY INNOVATION DISTRICT EIR

Figure 5.8-1

HELIX Environmental Planning

6. Tertiary Otay Formation (To)

The Otay Formation is mapped in substantial portions of the Main Campus Property (particularly the western and northern areas), and is anticipated to underlie much of this site. This formation typically consists of poorly indurated (cemented) and massive (lacking distinct structure such as bedding) sandstone, siltstone, and claystone, with interbedded bentonite (clay) lenses. Harder and more resistant gritstone subunits also occur within the Otay Formation.

7. Tertiary Otay Formation-Fanglomerate Facies (Tof)

This unit is mapped in the Lake Property and the eastern portions of the Main Campus Property, and locally interfingers with the overlying Otay Formation as described above. The Otay-Fanglomerate Facies consists of poorly cemented cobble and boulder conglomerate, along with coarse-grained sandstone.

C. Groundwater

As outlined in Section 5.11, *Hydrology and Water Quality*, the project site is not within the areal extent of any regional mapped groundwater basins, with no known water wells present and typical local groundwater depths of 25 feet or less. While shallow groundwater was not observed during site investigation, perched aquifers may occur locally, particularly in association with alluvial deposits along larger drainage courses (e.g., Salt Creek).

D. Geologic Hazards

The following discussion describes the existing setting in relation to potential geologic hazards identified in the project Geotechnical Evaluation or from other sources, including faulting and seismicity; ground rupture; liquefaction and related effects; landslides; compressible/collapsible soils; expansive or corrosive soils, subsidence, erosion, and tsunamis and seiches.

1. Faulting and Seismicity

The project site is located within a broad, seismically active region characterized by a series of northwest-trending faults associated with the San Andreas Fault System. No active or potentially active faults or CGS Alquist-Priolo Earthquake Fault Zones are mapped or known to occur within the project site and vicinity (Appendix G). As shown in Table 5.8-1, *Summary of Regional Fault Locations and Seismicity Data*, the closest known active fault is the Rose Canyon Fault, approximately 12 miles to the west, with the closest CGS Earthquake Fault Zone also associated with the described segment of the Rose Canyon Fault.

Table 5.8-1 SUMMARY OF REGIONAL FAULT LOCATIONS AND SEISMICITY DATA

Fault Zone	Distance from Site (miles)	Direction from Site	Maximum Moment Magnitude
Rose Canyon	12	W	7.2
Coronado Bank	20	W	7.6
Elsinore (Julian Segment)	40	NE	7.1
Elsinore (Coyote Mtn. Segment	42	NE	6.8
Earthquake Valley	43	NE	6.5
Newport-Inglewood (offshore)	46	NW	7.3
Elsinore (Temecula Segment)	53	N	6.8
San Jacinto-Coyote Creek	60	NE	6.8
San Jacinto-Borrego	60	NE	6.3

Source: Appendix G

Several additional major active faults are also located within approximately 60 miles of the site, as shown in Table 5.8-1. An additional mapped fault in the project site vicinity is the La Nacion Fault, which is located approximately two miles to the west. This fault is designated as Quaternary in age, and is generally considered potentially active (Jennings, C.W. 2010).

The 2013 CBC recommends that structure design be based on the horizontal peak ground acceleration (PGA, or ground shaking) value with a one percent probability of being exceeded in a 50-year period (with the associated seismic event defined as the Maximum Considered Earthquake, or MCE). A probabilistic[1] PGAMCE was calculated for the project site at 0.38g (where g equals the acceleration due to gravity), based on the U.S. Geological Survey (USGS) ground motion methodology. The mapped and design PGA for the project site is estimated as 0.26g in the project Geotechnical Evaluation, based on the ASCE 7-10 Standard (Appendix G). These estimated acceleration values, along with other applicable seismic considerations such as motion frequency/duration and CBC design criteria, are used to evaluate related site-specific hazards such as liquefaction.

2. Ground Rupture

Seismic fault (or ground) rupture is the physical surface or near surface displacement (typically along a fault structure) resulting from earthquake-induced movement. As previously described, no known active or potentially active faults, or associated Alquist-Priolo/County Fault Zones, are mapped or known to occur within the project site and immediate vicinity. The closest active fault and related Earthquake Fault Zone designation are associated with the Rose Canyon Fault, approximately 12 miles west (Appendix G). Accordingly, the potential for associated seismic ground rupture is considered low, although the Geotechnical Evaluation notes that "…lurching or cracking of the ground surface as a result of nearby seismic events is possible."

[1] A probabilistic model generates a percentage probability of exceeding a ground acceleration value within a designated time period, as opposed to a deterministic model which uses distance/magnitude data to produce ground acceleration values for individual faults.

3. Liquefaction and Related Effects

Liquefaction is the phenomenon whereby soils subjected to seismic (or other) ground shaking effects exhibit a loss of shear strength and demonstrate fluid-like flow behavior due to excess pore pressure. Loose, granular, and saturated soils with relative densities of less than approximately 70 percent are most susceptible to these effects, with liquefaction potential greatest at depths of less than approximately 50 feet. Surface and near surface manifestations from these events can include loss of support for structures/foundations, pavement, and pipelines; excessive dynamic (seismically induced) settlement; and other effects such as lateral spreading (i.e., horizontal displacement on sloped surfaces as a result of underlying liquefaction). No identified Liquefaction Hazard Areas are identified on site on Figure 9-7*, Geologic Hazards Map*, of the Chula Vista General Plan Environmental Element, and the project Geotechnical Evaluation concludes that "…the potential for liquefaction over most of the project area is not a design consideration…" This analysis also notes, however, that "…alluvial soils within the Salt Creek Valley…may be subject to liquefaction or settlement during a nearby seismic event."

4. Landslides

The occurrence of landslides and other types of slope failures is influenced by a number of factors, including slope grade, geologic and soil characteristics, moisture levels and vegetation cover. Landslides can be triggered by a variety of potentially destabilizing conditions or events, such as gravity, fires, precipitation, grading and seismic activity. No Landslide Areas are mapped within or adjacent to the project site on Figure 9-7 in the Chula Vista General Plan Environmental Element, and the project Geotechnical Evaluation concludes that "…no landslides or related features underlie or are adjacent to the project and the potential for landslides is considered low." The analysis also notes, however, that much of the project site is designated as "generally susceptible to landsliding" by the CGS, and that the underlying Otay Formation "…is prone to landsliding and slope instability." Specifically, this formation locally includes bentonite clay lenses as previously described, which often comprises weakness planes susceptible to slope failures.

5. Compressible/Collapsible Soils

Surficial deposits within the site include non-engineered fill, topsoils, and alluvial/colluvial materials as previously described. All of these deposits are potentially subject to settlement under conditions such as structural loading or increased moisture content from site irrigation or drainage. In addition, portions of these materials may also be susceptible to soil collapse, or near-surface subsidence, which is generally associated with: (1) hydroconsolidation, the tendency of unsaturated soils to rapidly lose fine material upon saturation; and (2) water table depression (lowering) due to groundwater withdrawal. Collapse associated with hydroconsolidation is most common in arid and semi-arid areas, with the associated effects generally localized but potentially substantial. Collapse related to groundwater withdrawal generally occurs over a wide region and a longer timeframe (i.e., decades), with less noticeable short-term effects. The potential occurrence of compressible and/or collapsible soils could result in hazards such as differential settlement (different degrees of settlement over relatively short distances) and related effects to surface or subsurface facilities such as pavement, foundations, and utilities.

6. Expansive Soils

Expansive (or shrink-swell) behavior in soils is attributable to the water-holding capacity of clay minerals, and can adversely affect the integrity of facilities such as foundations, pavement, and underground utilities. All of the mapped on-site soils exhibit generally high expansion potential due to clay content, and the Project Geotechnical Evaluation notes that "…the siltstone and claystone portions of the Otay Formation may be expansive."

7. Corrosive Soils

As outlined in the project Geotechnical Evaluation, soils that exceed the following Caltrans criteria are defined as corrosive: (1) more than 500 ppm chlorides; (2) more than 0.2 percent sulfates; and (3) pH levels of less than 5.5. While testing for corrosive soils was not conducted onsite, the project Geotechnical Evaluation notes that a number of local soil types have been classified as corrosive to ferrous metals, and concludes that "the potential for similar corrosive soils to occur at the project site is high." Long-term exposure of metal facilities such as reinforcing steel and subsurface pipelines to corrosive soils could potentially result in deterioration and eventual failure.

8. Subsidence

Potential impacts related to subsidence are typically associated with conditions such as groundwater (or other fluid) withdrawal and/or loading related to the placement of larger surface structures. Associated potential hazards include effects to surface and subsurface facilities such as pavement, structures/foundations, and utilities. The Otay Formation is not susceptible to subsidence. There are no activities in the project area that pump large amounts of groundwater; however, the surficial units on the site (alluvium, undocumented fill, and topsoil) are susceptible to minor amounts of subsidence.

9. Erosion

The project site includes a number of surficial materials susceptible to erosion and off-site sediment transport (sedimentation) hazards, such as alluvium/colluvium, topsoil, and fill. Extensive or prolonged erosion can result in effects such as damaging or destabilizing slopes, loss of topsoil, and deposition of eroded material in roadways or drainage structures. In addition, the off-site transport of sediment can potentially result in effects to downstream receiving water quality, such as increased turbidity and the provision of a transport mechanism for other contaminants that tend to adhere to sediment particles (e.g., hydrocarbons, with additional discussion of potential water quality effects related to erosion and sedimentation provided in Section 5.11).

10. Tsunamis and Seiches

Tsunamis (commonly referred to as tidal waves) are sea waves generated by sources such as underwater earthquakes or volcanic eruptions, and can generate impacts related to inundation in coastal zones. Based on the inland location and elevation of the project site, the project Geotechnical Evaluation concludes that potential inundation effects related to tsunamis are not a design consideration.

Seiches are defined as wave-like oscillatory movements in enclosed or semi-enclosed bodies of water such as lakes or reservoirs, and are most typically associated with seismic activity. Seiches can result in flooding damage and related effects (e.g., erosion) in surrounding areas from spilling or sloshing water, as well as increasing pressure on containment structures. While the Lake Property is in close proximity to Lower Otay Reservoir, the project Geotechnical Evaluation concludes that the potential for seiche-related effects on-site is considered low due to elevational differences.

5.8.2 Thresholds of Significance

Based on Appendix G of the CEQA Guidelines and related City criteria, impacts related to geology and soils would be significant if the project would:

- **Threshold 1:** Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault; strong seismic ground shaking; seismic-related ground failure, including liquefaction; and/or landslides.

- **Threshold 2:** Result in substantial soil erosion or the loss of topsoil.

- **Threshold 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, subsidence, liquefaction, or collapse.

- **Threshold 4:** Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code, creating substantial risks to life or property (with the UBC replaced by the IBC, and the definition of expansive soil now based on Section 1802.3.2 of the IBC and Section 1803A.5.3 of the CBC).

- **Threshold 5:** Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for disposal of wastewater.

5.8.3 Impact Analysis

The project Geotechnical Evaluation (Ninyo & Moore 2016a) identifies a number of potential geologic issues associated with proposed development at the Project site, as well as recommendations to address these concerns. Specifically, these recommendations assume that a detailed, site-specific geotechnical evaluation will be conducted prior to finalization of Project plans. This evaluation would include appropriate subsurface exploration, laboratory testing and field inspection/verification to further evaluate geologic conditions and provide additional information on the engineering characteristics of earth materials and associated conditions present within the site. From these data, the recommendations provided in the 2016 Geotechnical Evaluation regarding the design and construction of the Project facilities would be verified or modified as appropriate to ensure conformance with applicable industry and regulatory standards

(e.g., CBC, IBC and City criteria). In addition to identifying requirements for a detailed geotechnical analysis, the 2016 Geotechnical Evaluation identifies a number of recommendations related to individual geotechnical hazards within the site, with these considerations included in the following impact assessments as applicable.

A. Threshold 1: Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault; strong seismic ground shaking; seismic-related ground failure, including liquefaction; and/or landslides.

The following analysis considers potential impacts related to seismic activity that may occur in the Project area, including ground rupture, ground shaking, liquefaction, and landslides. As described in Section 5.8.2 above, the Project site does not encompass any known active or potentially active faults, and is not located within a designated Alquist-Priolo Fault Zone. Based on these conditions, potential impacts related to ground rupture from implementation of the Project would be less than significant; however, there are active faults in the vicinity of the Project (see Table 5.8-1), including the Rose Canyon Fault, and strong ground shaking could occur during a seismic event. The estimated ground acceleration values at the project site are 0.38g, which could potentially result in damage and related hazards to facilities such as structures, foundations, pavement and utilities. Implementation of appropriate design and construction measures to accommodate projected seismic loading, pursuant to applicable industry/regulatory standards (e.g., the IBC/CBC) would reduce potential impacts; however, impacts remain potentially significant (Impact 5.8-1a).

The majority of the Project site is underlain by dense formational materials with no shallow groundwater present, and is not considered susceptible to liquefaction and related hazards. While alluvial materials in the vicinity of Salt Creek (and potentially other on-site areas) may be subject to liquefaction and related effects during a nearby seismic event, project implementation would incorporate appropriate design and construction measures to address potential liquefaction and related hazards, pursuant to applicable industry/regulatory standards (e.g., the IBC/CBC), recommendations from the Project Geotechnical Evaluation, and pertinent updates from subsequent detailed geotechnical investigation as described above. Specifically, these measures may include standard efforts such as removal of unsuitable soils and replacement with engineered fill, soil densification (i.e., introducing cement to consolidate loose soils), use of appropriate foundation design to provide support (e.g., stone columns), use of subdrains in appropriate areas to avoid or reduce saturation, and appropriate foundation/utility design (e.g., post-tensioned foundations or flexible couplings for utility connections). As previously noted, site-specific conditions and remedial efforts associated with liquefaction and related hazards would be verified through City plan review and on-the-ground geotechnical observations and testing during project excavation, grading and construction activities (including detailed geotechnical investigation).

Although landslides have not been mapped on-site and were not observed during geotechnical evaluation, much of the Project site is classified as generally susceptible to landslides and other slope instabilities. As previously described, however, Project implementation would incorporate appropriate design and construction measures to address potential landslide and slope instability hazards based on industry/regulatory standards (e.g., the IBC/CBC), recommendations from the Project Geotechnical Evaluation, and pertinent updates from subsequent detailed geotechnical

investigation. Specifically, these measures may include standard efforts such as removal of slide masses and replacement with engineered fill, placement of buttress fills, or a combination of these efforts. As previously noted, site-specific conditions and remedial efforts associated with landslide and slope instability hazards would be verified through City plan review and on-the-ground geotechnical observations and testing during project excavation, grading and construction activities (including detailed geotechnical investigation). Nonetheless, grading activities associated with cut slopes have the potential to result in instabilities within the area and a potentially significant impact could occur (Impact 5.8-1b).

B. Threshold 2: Result in substantial soil erosion or the loss of topsoil.

The Project site includes rolling hills that slope southward and tributary drainages travel from the Project site towards the Otay River. Implementation of the Project would increase the potential for erosion and sedimentation both within and downslope of the site during construction and operation. Specifically, proposed activities may involve: (1) removal of surface stabilizing features (e.g., vegetation); (2) excavation of compacted materials; and (3) redeposition of excavated and/or imported material as backfill in proposed development areas. While graded/excavated areas and fill materials would be stabilized through efforts such as compaction and installation of structures/hardscape and landscaping, erosion potential would be higher in the short-term than for existing conditions. Developed areas would be especially susceptible to erosion between the beginning of grading/construction and the installation of pavement or establishment of permanent cover in landscaped areas. The off-site transport of sediment also could potentially result in effects to downstream receiving water quality, such as increased turbidity and the provision of a transport mechanism for other contaminants that tend to adhere to sediment particles (e.g., hydrocarbons). Additional discussion of potential water quality effects associated with Project-related erosion and sedimentation is provided in Section 5.11.

Erosion and sedimentation are not considered to be significant long-term concerns for the Project, as developed areas would be stabilized through installation of structures/hardscape and landscaping as part of Project design. The Project also would incorporate as part of Project design long-term water quality controls pursuant to City and NPDES guidelines, including (among other efforts) measures that would avoid or reduce off-site sediment transport. This would include efforts such as the use of bioretention basins, energy dissipators, irrigation controls and drainage facility maintenance (i.e., to remove accumulated sediment).

Short-term erosion and sedimentation impacts would be addressed through conformance with applicable elements of the NPDES and related City storm water standards. Specifically, this would entail implementing an appropriate Storm Water Pollution Prevention Plan (SWPPP) and related efforts, including erosion and sediment control best management practices (BMPs; refer to Section 5.11 for additional discussion of NPDES and City criteria) as part of Project design. Typical erosion and sediment control BMPs that may be required in the Project SWPPP include the following: (1) seasonal grading restrictions during the rainy season; (2) preparation and implementation of a Construction Site Monitoring Program (CSMP) and, if applicable, a Rain Event Action Plan (REAP) to provide enhanced erosion and sediment control measures prior to predicted storm events; (3) use of erosion control/stabilizing measures such as geotextiles, mats, fiber rolls, or soil binders; (4) use of sediment controls to protect the site perimeter and prevent off-site sediment transport, including measures such as silt fencing, fiber rolls, gravel bags,

temporary sediment basins, street sweeping, stabilized construction access points and sediment stockpiles, and use of properly fitted covers for sediment transport vehicles; (5) compliance with local dust control measures; (6) conducting appropriate BMP performance monitoring and as-needed maintenance; and (7) implementation of additional BMPs as necessary to ensure adequate erosion/sediment control and regulatory conformance.

In summary, impacts associated with soil erosion and topsoil loss associated with Project construction and operation would be potentially significant (Impact 5.8-2).

C. Threshold 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, subsidence, liquefaction or collapse.

Potential impacts from landslides, liquefaction, and related effects (including lateral spreading) are addressed above under Threshold 1. As noted therein, these potential impacts would be avoided through conformance with applicable regulatory/industry standards and geotechnical recommendations included as mitigation measures.

The Otay Formation and surficial units (alluvium, undocumented fill, and topsoil) underlaying the Project site could become unstable as a result of the Project. As a result, there is the potential for landsliding, lateral spreading, and/or collapse and impacts are considered to be potentially significant (Impact 5.8-3a).

Potential impacts related to subsidence and collapse from Project implementation would be less than significant, based on the following considerations: (1) subsidence is typically associated with conditions such as groundwater (or other fluid) withdrawal, with such activities not proposed as part of the Project and shallow groundwater generally not observed or expected to occur on site; (2) while subsidence effects can also be associated with loading related to placement of larger surface structures, the Project site is underlain by formational materials which are generally not subject to subsidence; and (3) potentially less stable materials present within the Project area (fill, topsoil, alluvium/colluvium, and portions of the Otay Formation/Fanglomerate facies) would be addressed through the required inclusion of geotechnical recommendations and conformance with applicable regulatory requirements (as described above and in the project Geotechnical Evaluation). Specifically, such measures would include provisions related to the removal/ replacement of unsuitable materials; appropriate composition and placement methodology (e.g., compaction) for materials used as backfill; and appropriate seismic, manufactured slope, retaining wall, drainage, structure, foundation, and pavement design, pursuant to standards from regulatory/industry sources including the City and CBC/IBC. Conformance with the described geotechnical recommendations and regulatory/industry standards would effectively avoid or reduce potential subsidence and collapse impacts below a level of significance.

An additional potential concern related to soil instability involves the presence of corrosive soils, as outlined in Section 5.8.1 above. Due to the potential presence of corrosive soils, the Project could result in potentially significant impacts (Impact 5.8-3b).

D. Threshold 4: Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code, creating substantial risks to life or property (with the UBC replaced by the IBC, and the definition of expansive soil now based on Section 1802.3.2 of the IBC and Section 1803A.5.3 of the CBC).

A number of surficial and underlying deposits within the project site exhibit generally high expansion potential, including topsoils and sediments associated with the Otay Formation. Soils documented within the Project site have a high expansion potential and development of structures on these soils could create substantial risks to life or property. As a result, impacts associated with potential soil expansion would be potentially significant (Impact 5.8-4).

E. Threshold 5: Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for disposal of wastewater.

All development under the proposed project would be served by the City of Chula Vista municipal sewer system. As a result, no septic tanks or alternative wastewater disposal systems are proposed, and no associated soil-related impacts would result from implementation of the Project.

5.8.4 Level of Significance Prior to Mitigation

A. Exposure to Seismic Related Hazards

Impact 5.8-1a: The Project is subject to potential seismic-related ground shaking that could result in a significant impact.

Impact 5.8-1b: Project grading activities could result in slope instabilities or landslides within the Project site and impacts prior to mitigation would be potentially significant.

B. Soil Erosion or Topsoil Loss

Impact 5.8-2: Impacts associated with soil erosion and topsoil loss associated with Project construction and operation would be potentially significant.

C. Slope Stability

Impact 5.8-3a: The Otay Formation and surficial units (alluvium, undocumented fill, and topsoil) underlaying the Project site could become unstable as a result of the Project. As a result, there is the potential for landsliding, lateral spreading, and/or collapse and impacts would be potentially significant.

Impact 5.8-3b: Soils documented within the Project site have a potential to be corrosive, which could create substantial risks to life or property. As a result, impacts associated with potential soil corrosion would be potentially significant.

D. Expansive Soils

Impact 5.8-4: Soils documented within the Project site have a high expansion potential and development of structures on these soils could create substantial risks to life or property. As a result, impacts associated with potential soil expansion would be potentially significant.

E. Septic Tank/Wastewater Disposal Systems

No significant impacts related to septic systems or alternative wastewater disposal systems have been identified for the Project and impacts would be less than significant.

5.8.5 Mitigation Measures

A. Exposure to Seismic Related Hazards

Project grading activities could result in seismic-related ground shaking (Impact 5.8-1a) and/or slope instabilities or landslides within the Project site (Impact 5.8-1b). Implementation of Mitigation Measures 5.8-1a through 5.8-1c would address these impacts:

5.8-1a **Site-specific Geotechnical Evaluation.** Prior to the issuance of any grading permit for the UID, the applicant shall have a detailed, site-specific geotechnical evaluation conducted prior to finalization of Project plans. This evaluation will include appropriate subsurface exploration, laboratory testing and field inspection/verification to further evaluate geologic conditions and provide additional information on the engineering characteristics of earth materials and associated conditions present within the site. The site-specific geotechnical evaluation will be submitted to the City for review and approval prior to Project construction. All measures and recommendations included in the site-specific geotechnical evaluation will be incorporated into the final design plans for the Project.

5.8-1b **Geotechnical Risk Reduction Measures.** Prior to the issuance of any grading permit for the UID, the applicant shall verify that the applicable recommendations in the Geotechnical Evaluation prepared by Ninyo & Moore, dated May 27, 2016, have been incorporated into the final project design and construction documents to the satisfaction of the City of Chula Vista Engineer. These recommendations address issues including soft ground, expansive soils, ground shaking, liquefaction, and shallow groundwater. Geotechnical review of grading plans shall include a review of all proposed storm drain facilities to ensure the storm water runoff would not interfere with the proposed geotechnical recommendations.

5.8-1c **Slope Factor of Safety.** Prior to the issuance of any grading permit for the UID, the City Engineer shall review and approve all slopes stability strategies to ensure all graded slopes have a minimum factor of safety of 1.5. Strategies to increase stability may include, but are not limited to, a stability buttress or sheer pins.

B. Soil Erosion or Topsoil Loss

Project construction and operation would result in significant impacts associated with soil erosion and topsoil loss (Impact 5.8-2). Implementation of Mitigation Measures 5.11-1a through 5.11-1f in Section 5.11 would address impacts related to soil erosion and topsoil loss.

C. Slope Stability

There is the potential for significant Project impacts associated with landsliding, lateral spreading, and/or collapse (Impact 5.8-3a) and/or corrosive soils (Impact 5.8-3b). Mitigation Measures 5.8-1a through 5.8-1c would address impacts related to slope stability.

D. Expansive Soils

Project impacts associated with potential soil expansion would be potentially significant (Impact 5.8-4). Mitigation Measures 5.8-1a and 5.8-1b would address impacts related to expansive soils.

E. Septic Tank/Wastewater Disposal Systems

No mitigation measures are required.

5.8.6 Level of Significance After Mitigation

A. Exposure to Seismic Related Hazards

Potential impacts related to seismic-related ground shaking (Impact 5.8-1a) and/or slope instabilities or landslides resulting from Project grading activities (Impact 5.8-1b) would be reduced to less than significant levels with implementation of Mitigation Measures 5.8-1a through 5.8-1c because the mitigation would require additional site-specific geotechnical evaluations and incorporation of risk reduction measures, including ground shaking and slope stability strategies, to meet the minimum factors of safety as required by regulations (i.e., the IBC and CBC). Implementation of the noted design measures and related efforts to ensure conformance with applicable industry/regulatory standards would be verified through City plan review and on-the-ground geotechnical observations and testing during project excavation, grading and construction activities. Based on these efforts, site-specific modifications to the described recommendations would be implemented as necessary to ensure conformance with all applicable regulatory requirements and industry standards. Implementation of and conformance with such recommendations and standards would effectively avoid or reduce potential seismic ground shaking hazards to less than significant levels.

B. Soil Erosion or Topsoil Loss

Significant impacts associated with soil erosion and topsoil loss from Project construction and operation (Impact 5.8-2) would be reduced to less than significant levels with implementation of Mitigation Measures 5.11-1a through 5.11-1f because the mitigation would require appropriate erosion and sediment control BMPs as part of development of future SWPPPs and compliance

with related City and NPDES requirements, which would include performance measures to reduce soil erosion to less than significant levels.

C. Slope Stability

Potential for significant Project impacts associated with landsliding, lateral spreading, and/or collapse (Impact 5.8-3a) and potentially corrosive soils (Impact 5.8-3b) would be reduced to less than significant levels with implementation of Mitigation Measures 5.8-1a through 5.8-1c because the mitigation would require additional site-specific geotechnical evaluations and incorporation of risk reduction measures, including slope stability and corrosive soils strategies, to meet at least the minimum factor of safety.

D. Expansive Soils

Project impacts associated with potential soil expansion (Impact 5.8-4) would be reduced to less than significant levels with implementation of Mitigation Measures 5.8-1a and -1b because the mitigation would require conformance with industry recommendations and standards related to expansive soils. Site-specific modifications to the described recommendations would be implemented as necessary to ensure conformance with applicable regulatory requirements and industry standards. Implementation of and conformance with such recommendations and standards, included as mitigation measures, would effectively avoid or reduce potential project-related impacts from expansive soils to less than significant levels.

E. Septic Tank/Wastewater Disposal Systems

Impacts associated with septic tanks and wastewater disposal systems would be less than significant without mitigation.

5.9 PUBLIC SERVICES

This section describes the public services that would serve the UID and evaluates the potential for impacts to public services due to implementation of the Project. Fire and emergency medical services are addressed in subsection 5.9.1; police services are addressed in subsection 5.9.2; schools in subsection 5.9.3; libraries in subsection 5.9.4; and parks, recreation, open space, and trails in subsection 5.9.5.

This EIR tiers from the Previous Environmental Review Documents, as described in Chapter 2.0, *Introduction*. Section 5.7, *Public Services*, of the Final SEIR for the GPA/GDPA (EIR 09-01) addressed existing conditions and potential impacts, related to public services that would result from implementation of the land uses proposed in the GPA/GDPA, including the UID. The SEIR concluded that impacts to fire, police, school, library, and parks and recreation services would be less than significant with compliance with General Plan and GDP policies that require public services to be provided concurrent with need. The 2001 SEIR similarly concluded that impacts would be less than significant based on compliance with public facilities requirements. The public services analyses in this section updates the applicable information in the SEIRs, which are incorporated by reference. There were no mitigation measures identified for public services in previous documents and therefore no previous mitigation is incorporated by reference in this section.

5.9.1 Fire and Emergency Medical Services

5.9.1.1 Existing Conditions

A. Regulatory Framework

1. Federal Regulations

There are no federal regulations regarding the provision of fire services.

2. State Regulations

a. Uniform Fire Code

The Uniform Fire Code contains regulations relating to construction, maintenance, and use of buildings. Topics addressed in the code include fire department access, fire hydrants, automatic storage and use, provisions intended to protect and assist fire responders, industrial processes, and many other general and specialized fire-safety requirements for new and existing buildings and the surrounding premises. The code contains specialized technical regulations related to fire and life safety.

b. California Health and Safety Code

State fire regulations are set forth in Sections 13000 et seq. of the California Health and Safety Code, include regulations for building standards (as also set forth in the California Building Code), and fire protection and notification systems, fire protection devices such as extinguishers and smoke alarms, high-rise building and childcare facility standards, and fire suppression training.

c. California Occupational Safety and Health Administration

In accordance with California Code of Regulations, Title 8, Sections 1270, Fire Prevention, and 6773, Fire Protection and Fire Equipment, the California Occupational Safety and Health Administration (Cal/OSHA) has established minimum standards for fire suppression and emergency medical services. The standards include, but are not limited to, guidelines on the handling of highly combustible materials, fire hosing sizing requirements, restrictions on the use of compressed air, access roads, and the testing, maintenance, and use of all firefighting and emergency medical equipment.

3. Local Regulations

a. City of Chula Vista General Plan

The analysis of existing fire protection and emergency medical services is based on information provided by the Chula Vista General Plan and the City of Chula Vista Fire Department. The potential impacts on fire protection and emergency medical services and facilities as a result of the proposed project were assessed and described below.

The General Plan recognizes that fire protection and emergency services will need to expand as the city's population grows. The Public Facilities and Services Elements includes objectives to maintain sufficient levels of fire protection and emergency medical service to protect public safety and property (Objective PFS 5) and provide adequate fire protection services to newly developing and redeveloping areas of the city (Objective PFS 6). Additionally, Growth Management Objective GM 1 and Policy GM 1.11 encourage withholding discretionary approvals and subsequent building permits from projects demonstrated to be out of compliance with applicable threshold standards for fire and emergency medical services.

The General Plan identifies the current and planned fire station locations in Otay Ranch. Fire Station No. 7 at 1640 Santa Venetia Street and Fire Station No. 8 at 1180 Woods Drive are the closest existing stations to the project site. Fire Station No. 10 is proposed within the Millenia development and would be the closest station upon completion.

b. Otay Ranch General Development Plan

The purpose of the fire protection and emergency facility section of the Otay Ranch GDP is to establish goals, objectives, policies, standards, and processing requirements for the timely provision of these facilities. As stated therein, the goal is to provide protection to the Otay Ranch project area and surrounding communities from loss of life and property due to fires and medical emergencies. The GDP also identified several fire stations necessary to serve the Otay Ranch Project Area at build-out. In accordance with ongoing demand, one station (Fire Station No. 7) has been developed to serve Otay Ranch. The Otay Ranch GDP also shows a fire station located within the Millenia development (Fire Station No. 10). Fire Station No. 10 is designated to meet projected growth within the Otay Ranch under the build-out of the Millenia development. The station is not yet built. The following GDP objective and policies pertain to fire service:

- Objective: Provide sufficient fire and emergency services facilities to respond to calls within the Otay Ranch urban communities: within a 7-minute response time in 85 percent of the cases.

- Policies:

    - Otay Ranch SPA plans shall include Emergency Disaster Plans to become operative during periods of major emergency.
    - Otay Ranch shall participate in cooperative agreements with urban and rural emergency services providers.
    - Incorporate the Otay Ranch project area into existing regional disaster preparedness programs.
    - Otay Ranch shall site fire and emergency services facilities consistent with the following factors:
        - Ability to meet travel/response time policies;
        - Proximity to a pool of volunteer firefighters for service within the unincorporated areas, when appropriate;
        - Ability of the site to support the appropriate facility to serve current and future development in the intended service area;
        - Distances from other fire stations, including those operated by neighboring districts;
        - Safe access to roadways in emergency responses;
        - Special needs for fire suppression, and emergency services, including needs created by recreation areas and industrial land uses;
        - Avoid close proximity to fault traces; and
        - Ability to meet any adopted local community facility level standard, if appropriate.

    - Consideration shall be given to shared law enforcement and fire service facilities such as public safety "storefronts" within village centers, training rooms, and equipment storage.
    - Otay Ranch shall evaluate the provision of fire suppression sprinkler systems for residential development within the project area as part of SPA plans.
    - Fire protection and emergency services facilities shall be available or will be available concurrent with need.
    - In areas lacking local public structural fire protection and within the sphere of influence of a fire protection agency, approval of Otay Ranch discretionary applications shall be conditioned on the annexation of that agency.

c. Fire Facility, Equipment, and Deployment Master Plan

The Chula Vista Fire Facility, Equipment, and Deployment Master Plan (FFMP) was adopted by the City in January 2014. It sets forth a plan for a Fire/Emergency Medical Services delivery system within Chula Vista that can, upon build-out, meet the expected growth of the City. The FFMP recommends the expansion of one existing fire station and the addition of three new fire stations for a total of 11 fire stations. Two of the new stations are within Otay Ranch, one in Village 8 West, the other in the Millenia development (consistent with the Otay Ranch GDP and EUC SPA Plan [EUC is the former name of the Millenia project]), while the third fire station would serve the Bayfront. Per the FFMP, additional truck companies will be needed within the system and deployment of existing resources would need to take place as they are added. All future growth projected in the City will be properly serviced with the station locations and configuration outlined within the plan.

d. Chula Vista Municipal Code Growth Ordinances

CVMC Section 19.80.030 (Controlled Residential Development) is intended to ensure that new development would not degrade existing public services and facilities below acceptable standards for fire and other public services. The preparation of a Public Facilities Finance Plan (PFFP) is required in conjunction with the preparation of the SPA Plan to ensure that the development of the project is consistent with the overall goals and policies of the General Plan and would not degrade public services. Similarly, Section 19.09 of the CVMC (Growth Management) provides policies and programs that tie the pace of development to the provision of public facilities and improvements. Section 19.09.040B specifically requires that "properly equipped and staffed fire and medical units shall respond to calls throughout the city within 7 minutes in 80 percent of the cases." Section 19.09 also requires a PFFP and the demonstration that public services, such as fire services, meet the growth management program's quality of life threshold standards.

B. Existing Fire Protection and Emergency Services

Fire protection and emergency services for the city of Chula Vista are provided by the Chula Vista Fire Department (CVFD). The CVFD employs approximately 120 personnel. There are currently nine fire stations that service a population of approximately 257,989 people (SANDAG 2016) and an area covering over 52 square miles. According to the Chula Vista Growth Management Oversight Committee (GMOC) 2015 Annual Report, in fiscal year 2014, the CVFD received approximately 11,721 calls for service (Chula Vista 2015a). Of these calls, 76.5 percent were responded to within 7 minutes during the 2014 fiscal year. The current Chula Vista Growth Management Ordinance (GMO) threshold standard for emergency fire response is 7 minutes or less in 80 percent of calls. The CVFD did not meet the GMO threshold standard in fiscal year 2014.

Table 5.9-1, *City of Chula Vista Fire Station Facilities*, lists the locations of CVFD stations. Table 5.9-2, *Chula Vista Fire Department Staffing*, summarizes staffing for the department. The Main Campus Property of the UID is currently located within the response district of Fire Station No. 7. Located at 1640 Santa Venetia Street in Otay Ranch Village 2, this station is approximately 1.5 miles from the northwest edge of the UID. Distances to interior locations within the Main Campus Property of the UID increase as much as a mile due to the geographic size of the project site. The Lake Property of the UID is within the response district of Fire Station No. 8, located at

1180 Woods Drive, approximately 5.5 miles from Station No. 7. CVFD Fire Station No. 7 serves the communities of Otay Ranch, Village of Heritage, Heritage Hills, and the Village of Countryside. Fire Station No. 8 serves Eastlake, Rolling Hills Ranch, San Miguel Ranch, Tour De Elegance, and The Woods. 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 No. 7 is the current battalion headquarters for the eastern part of the City. The UID would ultimately be served by the future Fire Station No. 10 planned for the Millenia development (Chula Vista 2014).

The CVFD currently has mutual aid agreements with Bonita-Sunnyside, Imperial Beach, National City, San Diego, and San Diego County.

Table 5.9-1 CITY OF CHULA VISTA FIRE STATION FACILITIES

Fire Station	Location	Service Area	Apparatus
Station No. 1	447 F Street Chula Vista, CA 91910	Downtown, Bayfront, Northwest City, Interstates 5, 54, and 805/North	Truck 51, Engine 51, Battalion 51
Station No. 2	80 East J Street Chula Vista, CA 91910	Central City, Interstate 805/Central, Hilltop, Country Club	Engine 52
Station No. 3	1410 Brandywine Avenue Chula Vista, CA 91911	Interstate 805, East Main Street, South/East Chula Vista	US&R 53, Tender/Trailer
Station No. 4	850 Paseo Ranchero Chula Vista, CA 91910	Rancho Del Rey, Bonita Long Canyon, Southwestern College	Engine 54
Station No. 5	391 Oxford Street Chula Vista, CA 91911	Montgomery, Harborside, Otay, Interstate 5/South Southwest City, West/Main Street	Engine 55
Station No. 6	605 Mt. Miguel Road Chula Vista, CA 91914	Eastlake, Rolling Hills Ranch, San Miguel Ranch	Engine 56, Brush 56
Station No. 7	1640 Santa Venetia Street Chula Vista, CA 91913	Otay Ranch, Village of Heritage, Heritage Hills, Village of Countryside	Engine 57, Truck 57, Battalion 52
Station No. 8	1180 Woods Drive Chula Vista, CA 91911	Eastlake, Rolling Hills Ranch, San Miguel Ranch, Tour De Elegance, The Woods	Engine 58
Station No. 9	266 East Oneida Chula Vista, CA 91911	Sunbow, Woodlawn Park	Engine 59

Source: Chula Vista Fire Department 2016.

Table 5.9-2 CHULA VISTA FIRE DEPARTMENT STAFFING

Position	Number of Employees
Deputy Fire Chief	1
Facility & Supply Specialist	1
Fire Battalion Chief	7
Fire Captain	35
Fire Chief	1
Fire Division Chief	1
Fire Engineer	34
Fire Inspector/Investigator	6
Fire Prevention Engineer/Investigator	1
Fire Prevention Aide	1
Firefighter	34
Firefighter/Paramedic	8
Principal Management Analyst	1
Public Safety Analyst	1
Senior Administrative Secretary	1
Senior Fire Inspector	1
Senior Office Specialist	1
Training Programs Specialist	1
TOTAL	**136**

Source: Chula Vista Fire Department 2016

C. Emergency Medical Services

Emergency medical services for the city of Chula Vista are contracted to the American Medical Response, the largest medical transportation company in the United States. The American Medical Response ambulance station located closest to the project area is at 861 Otay Lakes Road. There are four American Medical Response units that provide paramedics with emergency medical training to Chula Vista exclusively. Currently two full-time units are stationed within the city limits and are dedicated to Chula Vista, while two other full-time units are shared with other cities (Chula Vista 2009b). The Chula Vista Fire Department is also providing an Advance Life Support (ALS) program to provide residents with the most appropriate emergency medical care in a timely manner.

5.9.1.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines and the City of Chula Vista, impacts to fire and emergency medical services would be significant if the proposed project would:

- **Threshold 1:** Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire protection and emergency services.

- **Threshold 2:** Further reduce the ability of properly equipped and staffed fire and medical units to respond to calls throughout the City within 7 minutes in 80 percent of the calls.

5.9.1.3 Impact Analysis

A. Threshold 1: Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for fire protection and emergency services.

The Project would result in an increase in demand for fire services because the land use would change from vacant land to occupied development that would require fire protection and emergency services, as described in more detail under the discussion of Threshold 2. The UID SPA Plan does not identify any new fire protection or emergency medical service facilities within the Main Campus Property or the Lake Property. As such, it is anticipated that fire protection and emergency services would be provided by nearby facilities, including existing Fire Station Nos. 7 and 8 for the Main Campus Property and Lake Property, respectively. Planned fire facilities in nearby areas, including the Millenia development and Village 8 West, would also likely serve the Project site, if constructed.

The environmental impact of construction of the Millenia (formerly EUC) development fire station (Fire Station 10) at the southeastern corner of Streets "A" and "F" on a 1.07-acre site is addressed in the 2009 EUC Final EIR (SCH #2007041074). As discussed in the Final EUC EIR, construction impacts related to air, noise, cultural resources, biological resources, and hydrology and water quality would be less than significant related to development of the fire station.

Similarly, the environmental impacts associated with planned Fire Station 12 in Village 8 West have been analyzed in the Village 8 West EIR, and associated impacts would be less than significant.

The UID SPA Plan does not specify the construction of government facilities and would rely upon fire services from Fire Stations 7 and 8 until a fire station is constructed within proximity, such as within the Millenia development and/or Village 8 West. However, the development of fire stations in the Millenia development and Village 8 West have been analyzed for potential impacts and determined to be less than significant during construction. Impacts related to the provision of new or physically altered fire and emergency facilities are expected to remain less than significant.

Threshold 2: Further reduce the ability of properly equipped and staffed fire and medical units to respond to calls throughout the City within 7 minutes in 80 percent of the calls.

Service level requirements could, in the absence of additional fire facilities and resources improvements, cause a decline in the CVFD response times and capabilities for the Project. The Project represents a substantial increase in service demand due to the types of structures and land uses and the number of people living in or using the UID. The on-site population would vary by time of year, week, and day. The Project's anticipated call volume was evaluated using the

maximum dwelling unit yield and gross square footage permitted by the UID SPA Plan. The proposed maximum development area for the UID is 10,066,200 gross square feet that would support a total of 34,000 people, including a mix of students, faculty, staff, residents, and retail/office workers. Student enrollment at Project buildout would be approximately 20,000 students with an additional 6,000 academic and staff employees. The approximate resident population is 5,400 students and 6,000 non-student residents within 2,000 market-rate units. Innovation uses would support up to 8,000 jobs. The calculated total of 34,000 people is an aggregate total, which combines all phases and all uses together, and assumes they are all on the Project site at one time.

The closest fire station (Station 7) was used for service demand evaluation in the FPP as it provides perspective for the potential impacts from buildout of the Main Campus Property, where the majority of the population would be located. Engine 57 responded to 1,512 calls and Truck 57 responded to 393 calls during 2016, primarily medical emergencies (67.8 percent) (DUDEK 2017). This equates to an average of 4 calls per day for Engine 57 and 1.1 calls per day for Truck 57. It is noted that construction of planned fire stations in the area would shift calls for a better balance among the UID proximal stations.

The estimated incident call volume of the Project is based on a conservatively calculated estimate from the maximum potential number of additional persons that would be expected on site. This analysis indicates the "worst-case" scenario, as calculated call volumes utilize the potential maximum population, even though a large portion of the population would not be on site during evening, night, and early morning hours. As summarized in Table 5.9-3, *Calculated Call Volume Associated with the Project*, using the CVFD estimate of 74 annual calls per 1,000 population, the Project's estimated 34,000 people would generate a very conservatively calculated 2,516 calls per year (about 6.9 calls per day), roughly 68 percent of which (1,705 call per day) is expected to be medical emergencies, based on past call statistics (DUDEK 2017).

Table 5.9-3 CALCULATED CALL VOLUME ASSOCIATED WITH THE PROJECT

Type of Call	Per Capita Call Generation Factor	Number of Estimated Annual Calls
Fire Calls	1.9%	47.8
EMS Calls	67.8%	1,705.8
Rescue Calls	0.33%	8.3
Other Calls	29.97%	754.0
TOTAL	**100%**	**2,516**

Source: DUDEK 2017

The addition of nearly seven calls per day to a fire station that currently responds to approximately 5.1 calls per day is significant. Given that the actual call volume is estimated to be lower than 6.9 because 26,600 of the 34,000 persons analyzed would not be on-site during nighttime hours, and the additional fire response resources associated with planned new fire stations, it is anticipated that the Project calls can be absorbed and would not require additional fire station resources beyond existing and planned fire stations and ambulance coverage. With the addition of two planned fire

stations in the Project area,[1] and the currently low call volume at Station 7, the additional calls associated with Project buildout can be absorbed and still result in acceptable emergency response.

Station 7 is currently considered approximately average based on their roughly five or fewer calls per day. For perspective, a typical station averages around five calls per day and a busy station responds to about 10 calls per day.

The CVFD did not meet the Chula Vista Growth Management Program's Fire and Emergency Medical Services GMO threshold standard of responding to 80 percent of calls within 7 minutes in fiscal year 2014. According to the 2015 GMO Annual Report, the CVFD responded to 76.5 percent of calls within 7 minutes in fiscal year 2014. Project build-out would result in a residential population of approximately 11,400 people (comprising 5,400 students and 6,000 non-students within 2,000 market-rate units) and approximately 10 million square feet of development. This increase in residences and university-related facilities would result in an increase in demand for fire and emergency medical services, and an increase in demand for water for fire protection. An increase in demand for fire and emergency medical services could also result in increased response times.

Fire services and implementation of the CVFD's Fire Station Master Plan, including Fire Station #10, are funded through development impact fees collected as part of the Chula Vista Public Facilities Development Impact Fee (PFDIF) Program. Implementation of the Village 9 and Village 10 SPA Plans require the collection of the PFDIF. The PFDIF addresses the Project's proportional impact on capital facilities, such as structures and equipment, associated with the fire protection. It does not address the impact associated with operations and maintenance for those facilities. It is the City's policy to use public funds such as property taxes, sales taxes, and fees generated by the Project to cover the incremental costs associated with providing fire services. Development within Villages 9 and 10 would be required to pay the PFDIF, as well as all future taxes and fees adopted by the City to cover fire protection services.

The Chula Vista City Council, as part of the City's Growth Management Program, adopted quality of life threshold standards for eleven public facility and service topics, including fire and emergency medical services. Adherence to these citywide standards is intended to preserve and enhance both the environment and residents' quality of life as growth occurs. The GMOC was created to provide an independent, annual, review of the effectiveness of the General Plan in regard to development and growth-oriented issues; to make determinations in regard to the impact of development of the "quality of life" in Chula Vista, using adopted threshold criteria as a basis; and to publish findings and make recommendations. Should the GMOC determine that the growth management threshold standard is not being satisfied because of the impacts of growth, the City Council shall consider adopting measures to bring the condition into conformance, prior to issuing further building permits.

The City's Growth Management Program also requires new development to pay its fair share to maintain the quality of life standards for the city. The PFFP for the Village 9 and 10 developments

[1] Fire Stations 10 and 12 are planned to be constructed in the Millenia development and Village 8 West, respectively. The environmental impacts associated with these planned fire stations have been analyzed in the Millenia (formerly EUC) and Village 8 West EIRs, as described above under Threshold 1.

includes fiscal impact analysis to determine the revenues and costs expected to be generated by new development. Net revenues are used to finance costs associated with operations and maintenance associated with the public services required to serve the Project. Additional fire equipment, staff and facilities required to serve the increased population proposed by the UID is identified in the Village 9 and 10 PFFPs. The PFFPs ensure that Project development will not adversely impact the City's quality of life standards. A combination of PFDIF fees from the Village 9 and 10 applicants, implementation of the PFFPs, and compliance with existing City policies and mechanisms would ensure that the GMO threshold standard is achieved. This impact would be potentially significant if these mechanisms are not enforced. Therefore, mitigation is required.

The Project would create demand for water for fire protection that would result in an adverse impact if adequate water supply would not be available to provide the necessary fire flows for the site. The Project's water demand is addressed in Section 5.15, *Public Utilities*. As discussed in this section, required fire flows and durations are included in the total water demand calculated for the Project (840,688 gpd total). Fire flow requirements for each building within the SPA Plan area would be a function of building design including height and structure type.

The Project would be required to prepare and obtain approval of a Subarea Area Management Plan (SAMP) which, among other things, addresses fire flow requirements (e.g. flow rate, duration, hydrant spacing, etc.). As part of the building permit process, Chula Vista will evaluate the fire flow requirements for each project in accordance with adopted Fire Code and approved SAMP. Approval of the SAMP prior to approval of the first final map will ensure that adequate and appropriate infrastructure is developed to serve the Project's water needs, including fire flows for individual buildings.

In summary, the "worst-case" estimated calls per day generated by the Project could have a significant impact on the response capability of the existing CVFD fire stations; however, with development and operation of the planned fire stations in the Project area would ensure that fire and emergency medical response calls at the Project site can be adequately addressed by the CVFD. Therefore, Project impacts to fire and emergency medical responses would be less than significant if the planned fire stations are operational when needed at the appropriate phases of the Project. However, the Project's increase in demand on fire and emergency medical services would be significant if fully operational and appropriately equipped and staffed fire stations are not provided commensurate with the demand on fire and emergency medical services. Accordingly, if planned fire stations are not operational in a commensurate manner, impacts would be significant (Impact 5.9.1-1).

5.9.1.4 Level of Significance Prior to Mitigation

Impact 5.9.1-1: The Project's increase in demand for fire and emergency medical services would be significant, if fully operational and appropriately equipped and staffed fire stations are not provided commensurate with the demand for fire and emergency medical services.

5.9.1.5 Mitigation Measures

The Project's increase in demand for fire and emergency medical services would be significant, if fully operational and appropriately equipped and staffed fire stations are not provided commensurate with the demand for fire and emergency medical services (Impact 5.9.1-1). The Project would implement Mitigation Measures 5.9.1-1a through 5.9.1-1d to reduce impacts:

5.9.1-1a **Growth Management Program's Fire and Emergency Medical Service Threshold Standard.** The City shall continue to monitor the Chula Vista Fire Department responses to emergency fire and medical calls and report the results to the Growth Management Oversight Commission on an annual basis.

5.9.1-1b **Public Facilities Development Impact Fees.** Prior to the approval of each building permit, the Project applicant(s) shall pay a PFDIF in accordance with the fees in effect at the time of building permit issuance and phasing approved in the Public Facilities Finance Plan. Subject to approval of the City Council, in lieu of paying the required impact fee, the applicant(s) may satisfy that requirement through a written agreement, by which the applicant(s) agrees to either pay the fee or build the facility in question, pursuant to the terms of the agreement.

5.9.1-1c **Fire Code Compliance.** Prior to the approval of each building permit and to the satisfaction of the Chula Vista Fire Marshal, the Project shall meet the provisions of the current City-adopted California fire code. In meeting said provisions, the Project shall meet the minimum fire flow requirements based upon construction type and square footage.

5.9.1-1d **Fuel Modification Easements.** Prior to approval of a Final Map requiring off-site fuel modification, as determined the City Fire Marshal, the applicant shall secure any required permits and/or access easements necessary to perform the required brush abatement activities contained in the UID Fire Protection Plan, to the satisfaction of the City's Fire Marshal and Development Services Director.

5.9.1.6 Level of Significance After Mitigation

Impacts related to demand for fire and emergency medical services (Impact 5.9.1-1) would be reduced to less than significant levels with implementation of Mitigation Measures 5.9.1-1a through 5.9.1-1d because the mitigation would require compliance with the City's Fire Code, the payment of public facility fees, and the satisfaction of fuel modification requirements per the Fire Protection Plan prior to future development approvals, and impacts on fire and emergency medical services would be reduced to less than significant.

5.9.2 Police Services

5.9.2.1 Existing Conditions

A. Regulatory Framework

1. Federal Regulations

There are no federal regulations regarding the provision of police services.

2. State Regulations

There are no state regulations regarding the provision of police services.

3. Local Regulations

a. City of Chula Vista General Plan

The Chula Vista General Plan recognizes that police services will need to expand as the city's population grows. The Public Facilities and Services Element of the General Plan includes objectives to maintain sufficient levels of police service to protect public safety and property (Objective PFS 5) and to provide adequate police protection services to newly developing and redeveloping areas of the city (Objective PFS 6). Additionally, Growth Management Objective GM 1 and Policy GM 1.11 encourage withholding discretionary approvals and subsequent building permits from projects demonstrated to be out of compliance with applicable threshold standards for police services.

b. Otay Ranch General Development Plan

The purpose of the Law Enforcement Facilities section of the Otay Ranch GDP is to establish goals, objectives, policies, standards, and processing requirements for the timely provision of law enforcement facilities. As stated therein, the goal is to protect life and property and prevent the occurrence of crime. The Otay Ranch GDP also states that one central police station, located in the Millenia development, is necessary to serve the Otay Ranch project area at build-out.

c. Chula Vista Municipal Code Growth Ordinance

CVMC Section 19.80.030 is intended to ensure that new development would not degrade existing public services and facilities below acceptable standards for police protection. The preparation of a PFFP was prepared for the nearby Village 9 and 10 developments, as required in conjunction with the preparation of those SPA Plans. Those PFFPs ensure that the development of the UID is consistent with the overall goals and policies of the General Plan and would not degrade public services. Similarly, Section 19.09 (Growth Management) of the CVMC provides policies and programs that tie the pace of development to the provision of public facilities and improvements. Section 19.09.040A specifically requires that 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. Section 19.09 also requires that properly equipped and staffed police units shall response to 57 percent of Priority Two urgent

calls within 7 minutes and maintain an average response time of 7 minutes and 30 seconds or less. Finally, Section 19.09 requires a PFFP and the demonstration that public services, such as police services, meet the Growth Management Program's quality of life threshold standards.

B. Existing Police Services

The Chula Vista Police Department (CVPD) provides police protection services for the Otay Ranch area from its existing police facility at 315 Fourth Avenue in downtown Chula Vista, approximately 7.5 miles from the UID. The CVPD is currently authorized for 329 employees (Chula Vista 2015b), a ratio of approximately one sworn personnel per 1,000 residents. At least one patrol car serves each beat in the city 24 hours a day. As the City continues to grow and the demand for police services increases, the CVPD regularly evaluates beat structure. In addition, the CVPD participates in regional mutual aid agreements (Chula Vista 2009b).

The 2015 GMOC Annual Report indicates that the CVPD responded to 79.3 percent of Priority One emergency calls within 7 minutes and maintained an average response time for Priority One calls of 4 minutes 57 seconds during fiscal year 2014. This did not meet the GMO threshold standard requiring properly equipped and staffed police units to respond to 81 percent of Priority One emergency calls within 7 minutes, but did meet the threshold for average response time of 5 minutes 30 seconds. During the same period addressed in the 2015 GMOC Annual Report, the CVPD responded to 42.7 percent of Priority Two urgent calls within 7 minutes and maintained an average response time for Priority Two calls of 11 minutes 26 seconds. This did not meet the GMO threshold standard that requires properly equipped and staffed police units to respond to 57 percent of Priority Two urgent calls within 7 minutes with an average response time of 7 minutes and 30 seconds.

5.9.2.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, the project would result in a significant impact to police protection services if it would:

- **Threshold 1:** Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for police protection services.

- **Threshold 2:** Exceed the City's growth management threshold standard to respond to Priority One emergency calls throughout the city (within 7 minutes in 81 percent of the cases and an average response time to all Priority One calls of 5.5 minutes or less); and/or exceed the City's growth management threshold standard to respond to Priority Two urgent calls throughout the city (within 7 minutes in 57 percent of cases and an average response time to all Priority Two calls of 7.5 minutes or less).

5.9.2.3 Impact Analysis

A. Threshold 1: Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause

significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for police protection services.

The Project would result in an increase in demand for police services because the land use is changing from vacant land to occupied development that would require police protection. The UID SPA Plan does not identify any new police facilities within the Main Campus Property or the Lake Property. As such, it is anticipated that police protection would be provided by the existing police facility at 315 Fourth Avenue in downtown Chula Vista. Because there would be no new facilities, no impacts related to construction of new facilities would occur.

B. Threshold 2: Exceed the City's growth management threshold standard to respond to Priority One emergency calls throughout the City (within 7 minutes in 81 percent of the cases and an average response time to all Priority One calls of 5.5 minutes or less); and/or exceed the City's growth management threshold standard to respond to Priority Two urgent calls throughout the City (within 7 minutes in 57 percent of cases and an average response time to all Priority Two calls of 7.5 minutes or less).

As stated above under Threshold 1, the Project would result in an increase in demand for police services. The CVPD did not meet the growth management response time threshold for Priority One or Priority Two calls in Fiscal Year 2014. Development of the Project would increase the demand for police services as a result of increased population and development density. Demand for police services would increase response times due to a potential increase in the frequency of police calls and contacts. Although population is only one factor of many that generate a demand for police services, it is the best estimate for the project's need for police services given current available information. To estimate the calls for service for different land use types, the CVPD uses local or regional per acre (or per unit) averages for similar properties or areas.

The central police station at Fourth Avenue and F Street is sufficient to meet the law enforcement needs created by the increased demand associated with the Project because patrol officers respond to calls for service from the field rather than a fixed station. Although police substations would be a permitted use in the SPA Plan, construction is not required for several reasons. A substation would not reduce service response times because patrol officers respond to calls for service from the field rather than from a fixed station. Additionally, the cost to build a substation was estimated at over $15 million (Chula Vista 2009b).

The CVPD does not currently meet the GMO response time thresholds for Priority One or Two calls. The Project would incrementally increase Priority One and Two calls, which could make meeting the priority threshold more difficult. Additional staffing and equipment would be required to bring the CVPD in compliance with the Priority Two call threshold.

Implementation of the Villages 9 and 10 projects required the collection of PFDIFs. The PFDIFs addressed those projects' proportional impact on capital facilities, such as structures and equipment, associated with the police protection. These funds from these PFDIFs would be used to address the UID SPA Plan impacts as well. They do not address the impact associated with operations and maintenance for those facilities. Public funds such as property taxes, sales taxes, and fees generated by the Project would be used to cover the incremental costs associated with providing police services. The PFFPs for Villages 9 and 10 included a fiscal impact analysis to

determine the revenues and costs expected to be generated by the development. Net revenues are used to finance costs associated with operations and maintenance associated with the public services required to serve the Project.

The SPA Plan requires safety features such as clearly defined and readily identifiable pedestrian entrances to parking structures, stairwells, and elevators. These areas would be designed to be safe and user-friendly and to allow effective surveillance. Additionally, the use of construction materials and design approaches that reduce interior noise levels in habitable rooms may reduce calls to the police for activities that generate a high noise level, such as parties, outdoor events, or people conversing in the street.

According to the Growth Management Oversight Commission (GMOC) Annual Report dated May 5, 2016, the response thresholds for Priority One calls were not met during the threshold review period from July 1, 2014 to June 30, 2015. The CVPD fell short of the Priority 1 One calls threshold by 9.8 percent. The threshold for Priority Two calls during the same period was also not met. The Priority Two calls threshold has not been met for 18 consecutive years.

According to the GMOC report, police response time is just one measure of how law enforcement services are keeping pace with growth. The City has implemented measures in an attempt to improve police response times. These measures include better education and communication within the CVPD regarding the GMOC threshold standards, as well as utilization of technological advances. Two measures that relate to the ability of the CVPD to maintain the quality of life and which are growth related are maintaining adequate staffing and reducing false alarms.

Although the CVPD has engaged in several initiatives to extend the reduction in response times, the CVPD reported to the GMOC that the drop below the threshold is due to chronic low staffing in the Patrol Division.

The combination of PFDIF fees from the applicant, implementation of the PFFP, and existing City policies and mechanisms would ensure that implementation of the UID SPA Plan does not incrementally decrease the CVPD's ability to meet the GMOC threshold standard for Priority Two calls, or maintain compliance with the threshold for Priority One calls. Regardless, the Project would result in an increase in service population that may adversely affect the City's police service standard, if additional police officers are not provided commensurate with demand. Therefore, the Project's impact related to the demand for police services would be potentially significant (Impact 5.9.2-1).

5.9.2.4 Level of Significance Prior to Mitigation

Impact 5.9.2-1: The Project would result in an increase in service population that may adversely affect the City's police service standard if additional police officers are not provided commensurate with demand.

5.9.2.5 Mitigation Measures

The Project's impact related to the demand for police services would be potentially significant (Impact 5.9.2-1). The Project would implement Mitigation Measures 5.9.2-1a and 5.9.2-1b to reduce impacts:

5.9.2-1a Public Facilities Development Impact Fees. Prior to the issuance of each building permit for any residential dwelling units, the Project applicant(s) shall pay a PFDIF in accordance with the fees in effect at the time of building permit issuance and phasing approved in the Public Facilities Finance Plan, unless stated otherwise in a separate development agreement.

5.9.2-1b Growth Management Program's Police Threshold Standard. The City shall continue to monitor the Chula Vista Police Department responses to emergency calls and report the results to the Growth Management Oversight Commission on an annual basis.

5.9.2.6 Level of Significance After Mitigation

Impacts related to demand for police services (Impact 5.9.2-1) would be reduced to less than significant levels with implementation of Mitigation Measures 5.9.2-1a ~~through~~ and 5.9.2-1b~~d~~; with mitigation, the Project would contribute its fair share to increasing the staffing levels of the CVPD, as necessary to meet the significance threshold.

5.9.3 Schools

5.9.3.1 Existing Conditions

A. Regulatory Framework

1. Federal Regulations

There are no federal regulations regarding the provision of school services.

2. State Regulations

a. California Education Code

The California Code of Regulations (CCR), Title 5, Education Code governs all aspects of education within the state. The California Education Code authorizes the California Department of Education (CDE) to develop site selection standards for school districts which require districts to select a site that conforms to certain net acreage requirements established in the CDE's 2000 School Site Analysis and Development guidebook. The guide includes the assumption that the land purchased for school sites will be in a ratio of approximately 2:1 between the developed grounds and the building area. If the "availability of land is scarce and real estate prices are exorbitant," the site size may be reduced. CDE policy states that if a school site is less than the recommended acreage required, the district shall demonstrate how the students will be provided an adequate educational program, including physical education, as described in the district's adopted course of study. Through careful planning, a reduced project area school site could follow the recent trend of school downsizing and meet the CDE's criteria.

b. California State Assembly Bill 2926 – School Facilities Act of 1986

California enacted Assembly Bill (AB) 2926, the School Facilities Act of 1986, authorizing entities to levy statutory fees on new residential and commercial/industrial development in order to pay for school facilities. AB 2926 was expanded and revised in 1987 through the passage of AB 1600, which added Section 66000 et seq. of the California Government Code.

c. Proposition 1A/California Senate Bill 50

Proposition 1A/Senate Bill (SB) 50 (Chapter 407, Statutes of 1998) created the School Facility Program to allow eligible school districts to obtain state bond funds. State funding requires matching local funds that generally come from developer fees. The passage of SB 50 eliminated the ability of cities and counties to require full mitigation of school impacts and replaced it with the ability for school districts to assess fees directly to offset the costs associated with increasing school capacity as a result of new development. Although SB 50 states that payment of developer fees are "deemed to be complete and full mitigation" of the impacts of new development, fees and state funding do not necessarily fully fund new school facilities.

Two public school districts provide primary and secondary school facilities and services for the Chula Vista Elementary School District (CVESD) (kindergarten through sixth grade) and the Sweetwater Union High School District (SUHSD) (seventh through twelfth grade). SB 50, enacted in 1998, allows both the CVESD and the SUHSD to levy a fee, charge, dedication, or other requirement against any development project within its boundaries for the purpose of offsetting impacts to school facilities.

d. Proposition 55

Proposition 55 is a school construction measure passed in 2004 authorizing the sale of approximately $12.3 billion in bonds to fund qualified K-12 education facilities to relieve overcrowding and to repair older schools. Funds target areas of the greatest need and must be spent according to strict accountability measures. These bonds would be used only for eligible projects. Approximately $10 billion would be allocated to K-12 schools, with the remaining $2.3 billion allocated to higher education facilities. Local Regulations

a. City of Chula Vista General Plan

The General Plan recognizes that demand for school facilities will continue to increase as the city's population grows and states that it is the intent of Chula Vista to facilitate the efforts of the districts to provide school services. The Public Facilities and Services Element includes objectives to efficiently locate and design school facilities (Objective PFS 10).

b. Otay Ranch General Development Plan

The purpose of the School Facility Section of the GDP is to establish goals, objectives, policies, and processing requirements to ensure the timely provision of local school facilities. As stated therein, the goals of the GDP with respect to school facilities is to provide high quality educational facilities for Otay Ranch residents by coordinated planning of school facilities with the appropriate school district and to coordinate the planning of adult educational facilities with the appropriate

district. In addition, the GDP states that buildout of the Otay Ranch GDP would generate a demand for 13 elementary schools, two middle schools, and two high schools.

The GDP also includes a list of criteria for siting schools. The siting criteria address site size, location in proximity to residential development and parks and accessibility to all modes of transportation including pedestrian, bicycle and vehicular traffic, topographic and soils considerations, proximity to high-level noise generators, accessibility to utilities and services, and distance to Brown Field. The GDP notes that while it is unlikely that every site can meet all the criteria, each site should meet most of the listed criteria. One GDP objective relates to schools:

- Objective: School facilities shall be provided concurrently with need and integrated with related facility needs, such as childcare, health care, parks, and libraries, where practical.
- Policies:
    - Coordinate the planning and siting of schools, recreational facilities, childcare centers, libraries and other related public facilities.
    - Additional facilities needed to serve children generated by the new development shall be provided concurrent with need, and shall be of the quality and quantity sufficient to meet, at a minimum, California Department of Education standards.

c. Chula Vista Municipal Code Growth Ordinances

CVMC Section 19.80.030 (Controlled Residential Development) is intended to ensure that new development would not degrade existing public services and facilities below acceptable standards for schools and other public services. The preparation of PFFPs for Villages 9 and 10 was required in conjunction with the preparation of those SPA Plans to ensure that the development of the projects was consistent with the overall goals and policies of the General Plan and would not degrade public services. Funding of those PFFPs would be used for the provision of services for the UID. Similarly, Section 19.09 (Growth Management) of the CVMC provides policies and programs that tie the pace of development to the provision of public facilities and improvements. Section 19.09.040.C requires that the City annually provide the two local school districts with a 12- to 18-month development growth forecast and requests an evaluation from the districts of their ability to accommodate the forecast and continuing growth. The districts must 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;
4. Other relevant information the district(s) desire(s) to communicate to the City and the GMOC.

The growth forecast and school district response letters are delivered to the GMOC for inclusion in its review. Section 19.09 also requires a PFFP and the demonstration that public services, including schools meet the growth management program's quality of life threshold standards. The

analysis of school services provided in this section, along with the Villages 9 and 10 PFFPs to ensure funding for any needed expansion of services, ensure that schools will be provided commensurate with development and demand.

B. Existing School Conditions

The CVESD, established in 1892, is the largest kindergarten through sixth grade school district in California, and serves approximately 29,300 students in 45 elementary schools with approximately 2,642 employees (both certified and classified) district wide. Kindergarten through third-grade classrooms have an average of 23 students (CVESD 2016). Camarena Elementary School in Village 11 opened in 2013. A planned elementary school in Village 2 is yet to be built.

Founded in 1920, the SUHSD serves more than 42,000 students in middle and high school (grades 7-12) and more than 32,000 adult learners at 32 campuses. Olympian High School was opened in 2006 within Village 7, and has a capacity of 2,600 students. A middle school in Village 8 West and a high school just north of the UID boundary in Village 11 are planned. There are five elementary schools in the CVESD that now serve students residing within the Otay Ranch GDP area. These include Heritage Elementary, McMillin Elementary, Hedenkamp Elementary, Veterans Elementary, and Wolf Canyon Elementary. Secondary schools include Otay Ranch and Olympian High Schools. Enrollment and capacity in these schools are shown in Table 5.9-4, *Project Area Schools*.

Table 5.9-4 PROJECT AREA SCHOOLS

School	Enrollment	Capacity
Heritage Elementary[1]	866	900
McMillin Elementary[1]	841	825
Hedenkamp Elementary[1]	1,080	1,000
Veterans Elementary[1]	921	925
Wolf Canyon Elementary[1]	879	950
Otay Ranch High[2] School	2,482	2,721
Olympian High[2] School	2,470	2,463

Sources:
[1] Pers. comm. Carolyn Scholl, Chula Vista Elementary School District, 2016.
[2] Pers. comm. Allie Serrano, Sweetwater Union High School District. 2016.

5.9.3.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines and the Otay Ranch GDP, the project would result in a significant impact to schools if it would:

- **Threshold 1:** Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for educational facilities services.

- **Threshold 2:** Locate schools in areas where disturbing factors such as traffic hazards, airports, or other incompatible land uses are present; in areas where they are not integrated

into the system of alternative transportation corridors, such as bike lanes, riding and hiking trails, and mass transit; where private elementary and secondary schools are not spaced far enough from public schools and each other to prevent a concentration of school impacts; with at least 10 usable acres for an elementary school; without a central location to residential development; adjacent to a street or road which cannot safely accommodate bike, foot, and vehicular traffic; in areas not adjacent to parks, thereby discouraging joint field and recreation facility uses; at an unsafe distance from contaminants or toxins in the soil or groundwater from landfills, fuel tanks, agricultural areas, power lines, utility easements, and so on; or inside of floodplains; on unstable soils; or near fault lines.

5.9.3.3 Impact Analysis

A. Threshold 1: Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for educational facilities services.

The UID SPA proposes 2,000 market-rate dwelling units at buildout. The following student generation factors were used to determine the number of students generated by the Project:

Elementary School (K-6):	0.4114 students per dwelling unit of attached, cluster, and detached single-family
Middle School (7–8):	0.1188 students per dwelling unit of attached, cluster, and detached single-family
High School (9–12):	0.2132 students per dwelling unit of attached, cluster, and detached single-family

Accordingly, the Project is expected to generate 823 elementary school students, 238 middle school students, and 426 high school students, for a total of 1,487 students.

Chula Vista Elementary School District

The Project would generate an estimated 823 elementary school students. Two elementary school sites have been reserved in the adjacent Village 9 development, which is projected to generate 890 elementary school students. To fulfill the elementary school space needs of both Village 9 and the Project, both Village 9 school sites may be developed at the discretion of the CVESD. Each site is large enough to accommodate approximately 750 students. The decision on which site, if either, to acquire and commence construction is solely the decision of the CVESD. Until such time that the schools are completed, any students residing in the UID may attend schools in Eastlake Village 11 and/or the planned elementary school in Millenia.

The CVESD relies heavily on local funding to finance the construction of school facilities. In the last several years, the district has been deemed ineligible to receive any monies from the State to construct new schools. Based on the projected development set forth in the GMOC forecast and current eligibility determinations by the Office of Public School Construction, the CVESD does

not anticipate that additional state funding will be forthcoming for at least the next 3 to 5 years. With state funding in doubt, in addition to the increased costs associated with school construction and land acquisition, the future will be difficult insofar as new school construction projects are concerned. Therefore, impacts to the CVESD may be potentially significant (Impact 5.9.3-1a).

Sweetwater Union High School District

The maximum capacity of a middle school is approximately 1,200 students. It is anticipated that the approximately 238 middle school students generated by the UID would likely attend either the planned middle schools located in Eastlake Village 11 or in Otay Ranch Village 8 West, scheduled to open in July 2019.

The UID would generate an estimated 426 high school students. These students would likely attend Olympian High School, located in Village 7 less than 0.5 mile from the Project site. The district is beginning construction of high school No. 14 at the northeast corner of Eastlake Parkway and Hunte Parkway, which when completed, would be the high school for the UID. Also located within the Project site is the High Tech High ~~Charter~~ K-12 School, which represents potential capacity for high school students. Overall, the district has identified the need to acquire a 25- to 50-acre site to accommodate all projected future growth. Accordingly, impacts to the SUHSD may be potentially significant (Impact 5.9.3-1b).

B. Threshold 2: Locate schools on sites that are not appropriate for school facilities, including areas where:

- Disturbing factors such as traffic hazards, airports, or other incompatible land uses are present;
- They are not integrated into the system of alternative transportation corridors, such as bike lanes, riding and hiking trails, and mass transit;
- Private elementary and secondary schools are not spaced far enough from public schools and each other to prevent a concentration of school impacts;
- Less than 10 usable acres are available for an elementary school;
- A central location to residential development is not provided;
- An adjacent street or road is not available which can safely accommodate bike, foot, and vehicular traffic;
- Parks are not located adjacent to the site, thereby discouraging joint field and recreation facility uses;
- The school would be within an unsafe distance from contaminants or toxins in the soil or groundwater from landfills, fuel tanks, agricultural areas, power lines, utility easements, etc.;
- Risks from floodplains, unstable soils, and nearby fault lines exist;
- Private elementary and secondary schools are not spaced far enough from public schools and each other to prevent a concentration of school impacts;

- Less than 10 usable acres are available for an elementary school;
- A central location to residential development is not provided;
- An adjacent street or road is not available which can safely accommodate bike, foot, and vehicular traffic;
- Parks are not located adjacent to the site, thereby discouraging joint field and recreation facility uses;
- The school would be within an unsafe distance from contaminants or toxins in the soil or groundwater from landfills, fuel tanks, agricultural areas, power lines, utility easements, and so on; or
- Risks from floodplains, unstable soils, and nearby fault lines exist.

The Project would not require development of any school facilities beyond the university that is included in the project description, and this EIR analyzes the environmental effects associated with developing the Project site. All potential environmental hazards associated with the Project site and impacts associated with Project development are disclosed in Chapter 5.0 of this EIR. No additional impacts would occur.

5.9.3.4 Level of Significance Prior to Mitigation

A. School Facilities

Impact 5.9.3-1a: The Project's increase in elementary school students to the CVESD may be potentially significant.

Impact 5.9.3-1b: The Project's increase in middle and high school students to the SUHSD may be potentially significant.

B. Schools Siting

All potential environmental hazards associated with the Project site and impacts associated with Project development are disclosed in Chapter 5.0 of this EIR. No additional impacts would occur.

5.9.3.5 Mitigation Measures

A. School Facilities

The Project's increase in students to the CVESD and SUHSD may be potentially significant (Impacts 5.9.3-1a and 5.9.3-1b, respectively). The Project would implement Mitigation Measure 5.9.3-1 to reduce impacts:

5.9.3-1 School Service Fees. Prior to the issuance of any residential dwelling units, the Project applicant(s) shall provide evidence or certification by the CVESD and SUHSD that any fees, charges, dedications, or other requirements levied by the school districts have been complied with or that the districts have determined the fees, charges, dedications or other

requirements do not apply to the construction or that the Project applicant(s) has entered into a school mitigation agreement.

B. Schools Siting

No mitigation would be required.

5.9.3.6 Level of Significance After Mitigation

A. School Facilities

Impacts related to demand for school facilities (Impacts 5.9.3-1a and 5.9.3-1b) would be reduced to less than significant levels with implementation of Mitigation Measure 5.9.3-1 because the mitigation would compensate the Project's impact on CVESD and SUHSD school facilities through the payment of school service fees. Therefore, the Project's impact on the CVESD and SUHSD would be reduced to less than significant.

B. Schools Siting

All potential environmental hazards associated with the Project site and impacts associated with Project development are disclosed in Chapter 5.0 of this EIR. No additional impacts would occur and no additional mitigation would be required.

5.9.4 Libraries

5.9.4.1 Existing Conditions

A. Regulatory Framework

1. Federal Regulations

There are no federal regulations regarding the provision of library services.

2. State Regulations

There are no state regulations regarding the provision of library services.

3. Local Regulations

a. City of Chula Vista General Plan

The 2005 Chula Vista General Plan recognizes that demand for library facilities will continue to increase as the City's population grows in the eastern areas of the City through new development, and that location is the most important reason residents choose to utilize a particular public library. The General Plan's Public Facilities and Services Element includes objectives for the City to provide a library system of facilities and programs that meets the needs of Chula Vista residents of all ages (Objective PFS 11) and to efficiently locate and design library facilities (Objective PFS 12). Additionally, Growth Management Objective GM 1 and Policy GM 1.11 encourage

withholding discretionary approvals and subsequent building permits from projects demonstrated to be out of compliance with applicable threshold standards for library services.

b. Otay Ranch General Development Plan

The purpose of the Library Facility section of the GDP is to establish goals, objectives, policies, standards, and processing requirements for the timely provision of library facilities. As stated therein, the goal is to provide sufficient libraries to meet the information and education needs of Otay Ranch residents. In addition, the GDP states that a library facility in the Millenia development is necessary to serve the Otay Ranch at build-out, and would serve as a main library for all residents of Otay Ranch. The GDP also states that expansion of other libraries may be necessary.

c. Chula Vista Public Library Strategic Facilities Plan

The purpose of the Chula Vista Public Library Strategic Facilities Plan, currently in draft form, 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 library's operating budget has been significantly reduced and capital funding is not currently available, the facilities plan does not decide 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.

d. Chula Vista Municipal Code Ordinances

CVMC Section 19.80.030 (Controlled Residential Growth) is intended to ensure that new development would not degrade existing public services and facilities below acceptable standards for libraries and other public services. The preparation of a PFFP is required in conjunction with the preparation of the SPA Plan for the project to ensure that the development of the project is consistent with the overall goals and policies of the General Plan and would not degrade public services. Similarly, Section 19.09 (Growth Management) of the CVMC provides policies and programs that tie the pace of development to the provision of public facilities and improvements. Section 19.09.040D specifically requires "500 square feet (gross) of adequately equipped and staffed library facility per 1,000 residents. The City shall construct 60,000 gross square feet of additional library space, over the June 30, 2000, gross square feet total, in the area east of I-805 by buildout." The analysis of library services provided in this section, along with the PFFP are intended to ensure funding for any needed expansion of services, while also ensuring that library services will be provided commensurate with development and demand.

A. Existing Library Facilities

The City operates three library facilities: the South Chula Vista Branch Library, the Civic Center Branch Library, and the Otay Ranch Branch Library (Chula Vista 2016). The South Chula Vista Branch Library is located at 389 Orange Avenue, approximately seven miles from the project site, and consists of approximately 37,000 square feet. This branch has 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 (Chula Vista 2014). The Civic Center Branch Library is located at 365 F Street, approximately eight miles from the project site, and is the largest library facility, within the City, consisting of a two-story, 55,000 square foot building. It also 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 (Chula Vista 2009b). The Otay Ranch Branch Library is located at 2015 Birch Road in the Otay Ranch Town Center, approximately one mile from the UID, and consists of approximately 3,500 square feet with one small study room.

In addition to the existing libraries described above, the current Library Facilities Master Plan calls for construction of the Rancho del Rey Library, which would be approximately 30,000 square feet in size, at the intersection of East H Street and Paseo Ranchero, approximately four miles from the project site. However, the Rancho del Rey Library has been delayed indefinitely due to budget constraints (Chula Vista 2014).

The GMO threshold standard for libraries is 500 square feet of library space per 1,000 residents. According to the 2015 GMOC Annual Report, the service ratio for Fiscal Year 2014 was 364 square feet to every 1,000 residents (Chula Vista 2015). Therefore, the City currently does not meet the GMO threshold standard for libraries.

5.9.4.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, the project would result in a significant impact to library services if it would:

- **Threshold 1:** Result in substantial adverse physical impact associated with the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for library services.

- **Threshold 2:** Fail to meet the City's growth management threshold standard of 500 gross square feet of library space, adequately equipped and staffed, per 1,000 residents.

5.9.4.3 Impact Analysis

A. Threshold 1: Result in substantial adverse physical impact associated with the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for library services.

The Project would result in an increase in demand for library services because the land use would change from vacant land to occupied development that would require library services, as described in more detail under the discussion of Threshold 2. The UID SPA Plan does not identify any new library facilities within the Main Campus Property or the Lake Property; however, they would be permitted within Transects T-2 through T-6, pursuant to the City's Library Master Plan. In the absence of additional libraries within the Project site, it is anticipated that library services would be provided by the three existing libraries operated in the City. Planned library facilities in nearby

areas, including the Millenia development and the Rancho del Rey Library, would also likely serve the Project site, if constructed.

The environmental impact of construction of the Millenia (formerly EUC) development library within a three-acre site is addressed in the 2009 EUC Final EIR (SCH #2007041074). As discussed in the Final EUC EIR, construction impacts related to development of the library within the Millenia development would be less than significant. Because the environmental impacts of the proposed Project are addressed throughout this EIR, the Project would not result in the development of a library off-site, and future development of a library in the Millenia development has been analyzed and considered in a previous EIR, impacts related to the provision of new or physically altered library facilities are expected to remain less than significant.

B. Threshold 2: Fail to meet the City's threshold standard of 500 gross square feet of library space, adequately equipped and staffed, per 1,000 population.

As stated in the PFFP for the Project and discussed above, the City's current library facilities (approximately 95,412 square feet) are currently approximately 37,188 square feet below the threshold standard. The Chula Vista Library Master Plan establishes a standard of 500 square feet of adequately equipped and staffed library facilities per 1,000 residents. Based on the projected non-student population of 6,000 people within 2,000 market-rate units, the UID SPA Plan would generate a demand for approximately 3,000 square feet of additional library facilities within the City. The SPA Plan would allow for the development of academic and higher learning uses that would be shared by the proposed university and the surrounding residential community.

As discussed above, a future library is proposed in the Millenia development that would serve the UID and would result in a total of 30,000 gross square feet of library space. This amount would accommodate the increase in population as a result of the development proposed in the UID, and maintain acceptable service ratios. In addition, as noted earlier, library facilities would also be permitted throughout the UID and would be available to residents in the area. Nonetheless, impacts to library facilities may be potentially significant because the timing of the Millenia library as it relates to the development of the UID is not certain (Impact 5.9.4-1).

5.9.4.4 Level of Significance Prior to Mitigation

Impact 5.9.4-1a: The Project's increase in demand to library facilities may be potentially significant.

5.9.4.5 Mitigation Measures

The Project's increase in demand to library facilities may be potentially significant (Impact 5.9.4-1). The Project would implement Mitigation Measure 5.9.4-1 to reduce impacts:

5.9.4-1 Public Facility Development Impact Fees. Prior to the issuance of each building permit for any residential dwelling units, the Project applicant(s) shall pay a required PFDIF in accordance with the fees in effect at the time of building permit issuance and phasing approved in the Public Facilities Finance Plan.

5.9.4.6 Level of Significance After Mitigation

Impacts related to demand for library facilities (Impact 5.9.4-1) would be reduced to less than significant levels with implementation of Mitigation Measure 5.9.4-1 because the mitigation would compensate the Project's impact on library facilities through the payment of the PFDIF. Therefore, the Project's impact on library facilities would be reduced less than significant.

5.9.5 Parks, Recreation, Open Space, and Trails

5.9.5.1 Existing Conditions

A. Regulatory Framework

1. Federal Regulations

There are no federal regulations regarding the provision of park services.

2. State Regulations

a. Quimby Act

California Government Code Section 66477, Subdivision Map Act, referred to as the Quimby Act, permits local jurisdictions to require the dedication of land and/or the payment of in-lieu fees solely for park and recreation purposes. The required dedication and/or fees are based upon the residential density, parkland cost, and other factors. Land dedication and fees collected pursuant to the Quimby Act may be used for acquisition, improvement, and expansion of park, playground, and recreational facilities.

3. Local Regulations

a. City of Chula Vista General Plan

The goals of the General Plan to provide and maintain infrastructure and public services and to improve sustainability of the city's natural resources are established in the Public Facilities and Services and Environmental Elements of the General Plan. The Public Facilities and Services Element contains objectives to provide new facilities for residents of new development (Objective PFS 15). The Environmental Element of the General Plan establishes the policy framework for improving sustainability through the responsible stewardship of the city's natural and cultural resources (Policy E.1.1), including the preservation of open space and development of connecting trails. Additionally, Growth Management Objective GM 1 and Policy GM 1.11 encourage withholding discretionary approvals and subsequent building permits from projects demonstrated to be out of compliance with applicable threshold standards for fire and emergency medical services.

b. Otay Ranch General Development Plan

The parks and open space goal of the Otay Ranch GDP is to provide diverse park and recreational opportunities within Otay Ranch which meet the recreational, conservation, preservation, cultural,

and aesthetic needs of project residents of all ages and physical abilities. The Otay Ranch GDP also establishes the following policies:

- Provide 15 acres of regional park and open space per 1,000 Otay Ranch residents.

- Provide a minimum of three acres of neighborhood and community park land (as governed by the Quimby Act) and 12 acres per 1,000 Otay Ranch residents of other active or passive recreation and open space areas.

In order to achieve these goals and policies, the GDP establishes a four-tier system of parks to be provided throughout the community, including:

- Park amenities in town square parks;
- Active play facilities in neighborhood parks;
- Community-level playing fields in community parks, and
- Region-wide active and passive recreational areas in designated regional parks.

The GDP Parks and Open Space policies also state that parks will be established at the SPA Plan level.

c. Chula Vista Municipal Code and Growth Ordinance

The Chula Vista park dedication policies are contained in CVMC Chapter 17.10, Park Lands Dedication Ordinance (PLDO). The PLDO establishes requirements for parklands and public facilities, including regulations for the dedication of land and development of improvements for park and recreational purposes (Section 17.10.010); determination of park and recreational requirements (Section 17.10.020); area to be dedicated (Section 17.10.040); specifications for park improvements (Section 7.10.050); criteria for area to be dedicated (Section 17.10.060); procedures for in lieu fees for land dedication and/or park development improvements (Section 17.10.070); and, other regulations regarding park development and collection and distribution of fees. The PLDO, which has a coefficient factor of 2.61 persons per multi-family household, requires the dedication of three acres of parkland per 1,000 people or a combination of land dedication, in-lieu fees, or park development improvements to be offered at the time of final map or in the case of a residential development that is not required to submit a final map, at the time of the first building permit application.

CVMC Section 19.80.030 (Controlled Residential Development) is intended to ensure that new development would not degrade existing public services and facilities below acceptable standards for parkland and other public services. The preparation of a PFFP is required in conjunction with the preparation of the SPA Plan for the project to ensure that the development of the project is consistent with the overall goals and policies of the General Plan and wouldn't degrade public services. Similarly, Section 19.09 (Growth Management) provides policies and programs that tie the pace of development to the provision of public facilities and improvements. Section 19.09.040E specifically requires a population coefficient of "three acres of neighborhood and community park land with appropriate facilities per 1,000 residents east of I-805." Section 19.09 also requires a PFFP and the demonstration that public services, such as parks, meet the growth management program's quality of life threshold standard for parks and recreation.

d. Greenbelt Master Plan

The Chula Vista Greenbelt Master Plan provides guidance and continuity for planning open space and constructing and maintaining the Greenway Trail. For the purpose of the Greenbelt, there are two general types of trails, multi-use and rural. Multi-use trails are designed for a variety of users, such as bicyclists, equestrians, pedestrians, joggers, and other non-motorized activities. According to the Greenbelt Master Plan, even a single-track pedestrian-only trail would be considered multi-use, since it could accommodate hikers, backpackers, runners, bird watchers, etc. Minimum standards for trails are set forth in the City landscape manual and in the Greenbelt Master Plan. A multi-use trail may also be improved with a variety of trail surfaces, with concrete and asphalt surfacing to accommodate the broadest range of users in an urban setting. A concrete multi-use trail would be 10 feet with two-feet of natural shoulders. However, variation in the minimum standards may be allowed, based on consideration of the number and types of trail users and environmental constraints. Other minimum standards include greenbelt trail signs.

The segment of the Greenway Trail applicable to the SPA Plan is the Otay Ranch Village greenway segment. The Village Greenway segment has been added to the Greenbelt Master Plan as a major trail linkage identified in the GDP. This trail presents an opportunity as a multi-use trail that would provide mobility for residents between several villages and connectivity between recreation areas in the UID and other future parks along the greenway. The Village Greenway is intended to connect active and passive users, provide users with the opportunity to stop and enjoy an enhanced open space area, and ensure connectivity to the Greenbelt Trail system. Additionally, the Greenbelt Master Plan identifies a connection through Otay Ranch that would ultimately provide a link from the UID to the Greenbelt trail system in the Otay Valley.

e. Chula Vista Parks and Recreation Master Plan

The Chula Vista Parks and Recreation Master Plan, adopted by City Council in 2002, describes a comprehensive parks and recreation system that services the community at large through the delivery of a variety of park sites containing a variety of recreational experiences. As stated in the document, each park within the system is viewed in the context of the whole park system to ensure that it functions properly in providing a balance of recreational opportunities. The document describes existing and future park sites and as such identifies parks within the Otay Ranch area. The plan does not include a community or neighborhood park acreage requirement for the UID.

The City is currently in the process of updating the 2002 Parks and Recreation Master Plan in response to the 2005 update of the General Plan. A draft Park and Recreation Master Plan Update was released in December 2010. The 2010 Parks and Recreation Master Plan Update identifies a range of passive and active park elements to serve the residents of the UID, including 12.5 acres of neighborhood parks, 5 acres of town squares, and 6.2 acres of pedestrian parks for the UID. The plan also contains several policies that address the design and delivery of park sites.

B. Existing Parks and Recreation Facilities

The Chula Vista park system contains 59 public parks and recreation facility sites, including nine community parks totaling 226 acres, 282 acres of neighborhood parks, 12 acres of urban and mini parks, one 3.4-acre special purpose park, four community centers, one senior center, four

gymnasiums, and two swimming pools totaling approximately 530 acres (Chula Vista 2014). The City currently meets the Growth Management Program's threshold standard of three acres of neighborhood and community parkland per 1,000 residents in east Chula Vista. The GMOC's 2015 Annual Report indicated a parkland ratio of 2.96 acres per 1,000 residents in eastern Chula Vista and is listed as compliant (Chula Vista 2015).

There are 10 existing parks located within two miles of the project site. These parks are Otay Lakes County Park, Sunset View Park, Chula Vista Community Park, Salt Creek Community Park, All Seasons Park, Santa Venetia Park, Cottonwood Park, Santa Cora Park, Mountain Hawk Park, and Windingwalk Park. Public parks in the city are open to all of the area's citizens. Neighborhood parks generally serve a local adjacent or nearby residential neighborhood, while community parks serve the broader community and provide a greater range of services. Regional and County parks and the Otay Ranch Preserve are also located in eastern Chula Vista and adjacent San Diego County. As of 2004, Chula Vista had over 9,433 undeveloped acres of regional parks, including significant portions of the Sweetwater and Otay River Valleys and the Otay Reservoirs (Chula Vista 2005a). These facilities are described below.

1. Neighborhood Parks

Sunset View Park, 1390 South Greenview Drive: This park encompasses 10 acres and is located approximately 1.25 miles north of the UID. Facilities include multi-purpose fields, barbeque facilities, restrooms, a picnic area, a playground, a lawn games area, basketball courts, and a roller hockey court.

Windingwalk Park, 1675 Exploration Street: This park encompasses 7.1 acres and is located approximately 0.5 mile northeast of the UID. Facilities include picnicking and barbeque facilities, an open green space, a park shelter/gazebo, play equipment, restrooms, a ball field, a basketball court, and a tennis court.

2. Community Parks

Chula Vista Community Park, 1060 Eastlake Parkway: This park is located approximately 2 miles north of the UID. Facilities include barbeque facilities, ballfields, tennis courts, green space, shelters/gazebos, play equipment, restrooms, and a multi-purpose field.

Salt Creek Community Park, 2710 Otay Lakes Road: This park is located approximately 2 miles northeast of the UID. Facilities include barbeque facilities, tennis courts, basketball courts, gymnasium, green space, shelters/gazebos, play equipment, recreation center, restrooms, a multi-purpose field, and a skateboard park.

3. Regional and County Parks and Preserve

Otay Valley Regional Park: This park is located coincident with the southern border of the UID. The Otay Valley Regional Park will ultimately comprise 8,000 acres passing through the jurisdictions of the County of San Diego and cities of San Diego and Chula Vista. The regional park is located in the Multiple Habitat Planning Area of the City of San Diego and the preserve management area of the city of Chula Vista under each MSCP Subarea Plan and represents one of the major open spaces within southern San Diego County.

Otay Lakes County Park: This park is operated by the County of San Diego Department of Parks and Recreation, located approximately 0.5 miles south of the Lake Property of the UID. The approximately 78-acre park, which provides picnicking, playground, hiking trails, and a native plant/demonstration garden, will ultimately be the eastern gateway/staging area for the Otay Valley Regional Park.

Otay Ranch Preserve: This preserve will contain approximately 11,375-acres, all of which will be included in the MSCP Subregional Preserve. To date, approximately 3,000 acres of the Otay Ranch Preserve has been dedicated to Chula Vista and the County of San Diego. For every acre approved for development in Otay Ranch, 1.188 acres is dedicated to the Otay Ranch Preserve. The land developers contributing to this preserve have established a financing program to ensure funds are available to pay for the active management of the entire preserve system in perpetuity. The Preserve's dedicated conservation lands will connect large areas of open space through a series of wildlife corridors, including connections between large, regional open spaces, such as Otay Reservoir and San Miguel Mountain.

5.9.5.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, the project would result in a significant impact to parks, recreation, open space, and trails if it would:

- **Threshold 1:** Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.

- **Threshold 2:** Require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

- **Threshold 3:** Fail to meet the City's growth management threshold standard for parks and recreation of three acres of neighborhood and community parkland per 1,000 residents east of I-805.

5.9.5.3 Impact Analysis

A. Threshold 1: Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated.

The Project would increase the use of existing and proposed regional and community parks in the vicinity of the Project, which include community parks in Villages Two and Four and regional parks such as the OVR and Otay Lakes County Park. As identified in the Chula Vista Parks and Recreation Master Plan document, the inventory of parks and recreational facilities represents a comprehensive and interrelated system of park and residents typically utilize parks through the City, in addition to park sites located immediately adjacent to their homes. The Project site would include parks and other recreational facilities to serve the population of the UID, and the payment of in-lieu park fees may be required concurrent with future phasing of development (see the discussion under Threshold 3, below). As the proposed Project would provide on-site parks and

recreational facilities, or may contribute to in-lieu fees for the purpose of meeting a portion of the proposed Project's recreational needs off-site, it would not cause the deterioration of existing facilities, including existing and planned regional and county parks in the area. Therefore, the Project would have a less-than-significant impact associated with the deterioration of existing park and recreational facilities.

B. Threshold 2: Require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

The development of recreational facilities is a component of the proposed Project. Construction of the proposed parks and open space areas would occur within the Project site and would not directly impact off-site areas, including adjacent villages or regional open space or habitat areas. A portion of the proposed Project's park obligation would be met with the payment of in-lieu fees, which would contribute to the construction and/or expansion of off-site recreational facilities. These off-site facilities would be constructed within areas identified in the City's General Plan for recreational use, and additional physical adverse effects associated with these facilities is not anticipated. As a result, the construction and expansion of recreational facilities associated with the proposed Project would be less than significant.

C. Threshold 3: Fail to meet City's growth management threshold standard for parks and recreation of three acres of neighborhood and community parkland per 1,000 residents east of I-805.

The Project would potentially increase use of existing and proposed regional and community parks, and the addition of 2,000 market-rate units would be subject to the City's growth management threshold standard of three acres of neighborhood and community parkland per 1,000 residents. Assuming three persons per household, up to 6,000 residents would reside within the proposed 2,000 market-rate housing units, and a total of 18 acres of parkland would be required.

The UID SPA Plan does not propose formal active parks that are fully equipped with all the usual amenities of a neighborhood park in the Otay Ranch area; However, the UID SPA Plan identifies 95.1 acres in Sectors O-1, O-2, and O-3, which would provide flexible areas that may contain play areas, seating areas, public plazas, academic sports facilities, dog parks, open areas, and water features. The common space areas are composed of social space and sloped areas. Typically, only relatively flat space qualifies for park credit; therefore, the 39.5-acre O-2 area is given 50 percent credit (Michael Baker International 2017). The pedestrian walks (O-3, 14.5 acres) are described as providing more traditional park amenities suitable for permanent (non-student) residents, and the habitat conservation areas (O-1, 41.4 acres) also provide recreational amenities. Based on these criteria, of the 95.1 acres of parks, about 44.7 acres are considered eligible for credit, which would exceed the 18 acres of require parkland per the standard of three acres per 1,000 residents. However, as the timing and phasing of the proposed Project is not known, construction of parkland areas within Sectors O-1, O-2, and O-3 would need to be commensurate with occupancy of market-rate housing and a significant environmental impact could occur (Impact 5.9.5-1).

5.9.5.4 Level of Significance Prior to Mitigation

Impact 5.9.5-1: The Project would result in a significant impact to parks if parkland is not developed concurrent with market-rate housing.

5.9.5.5 Mitigation Measures

The Project's impact related to parkland could be potentially significant (Impact 5.9.5-1). The Project would implement Mitigation Measure 5.9.5-1 to reduce impacts less than significant levels:

5.9.5-1 Prior to the issuance of occupancy permits for any of the proposed 2,000 market-rate residential units, the project applicant shall demonstrate that sufficient parkland areas are constructed within the UID SPA Plan to the satisfaction of the City's Parks Division. If the amount of constructed parkland areas does not equal or exceed the ratio of three acres per 1,000 residents, the City of Chula Vista, and its successor in interest, shall develop a plan specifying how the deficit will be eliminated. The method by which the Project's parkland obligation is met must consider, in addition to the dedication of acreage, the development of additional usable park acres, whether by payment of fees, construction of park facilities, or a combination of both, in order to meet the total UID obligation.

5.9.5.6 Level of Significance After Mitigation

Potential impacts related to parkland (Impact 5.9.5-1) would be reduced to less than significant levels with implementation of Mitigation Measure 5.9.5-1; with mitigation, the provision of adequate park acreage would be demonstrated, or the Project would contribute its fair share to increasing parklands in the City, as necessary to meet the significance threshold. The City uses the collected fees to make improvements to existing park facilities and build new facilities as needed.

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5.10 GLOBAL CLIMATE CHANGE

This section describes the existing setting related to global climate change and evaluates the potential for GHG emission impacts due to implementation of the Project.

This EIR tiers from the Previous Environmental Review Documents, as described in Chapter 2.0, *Introduction*. This analysis tiers from the program-level Global Climate Change Analysis prepared by RECON Environmental, Inc. in support of the SEIR for the GPA/GDPA (SEIR 09-01). The program-level Global Climate Change Analysis concluded that implementation of the land uses proposed in the GPA/GDPA would not result in significant GHG emissions. Information contained in this section is based on the UID SPA Project Air Quality and Greenhouse Gas Emissions Technical Report, prepared by HELIX in October 2017. The Air Quality and Greenhouse Gas Emissions Technical Report is provided as Appendix C to this EIR. The report updates the applicable information contained in the 2013 SEIR.

5.10.1 Existing Conditions

A. Regulatory Framework

1. Federal

a. Federal Clean Air Act

The U.S. Supreme Court ruled on April 2, 2007, in Massachusetts v. U.S. Environmental Protection Agency, that CO_2 is an air pollutant, as defined under the CAA, and that the USEPA has the authority to regulate emissions of GHGs. The USEPA announced that GHGs (including carbon dioxide [CO_2], methane [CH_4], N_2O, hydrofluorocarbon [HFC], perfluorocarbon [PFC], and sulfur hexafluoride [SF_6]) threaten the public health and welfare of the American people. This action was a prerequisite to finalizing the USEPA's GHG emissions standards for light-duty vehicles, which were jointly proposed by the USEPA and the USDOT's National Highway Traffic Safety Administration (NHTSA). The standards were established on April 1, 2010 for 2012 through 2016 model year vehicles and on October 15, 2012 for 2017 through 2025 model year vehicles (USEPA 2011; USEPA and NHTSA 2012).

b. Corporate Average Fuel Economy Standards

The USEPA and the NHTSA have been working together on developing a national program of regulations to reduce GHG emissions and to improve fuel economy of light-duty vehicles. The USEPA is finalizing the first-ever national GHG emissions standards under the CAA, and the NHTSA is finalizing Corporate Average Fuel Economy (CAFE) standards under the Energy Policy and Conservation Act. On April 1, 2010, the USEPA and NHTSA announced a joint Final Rulemaking that established standards for 2012 through 2016 model year vehicles. This was followed up on October 15, 2012, when the agencies issued a Final Rulemaking with standards for model years 2017 through 2025. The rules require these vehicles to meet an estimated combined average emissions level of 250 grams per mile by 2016, decreasing to an average industry fleet-wide level of 163 grams per mile in model year 2025. The 2016 standard is equivalent to 35.5 mpg, and the 2025 standard is equivalent to 54.5 mpg if the levels were achieved solely through improvements in fuel efficiency. The agencies expect, however, that a

portion of these improvements will be made through improvements in air conditioning leakage and the use of alternative refrigerants that would not contribute to fuel economy. These standards would cut GHG emissions by an estimated 2 billion metric tons (MT) and 4 billion barrels of oil over the lifetime of the vehicles sold under the program (model years 2017–2025). The combined USEPA GHG standards and NHTSA CAFE standards resolve previously conflicting requirements under both federal programs and the standards of the State of California and other states that have adopted the California standards (USEPA 2011; USEPA and NHTSA 2012).

2. State

a. Executive Order S-3-05 – Statewide GHG Emission Targets

On June 1, 2005, Executive Order (EO) S-3-05 proclaimed that California is vulnerable to climate change impacts. It declared that increased temperatures could reduce snowpack in the Sierra Nevada, further exacerbate California's air quality problems, and potentially cause a rise in sea levels. In an effort to avoid or reduce climate change impacts, EO S-3-05 calls for a reduction in GHG emissions to the year 2000 level by 2010, to year 1990 levels by 2020, and to 80 percent below 1990 levels by 2050.

b. Assembly Bill 32 – California Global Warming Solutions Act

The California Global Warming Solutions Act of 2006, widely known as AB 32, requires that the CARB develop and enforce regulations for the reporting and verification of statewide GHG emissions. CARB is directed to set a GHG emission limit, based on 1990 levels, to be achieved by 2020. The bill requires CARB to adopt rules and regulations in an open public process to achieve the maximum technologically feasible and cost-effective GHG reductions.

c. Senate Bill 32

On September 8, 2016, Governor Brown approved SB 32 (Pavley, Chapter 249, Statutes of 2016), which added a 2030 target to the Global Warming Solutions Act of 2006 (AB 32). SB 32 requires that statewide GHG emissions be reduced to 40 percent below 1990 levels by 2030.

d. Executive Order B-30-15

On April 29, 2015, EO B-30-15 established a California GHG reduction target of 40 percent below 1990 levels by 2030. The EO aligns California's GHG reduction targets with those of leading international governments, including the 28 nation European Union. California is on track to meet or exceed the target of reducing greenhouse gas emissions to 1990 levels by 2020, as established in AB 32. California's new emission reduction target of 40 percent below 1990 levels by 2030 will make it possible to reach the ultimate goal established by EO S-3-05 of reducing emissions 80 percent under 1990 levels by 2050.

e. California Air Resources Board: Scoping Plan

On December 11, 2008, the CARB adopted its Climate Change Scoping Plan (CARB 2008) as directed by AB 32. The Scoping Plan proposes a set of actions designed to reduce overall GHG emissions in California to the levels required by AB 32. Measures applicable to development

projects include those related to energy-efficiency building and appliance standards, the use of renewable sources for electricity generation, regional transportation targets, and green building strategy. Relative to transportation, the Scoping Plan includes several measures or recommended actions related to reducing vehicle miles traveled and vehicle GHG emissions through fuel and efficiency measures. These measures would be implemented statewide rather than on a project by project basis.

The CARB released the First Update to the Climate Change Scoping Plan in May 2014 to provide information on the development of measure-specific regulations and to adjust projections in consideration of the economic recession (CARB 2014a). (It is noted that the CARB is currently in the process of preparing a second update to the Climate Change Scoping Plan.) To determine the amount of GHG emission reductions needed to achieve the goal of AB 32 (i.e., 1990 levels by 2020) CARB developed a forecast of the AB 32 "business as usual" (BAU) 2020 emissions, which is an estimate of the emissions expected to occur in the year 2020 if none of the foreseeable measures included in the Scoping Plan were implemented. CARB estimated the AB 32 BAU 2020 to be 509 million metric tons (MMT) of CO_2e. The Scoping Plan's current estimate of the necessary GHG emission reductions to achieve AB 32's goal of 1990 levels is 78 MMT CO_2e by 2020 (CARB 2014b). This represents an approximately 15.32 percent reduction over the BAU 2020 emissions. The CARB is forecasting that this would be achieved through the following reductions by sector: 25 MMT CO_2e for energy, 23 MMT CO_2e for transportation, 5 MMT CO_2e for high-Global Warming Potential (GWP) GHGs, and 2 MMT CO_2e for waste. The remaining 23 MMT CO_2e would be achieved through Cap-and-Trade Program reductions. This reduction is flexible—if CARB receives new information and changes the other sectors' reductions to be less than expected, the agency can increase the Cap-and-Trade reduction (and vice versa).

f. Assembly Bill 1493 – Vehicular Emissions of Greenhouse Gases

AB 1493 (Pavley) requires that CARB develop and adopt regulations that achieve "the maximum feasible reduction of GHGs emitted by passenger vehicles and light-duty truck and other vehicles determined by CARB to be vehicles whose primary use is noncommercial personal transportation in the State." On September 24, 2009, CARB adopted amendments to the Pavley regulations that intend to reduce GHG emissions in new passenger vehicles from 2009 through 2016. The amendments bind California's enforcement of AB 1493 (starting in 2009), while providing vehicle manufacturers with new compliance flexibility. The amendments also prepare California to merge its rules with the federal CAFE rules for passenger vehicles (CARB 2013). In January 2012, CARB approved a new emissions-control program for model years 2017 through 2025. The program combines the control of smog, soot, and global warming gases and requirements for greater numbers of zero-emission vehicles into a single packet of standards called Advanced Clean Cars (CARB 2013).

g. Executive Order S-01-07 – Low Carbon Fuel Standard

This EO, signed by Governor Schwarzenegger on January 18, 2007, directs that a statewide goal be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by the year 2020. It orders that a Low Carbon Fuel Standard (LCFS) for transportation fuels be established for California and directs the CARB to determine whether a

LCFS can be adopted as a discrete early action measure pursuant to AB 32. CARB approved the LCFS as a discrete early action item with a regulation adopted and implemented in April 2010. Although challenged in 2011, the Ninth Circuit reversed the District Court's opinion and rejected arguments that implementing LCFS violates the interstate commerce clause in September 2013. CARB is therefore continuing to implement the LCFS statewide.

h. Senate Bill 375

SB 375 aligns regional transportation planning efforts, regional GHG reduction targets, and affordable housing allocations in order to help meet the AB 32 goals by reducing emissions from cars and light duty trucks. Metropolitan Planning Organizations (MPOs) are required to adopt a Sustainable Communities Strategy (SCS), which allocates land uses in the MPO's Regional Transportation Plan (RTP) in a manner that would reduce vehicle miles traveled, thereby reducing GHG emissions. Qualified projects consistent with an approved SCS or Alternative Planning Strategy categorized as "transit priority projects" would receive incentives to streamline CEQA processing.

i. Assembly Bill 341

In 2011, the State legislature enacted AB 341 (California PRC Section 42649.2), increasing the solid waste diversion target to 75 percent statewide by 2020. AB 341 also requires the provision of recycling service to commercial and residential facilities that generate four cubic yards or more of solid waste per week.

j. Renewables Portfolio Standard

The renewables portfolio standard promotes diversification of the state's electricity supply. Its purpose is to achieve 33 percent renewable energy mix statewide; providing 33 percent of the state's electricity needs met by renewable resources by 2020. Renewable energy includes (but is not limited to) wind, solar, geothermal, small hydroelectric, biomass, anaerobic digestion, and landfill gas.

k. Title 24, Part 6 – California Energy Code

CCR Title 24 Part 6: California's Energy Efficiency Standards for Residential and Nonresidential Buildings were first established in 1978 in response to a legislative mandate to reduce California's energy consumption. Energy-efficient buildings require less electricity, natural gas, and other fuels. Electricity production from fossil fuels and on-site fuel combustion (typically for water heating) results in GHG emissions.

The Title 24 standards are updated approximately every three years to allow consideration and possible incorporation of new energy efficiency technologies and methods. The latest update to the Title 24 standards occurred in 2016 and went into effect on January 1, 2017. The 2016 update to the Building Energy Efficiency Standards focuses on several key areas to improve the energy efficiency of newly constructed buildings and additions and alterations to existing buildings. The most significant efficiency improvements to the residential Standards include improvements for attics, walls, water heating, and lighting. The Standards are divided into three basic sets. First, there is a basic set of mandatory requirements that apply to all buildings. Second, there is a set of

performance standards – the energy budgets – that vary by climate zone (of which there are 16 in California) and building type; thus, the Standards are tailored to local conditions. Finally, the third set constitutes an alternative to the performance standards, which is a set of prescriptive packages that are basically a recipe or a checklist compliance approach.

l. Title 24, Part 11 – California Green Building Standards

The California Green Building Standards Code (CALGreen Code; 24 CCR, Part 11) is a code with mandatory requirements for new residential and nonresidential buildings (including buildings for retail, office, public schools, and hospitals) throughout California. The code is Part 11 of the California Building Standards Code in Title 24 of the CCR (CBSC 2017). The current 2016 Standards for new construction of, and additions and alterations to, residential and nonresidential buildings went into effect on January 1, 2017.

The development of the CALGreen Code is intended to (1) cause a reduction in GHG emissions from buildings; (2) promote environmentally responsible, cost-effective, healthier places to live and work; (3) reduce energy and water consumption; and (4) respond to the directives by the Governor. In short, the code is established to reduce construction waste; make buildings more efficient in the use of materials and energy; and reduce environmental impact during and after construction.

The CALGreen Code contains requirements for storm water control during construction; construction waste reduction; indoor water use reduction; material selection; natural resource conservation; site irrigation conservation; and more. The code provides for design options allowing the designer to determine how best to achieve compliance for a given site or building condition. The code also requires building commissioning, which is a process for the verification that all building systems, like heating and cooling equipment and lighting systems, are functioning at their maximum efficiency.

3. Local

a. San Diego Association of Government Regional Plan

San Diego Forward: The Regional Plan (The Regional Plan) (SANDAG 2015) is the long-range planning document developed to address the region's housing, economic, transportation, environmental, and overall quality-of-life needs. The Regional Plan establishes a planning framework and implementation actions that increase the region's sustainability and encourage "smart growth while preserving natural resources and limiting urban sprawl." The Regional Plan includes several elements, one of which is the Sustainable Communities Strategy (SCS). Required by state law (SB 375), the primary purpose of the SCS is to show how development patterns and our transportation system could work together to reduce GHG emissions for cars and light trucks, providing a more sustainable future for the San Diego region. The Regional Plan encourages the region's cities and the County to increase residential and employment concentrations in areas with the best existing and future transit connections, and to preserve important open spaces. The focus is on implementation of basic smart growth principles designed to strengthen the integration of land use and transportation. General urban form goals, policies, and objectives are summarized as follows:

- Mix compatible 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.
- Encourage community and stakeholder collaboration in development decisions.

The Regional Plan also addresses border issues, providing an important guideline for communities that have borders with Mexico. In this case, the goal is to create a regional community where San Diego, its neighboring counties, tribal governments, and northern Baja California mutually benefit from San Diego's varied resources and international location.

b. Chula Vista Climate Action Plan

Since 2000, Chula Vista has been implementing a CAP to address the threat of climate change to the local community. The City's original Carbon Dioxide Reduction Plan was revised in 2008 and again in 2011 to incorporate new climate mitigation and adaptation measures to strengthen the City's climate action efforts and to facilitate the numerous community co-benefits such as utility savings, better air quality, reduced traffic congestion, local economic development, and improved quality of life. During 2014, a Climate Change Working Group, comprised of residents, businesses, and community organization representatives, reconvened to help update the City's Climate Action Plan. Specifically, the Climate Change Working Group developed recommendations through an open and transparent public process for new GHG reduction strategies to assist the City in reaching its CO_2e reduction goals. The CAP was last updated in 2017 and incorporates the original CO_2 reduction plan of 2000, mitigation and adaptation plans of 2008 and 2011, and the 2014 CAP measures. To help guide implementation of the CAP, the City regularly conducts GHG emission inventories, described further below.

c. Chula Vista Climate Adaption Strategies – Implementation Plans

The City's Climate Adaptation Strategies – Implementation Plans (2011) document includes 11 strategies to adapt Chula Vista to the potential impacts of global climate change related to energy and water supply, public health, wildfires, ecosystem management, coastal infrastructure, and the local economy sectors. The strategies include cool paving, shade trees, cool roofs, local water supply and reuse, storm water pollution prevention and reuse, education and wildfires, extreme heat plans, open space management, wetlands preservation, sea level rise and land development codes, and green economy. For each strategy, the plans outline specific implementation components, critical steps, costs, and timelines. In order to limit the necessary staffing and funding required to implement the strategies, the plans were also designed to build

upon existing municipal efforts rather than create new, stand-alone policies or programs. Initial implementation of all 11 strategies is intended to be phased in over a three-year period from plan adoption.

d. City of Chula Vista Mandatory Construction and Demolition Debris Recycling Ordinance

CVMC Section 8.25.095 requires that 90 percent of inert materials and a minimum of 50 percent of all other materials be recycled and/or reused from certain covered projects. Covered projects include:

- Any project requiring a permit for demolition or construction, which has a project valuation of $20,000 or more.
- Housing subdivision construction or demolition and/or any sequenced development will be considered a project in its entirety and not a series of individual projects.
- Individually built single-family homes.
- All City projects.

Covered projects must submit a waste management plan to the Chula Vista Public Works Department, Environmental Services Division, which must be reviewed and approved prior to the issuance of a demolition or building permit. The waste management plan will indicate how the applicant will recycle and/or reuse 90 percent of inert materials and at least 50 percent of the remaining construction and demolition debris generated from the project.

B. Existing Greenhouse Gas Conditions

1. Climate Change Overview

Global climate change refers to changes in average climatic conditions on Earth, as a whole, including temperature, wind patterns, precipitation, and storms. Historical records show that global temperature changes have occurred naturally, such as during previous ice ages. To measure climate change, scientists look at long-term trends. The temperature trend, including data through 2010, shows the climate has warmed by approximately 0.36 °F per decade since the late 1970s (National Aeronautics and Space Administration [NASA] 2011).

Global temperatures are moderated by naturally occurring atmospheric gases. These gases are commonly referred to as GHGs because they function like a greenhouse by letting light in but preventing heat from escaping, thus warming the Earth's atmosphere. The resulting balance between incoming solar radiation and outgoing radiation from both the Earth's surface and the atmosphere maintains the planet's habitability. The Earth's surface temperature averages about 58°F because of the greenhouse effect. Without it, the Earth's average surface temperature would be somewhere around an uninhabitable 0°F.

GHGs are emitted by natural processes and human (anthropogenic) activities. Anthropogenic GHG emissions are primarily associated with (1) the burning of fossil fuels during motorized

transport, electricity generation, natural gas consumption, industrial activity, manufacturing, and other activities; (2) deforestation; (3) agricultural activity; and (4) solid waste decomposition.

The United Nations Intergovernmental Panel on Climate Change (IPCC) constructed several emission trajectories of GHGs needed to stabilize global temperatures and climate change impacts. The statistical models show a "high confidence" that temperature increase caused by anthropogenic GHG emissions could be kept to less than two degrees Celsius relative to pre-industrial levels if atmospheric concentrations are stabilized at about 450 ppm carbon dioxide equivalent (CO_2e) by the year 2100 (IPCC 2014).

a. Greenhouse Gases of Primary Concern

The GHGs, as defined under California's AB 32, include CO_2, CH_4, N_2O, HFCs, PFCs, and SF_6. Although water vapor is the most abundant and variable GHG in the atmosphere, it is not considered a pollutant; it maintains a climate necessary for life.

CO_2 is the most important and common anthropogenic GHG. CO_2 is an odorless, colorless GHG. Natural sources include the decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungi; evaporation from oceans; and volcanic outgassing. Anthropogenic sources of CO_2 include burning fuels, such as coal, oil, natural gas, and wood. Data from ice cores indicate that CO_2 concentrations remained steady prior to the current period for approximately 10,000 years. The atmospheric CO_2 concentration in 2010 was 390 ppm, 39 percent above the concentration at the start of the Industrial Revolution (about 280 ppm in 1750). As of February 2016, the CO_2 concentration exceeded 403 ppm (National Oceanic and Atmospheric Administration [NOAA] 2016).

CH_4 is the main component of natural gas used in homes. A natural source of methane is from the decay of organic matter. Geological deposits known as natural gas fields contain methane, which is extracted for fuel. Other sources are from decay of organic material in landfills, fermentation of manure, and cattle digestion.

N_2O is produced by both natural and human-related sources. N_2O is emitted during agricultural and industrial activities, as well as during the combustion of fossil fuels and solid waste. Primary human-related sources of N_2O are agricultural soil management, animal manure management, sewage treatment, mobile and stationary combustion of fossil fuel, adipic (fatty) acid production, and nitric acid production.

Fluorocarbons are gases formed synthetically by replacing all hydrogen atoms in methane or ethane with chlorine and/or fluorine atoms. Chlorofluorocarbons are nontoxic, nonflammable, insoluble, and chemically nonreactive in the troposphere (the level of air at Earth's surface). Chlorofluorocarbons were first synthesized in 1928 for use as refrigerants, aerosol propellants, and cleaning solvents. They destroy stratospheric ozone; therefore, their production was stopped as required by the 1989 Montreal Protocol.

SF_6 is an inorganic, odorless, colorless, nontoxic, nonflammable gas. SF_6 is used for insulation in electric power transmission and distribution equipment, in the magnesium industry, in semi-conductor manufacturing, and as a tracer gas for leak detection.

GHGs have long atmospheric lifetimes that range from one year to several thousand years. Long atmospheric lifetimes allow for GHGs to disperse around the globe. Because GHGs vary widely in the power of their climatic effects, climate scientists have established a unit called GWP. The GWP of a gas is a measure of both potency and lifespan in the atmosphere as compared to CO_2. For example, because methane and N_2O are approximately 25 and 298 times more powerful than CO_2, respectively, in their ability to trap heat in the atmosphere, they have GWPs of 25 and 298, respectively (CO_2 has a GWP of 1). CO_2e is a quantity that enables all GHG emissions to be considered as a group despite their varying GWP. The GWP of each GHG is multiplied by the prevalence of that gas to produce CO_2e. The atmospheric lifetime and GWP of selected GHGs are summarized in Table 5.10-1, *Global Warming Potentials and Atmospheric Lifetimes*.

Table 5.10-1 GLOBAL WARMING POTENTIALS AND ATMOSPHERIC LIFETIMES

Gas	Atmospheric Lifetime (years)	100- year Global Warming Potential
Carbon Dioxide	50-200	1
Methane	12	25
Nitrous Oxide	114	298
HFC-134a	14	1,430
PFC: Tetrafluoromethane	50,000	7,390
PFC: Hexafluoroethane	10,000	12,200
Sulfur Hexafluoride	3,200	22,800

Source: IPCC 2007
HFC: hydrofluorocarbon; PFC: perfluorocarbon

b. Greenhouse Gas Emissions Inventories

i. State

The CARB performs statewide GHG inventories. The inventory is divided into six broad sectors; agriculture and forestry, commercial, electricity generation, industrial, residential, and transportation. Emissions are quantified in MMT of CO_2e. Table 5.10-2, *California Greenhouse Gas Emissions by Sector,* shows the estimated statewide GHG emissions for the years 1990, 2000, 2010, and 2013.

As shown, statewide GHG emissions totaled 433 MMT CO_2e in 1990, 469 MMT CO_2e in 2000, 456 MMT CO_2e in 2010, and 459 MMT CO_2e in 2013. Transportation-related emissions consistently contribute the most GHG emissions, followed by electricity generation and industrial emissions.

Table 5.10-2 CALIFORNIA GREENHOUSE GAS EMISSIONS BY SECTOR (MMT CO_2e)

Sector	1990	2000	2010	2013
Agriculture and Forestry	23.6 (5%)	32.1 (7%)	34.5 (8%)	36.2 (8%)
Commercial	14.4 (3%)	15.0 (3%)	21.6 (5%)	22.6 (5%)
Electricity Generation	110.6 (26%)	105.2 (22%)	90.5 (20%)	90.6 (20%)
Industrial	103.0 (24%)	105.4 (22%)	102.7 (23%)	104.2 (23%)
Residential	29.7 (7%)	31.8 (7%)	32.2 (7%)	32.3 (7%)
Transportation	150.7 (35%)	178.1 (38%)	173.7 (38%)	172.5 (38%)
Unspecified Remaining	1.3 (<1%)	1.2 (<1%)	0.8 (<1%)	0.8 (<1%)
TOTAL	**433.3**	**468.8**	**456.0**	**459.3**

Source: CARB 2007 and CARB 2015a

ii. Regional

A San Diego regional emissions inventory was prepared by the USD School of Law's Energy Policy Initiatives Center (EPIC) that took into account the unique characteristics of the region. Their 2012 emissions inventory for San Diego is duplicated below in Table 5.10-3, *San Diego County Greenhouse Gas Emissions by Sector*. The sectors included in this inventory are somewhat different from those in the statewide inventory. Similar to the statewide emissions, transportation-related GHG emissions contributed the most countywide, followed by emissions associated with energy use.

Table 5.10-3 SAN DIEGO COUNTY GREENHOUSE GAS EMISSIONS BY SECTOR (MMT CO2e)

Sector	2012	
	CO_2e Emissions (MMT)	**Percentage of Total Emissions**
Passenger Cars and Light Duty Vehicles	13.14	37.2%
Electricity	7.97	22.6%
Natural Gas	2.84	8.0%
Heavy Duty Trucks and Vehicles	1.89	5.4%
Solid Waste	1.75	4.9%
Other Fuels	1.64	4.6%
Industrial	1.43	4.1%
Aviation	1.37	3.9%
Off-Road	0.92	2.6%
Wildfire	0.81	2.3%
Other – Thermal Cogeneration	0.64	1.8%
Water	0.52	1.5%
Wastewater	0.16	0.5%
Rail	0.11	0.3%
Agriculture	0.08	0.2%
Marine Vessels	0.05	0.1%
Development and Sequestration	(0.65)	N/A
TOTAL	**34.67**	**100%**

Source: SANDAG 2015

iii. Local

To help guide implementation of the CAP, the City regularly conducts GHG emission inventories. Table 5.10-4, *Chula Vista Greenhouse Gas Emissions*, shows the estimated city-wide GHG emissions for the years 1990, 2005, and 2012.

Table 5.10-4 CHULA VISTA GREENHOUSE GAS EMISSIONS (MT CO_2e)

Source	1990	2005	2012
Transportation	340,090	322,293	400,133
Energy	416,575	480,950	503,936
Solid Waste	80,895	87,621	65,610
Potable Water	*	46,951	43,014
Waste Water	9,607	15,457	17,719
TOTAL	**847,166**	**953,272**	**1,030,412**

Source: City of Chula Vista 2012
* = Not Available

iv. Existing Project Site GHG Emissions

The UID is located in the southern portion of the Otay Ranch GDP area of the City. The Otay Ranch GDP area is former agricultural ranch land historically used for ranching, grazing, and dry farming. It is currently vacant of development and is thus not a source of anthropogenic GHGs.

c. Climate Change Effects

The potential consequences of global climate change on the San Diego region are far reaching. The Climate Scenarios report, published in 2006 by the California Climate Change Center, uses a range of emissions scenarios to project a series of potential warming ranges (low, medium or high temperature increases) that may occur in California during the 21st century. Throughout the state and the region, global climate and local microclimate changes could cause an increase in extreme heat days; higher concentrations, frequency and duration of air pollutants; an increase in wildfires; more intense coastal storms; sea level rise; impacts to water supply and water quality through reduced snowpack and saltwater influx; public health impacts; impacts to near-shore marine ecosystems; reduced quantity and quality of agricultural products; pest population increases; and altered natural ecosystems and biodiversity.

5.10.2 Thresholds of Significance

Given the relatively small levels of emissions generated by a typical development in relationship to the total amount of GHG emissions generated on a national or global basis, individual development projects are not expected to result in significant, direct impacts with respect to climate change. However, given the magnitude of the impact of GHG emissions on the global climate, GHG emissions from new development could result in significant, cumulative impacts with respect to climate change. Thus, the analysis of the potential for a significant GHG impact is limited to cumulative impacts.

According to Appendix G of the CEQA Guidelines, the following criteria may be considered in evaluating the significance of GHG emissions:

Would the project:

- **Threshold 1:** Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.

- **Threshold 2:** Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

5.10.3 Impact Analysis

A. Threshold 1: Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment.

In establishing numerical thresholds for GHG emissions, most lead agencies look to compliance with AB 32. AB 32 set the goal of reducing statewide GHG emissions to 1990 levels by the year 2020. SB 32 looks beyond 2020 and set the goal for reducing statewide GHG emissions to 40 percent below 1990 levels by the year 2030. Given the Project's development timeline with full buildout in 2030, Project emissions are compared to the reduction target set by EO B-30-15 with the use of an efficiency threshold.

One method for determining whether a project's contribution to GHG impacts is cumulatively considerable uses an efficiency threshold to determine whether a project's per service population (SP) (i.e., residents and employees of the project) GHG efficiency level is more or less than the GHG efficiency level that would be needed for a jurisdiction to achieve the goals mandated by AB 32 and SB 32. An efficiency threshold sets a per capita emissions limit. The total emissions from a given project are summed and divided by the project's SP to determine emissions per person and are then compared to the efficiency threshold. The metric represents the rate of emissions needed to achieve a fair share of the State's emissions mandate embodied in AB 32. To develop an efficiency threshold for the Project that would satisfy the requirements of SB 32, the City's 1990 emissions inventory, less 40 percent, must be divided by the City's 2030 population.

Based on the data provided in Tables 2 and 3 of the City of Chula Vista 2012 Greenhouse Gas Emissions Inventory, the City's 1990 GHG emissions inventory totals approximately 847,166 MT CO_2e. Consistent with SB 32, the City's 2030 goal is 508,300 MT CO_2e (847,166 x [1-0.40]). Based on data provided by SANDAG, the City's service population in 2030 is estimated to be 389,979 (288,978 residents + 101,001 employees) (SANDAG 2010). Dividing the City's 2030 goal by the City's 2030 service population results in an efficiency threshold of 1.30 MT CO_2e/SP (508,300/389,979). In the absence of other statewide or regional guidance on thresholds of significance for land use projects, for this EIR, emissions in excess of the 1.30 MT CO2e/SP efficiency threshold would be considered significant.

1. Construction

Project construction GHG emissions were estimated using the CalEEMod model. Project-specific input was based on general information provided in the UID SPA Plan, and default model settings to estimate reasonable worst-case conditions. For modeling purposes, construction was assumed to begin in January 2017 and be completed in May 2030. The quantity, duration, and the intensity of construction activity have an effect on the amount of construction emissions and their related pollutant concentrations that occur at any one time. As such, the emission forecasts provided herein reflect a specific set of conservative assumptions based on the expected construction scenario wherein a relatively large amount of construction is occurring in a relatively intensive manner. Because of this conservative assumption, actual emissions could be less than those forecasted. If construction is delayed or occurs over a longer time period, emissions could be reduced because of (1) a more modern and cleaner-burning construction equipment fleet mix than incorporated in the CalEEMod, and/or (2) a less intensive buildout schedule (i.e., fewer daily emissions occurring over a longer time interval). Additional details of phasing, selection of construction equipment, and other input parameters, including CalEEMod data, are included in Appendix A.

Emissions of GHGs related to the construction of the UID would be temporary. As shown in Table 5.10-5, *Estimated Construction Greenhouse Gas Emissions,* total GHG emissions associated with construction of all land uses proposed under the UID are estimated at 55,423 MT of CO_2e. For construction emissions, City guidance recommends that the emissions be amortized (i.e., averaged) over 30 years and added to operational emissions. Averaged over 30 years, the proposed construction activities would contribute approximately 1,847 MT CO_2e emissions per year.

Table 5.10-5 ESTIMATED CONSTRUCTION GREENHOUSE GAS EMISSIONS

Year	Emissions (MT CO_2e)
2017	513
2018	758
2019	746
2020	4,673
2021	6,264
2022	6,188
2023	6,137
2024	6,144
2025	6,087
2026	6,058
2027	6,033
2028	4,604
2029	845
2030	373
TOTAL[1]	**55,423**
Amortized Construction Emissions[2]	1,847

Source: CalEEMod (output data is provided in Appendix A)

[1] The total presented is the sum of the unrounded values.

[2] Construction emissions are amortized over 30 years in accordance with City guidance.

2. Operational Emissions

Operational sources of GHG emissions include: (1) energy use (electricity and natural gas) and area sources (landscaping equipment); (2) vehicle use; (3) solid waste generation; and (4) water conveyance and treatment. It is noted that the Project includes several Project Design Features to promote alternative transportation use, reduce traffic congestion, encourage energy efficiency, and reduce area source pollutants (see Project Design Features included in Chapter 4 of the Project's Air Quality Improvement Plan [refer to Appendix B of the UID SPA Plan]).

a. Energy Use

The Project would be constructed as a zero net energy facility, which means that the Project would incorporate sustainable design and energy reduction measures (such as photovoltaic panels) to completely offset the UID's annual electricity use. Energy sources also include the on-site burning of natural gas for space and water heating. The natural gas consumption assumptions include 25 percent increased efficiency beyond the CalEEMod default Title 24 standards (2008) to reflect the 2013 Title 24 standards. This reduction was only applied to the portion of energy consumption regulated by Title 24. Applying a 25 percent increase in Title 24 regulated energy consumption results in an overall 19 percent reduction in natural gas emissions. The annual GHG emissions from energy usage, comprised exclusively of natural gas usage, are estimated to be 8,117 MT CO2e per year.

b. Area Sources

A relatively small amount of GHGs, approximately 25 MT CO_2e per year, would result from area sources (primarily landscaping equipment).

c. Vehicular (Mobile) Sources

Mobile-source GHG emissions were based on vehicle trip generation provided in the Project traffic study, which was prepared by LLG. The projected ADT rate for the proposed Project is 54,360 trips. The vehicle trip emissions account for the design features described in the California Air Pollution Control Officers Association's (CAPCOA's) *Quantifying Greenhouse Gas Mitigation Measures*. These CAPCOA measures are also consistent with the following policies and objectives of the Regional Plan: mix compatible uses; compact building design; walkable neighborhoods; and access to transit. Using CalEEMod defaults for trip type, distribution, and length, the total annual vehicle miles traveled (VMT) associated with the UID was estimated to be 55.9 million miles, and vehicle-related GHG emissions were estimated to be 20,342 MT CO_2e per year at buildout (year 2030).

d. Solid Waste Sources

Solid waste generated by the Project would also contribute to GHG emissions. Treatment and disposal of solid waste produces significant amounts of methane. Through mandatory compliance with AB 341, the Project would achieve an average 75 percent diversion of waste during operations. Applying this reduction to CalEEMod defaults, GHG emissions from project-related solid waste would be 559 MT CO_2e per year.

e. Water Sources

Water-related GHG emissions are from the conveyance and treatment of water. The CEC's 2006 *Refining Estimates of Water-Related Energy Use in California* defines average energy values for water in Southern California. These values are used in CalEEMod to establish default water-related emission factors. The Project would implement water conservation features to increase water use efficiency. Applying these reductions to the CalEEMod defaults, the Project's estimated GHG emissions related to water treatment and conveyance would be 5,064 MT CO_2e per year.

f. Other GHG Emission Sources

Ozone is also a GHG; however, unlike other GHGs, ozone in the troposphere is relatively short lived and; therefore, is not global in nature. According to CARB, it is difficult to make an accurate determination of the contribution of ozone precursors (NO_X and VOCs) to global warming (CARB 2004). Therefore, it is assumed that emission of ozone precursors associated with the Project would not significantly contribute to climate change.

At present, there is a federal ban on chlorofluorocarbons (CFCs); therefore, it is assumed that the Project would not generate emissions of this GHG. Implementation of the Project may emit a small amount of HFC emissions from leakage, service of, and from disposal at the end of the life of refrigeration and air conditioning equipment. However, these emissions are not quantifiable and are assumed to be negligible. PFCs and sulfur hexafluoride are typically used in heavy-duty industrial applications. The proposed Project would not include heavy-duty industrial

applications. Therefore, it is not anticipated that the Project would contribute significant emissions of these GHGs.

g. Summary

As illustrated in Table 5.10-6, *Estimated Annual Greenhouse Gas Emissions*, full buildout of the UID (assumed by 2030) would result in 35,954 MT CO_2e per year. Project emissions are compared to the reduction target set by SB 32 with the use of an efficiency threshold. The efficiency threshold was calculated by dividing the City's 2030 emissions goal consistent with SB 32 by the City's 2030 service population. The result is an efficiency threshold of 1.30 MT CO2e/SP per year. The Project's service population is the sum of all the Project's students, employees, and/or residents. As shown in Table 5.10-7, *UID Service Population*, the service population for the UID is 34,000 persons.

Table 5.10-6 ESTIMATED ANNUAL GREENHOUSE GAS EMISSIONS

Emission Sources	Emissions (MT CO_2e/year)
Area Sources	25
Energy Sources	8,117
Vehicular (Mobile) Sources	20,342
Solid Waste Sources	559
Water Sources	5,064
Operational Subtotal	34,107
Construction (Annualized over 30 years)	1,847
TOTAL PROJECT	**35,954**

Source: CalEEMod output data is provided in Appendix A of the Air Quality and Greenhouse Gas Emissions Technical Report (HELIX 2016).

Table 5.10-7 UID SERVICE POPULATION

Person Type	Number of Persons
University Students (Full-Time)	20,000
University Faculty/Staff	6,000
Innovation District Employees	8,000
TOTAL SERVICE POPULATION	**34,000**

Source: ASG 2015

The results of the GHG calculations for full development of the UID are shown in Table 5.10-8, *Greenhouse Gas Emissions Determination.* The data are presented in terms of emissions per service population for comparison with the efficiency threshold.

Table 5.10-8 GREENHOUSE GAS EMISSIONS DETERMINATION

Category	Value
Total 2030 UID Emissions (Table 5.10-5)	35,954 MT CO_2e
UID 2030 Service Population (Table 5.10-6)	34,000 Persons
UID Emissions per Service Population	**1.06 MT CO_2e/SP/yr**
Efficiency Threshold	*1.30 MT CO_2e/SP/yr*
Significant Impact?	***No***

As shown in Table 5.10-8, full buildout of the UID (year 2030) would result in 1.06 MT CO_2e/SP/yr. This value can be compared to, and is less than, the identified efficiency threshold. Impacts due to GHG emissions would be less than significant.

3. Horizon Year (2050) Emissions Inventory

Beyond Project buildout, the Project's GHG emissions would reduce with the continued implementation of the reduction strategies and increased stringency of state reduction measures based on actions included in the Scoping Plan related to energy use and transportation that transition the state towards meeting its longer term GHG emission reduction goals. In addition to the reduction measures already applied to the Project, the following assumption was included in the reduced 2050 GHG emissions:

- Mobile source reductions resulting from fleet wide emissions improvements over current standards were estimated using the EMFAC2014 emissions inventories. Emissions were modeled using Project specific assumptions for fleet mix and VMT as detailed the CalEEMod output files.

The emissions by source for 2050 were calculated by modeling 2050 mobile source emissions using EMFAC2014. Table 5.10-9 summarizes the 2050 emissions as broken down by emissions category. Construction emissions are included in the summary provided in Table 5.10-9 and are expected to be fully amortized by 2060.

Table 5.10-9 ESTIMATED 2050 OPERATIONAL GHG EMISSIONS

Emission Sources	Emissions (MT CO_2e/year)
Area Sources	25
Energy Sources	8,117
Vehicular (Mobile) Sources	16,790
Solid Waste Sources	559
Water Sources	5,064
Operational Subtotal	30,555
Construction (Annualized over 30 years)	1,847
TOTAL PROJECT	**32,403**

Source: HELIX 2017

Through implementation of the Scoping Plan Measures, it is expected that additional reductions would occur. Strengthening of the LCFS and expansion of the zero emissions vehicles program will likely result in further reductions to mobile source emissions. Additionally, the Renewable Portfolios Standard would likely continue beyond the 2030 goal of 50 percent. However, because the design of any such measures has yet to be finalized, any reduction credit associated with these measures has not been included. As such, the analysis presented above reflects a conservative set of assumptions and demonstrates that emissions are on a downward trajectory and would remain less than significant.

B. Threshold 2: Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

There are numerous State plans, policies and regulations adopted for the purpose of reducing GHG emissions. Under AB 32, the California Global Warming Solutions Act of 2006, the quantitative goal is to reduce GHG emissions to 1990 levels by 2020. SB 32 looks beyond 2020 and set the goal for reducing statewide GHG emissions to 40 percent below 1990 levels by the year 2030. As previously discussed, the UID's GHG emissions would be less than efficiency threshold, and therefore would be in compliance with SB 32.

Statewide plans and regulations such as CARB's Scoping Plan, GHG emissions standards for vehicles (AB 1493), the LCFS, and regulations requiring an increasing fraction of electricity to be generated from renewable sources are being implemented at the statewide level; as such, compliance at the project level is not addressed. Therefore, the proposed project does not conflict with those plans and regulations.

The Project would be consistent with the goals of SANDAG's Regional Plan to develop compact, walkable communities close to transit connections and consistent with smart growth principles. The Regional Plan emphasize development patterns and transportation systems that work together to reduce the use of automobiles. The Project would be designed to incorporate a future BRT stop, which would allow for the use of public transit to project uses. The Project's high density uses would allow people to live, work, or attend university through the use of the BRT stop. In addition, bike lanes and pedestrian-friendly avenues would be incorporated throughout much of the project site to encourage non-vehicular circulation to and within the project area and surrounding villages in Otay Ranch. The Regional Plan also shows an overall population increase in Chula Vista of 39 percent from 2012 to 2050, compared to a region average of 29 percent. The Project would also be consistent with the Regional Plan's growth forecasts.

Since 2000, Chula Vista has been implementing a CAP to address the threat of climate change to the local community. The Project's consistency with these policies is analyzed in Table 5.10-10, *City Climate Action Plan Implementation Strategies*.

Table 5.10-10 CITY CLIMATE ACTION PLAN IMPLEMENTATION STRATEGIES

Measure	Project Consistency
Measure #6: Smart Growth Around Trolley Station	*Consistent*. A BRT station is identified at the intersection of Campus Boulevard and Orion Avenue that would serve the project site and nearby off-site residential and commercial areas.
Measure #7: Increased Housing Density near Transit	*Consistent.* The project implements design features to include housing density near transit.
Measure #8: Site Design with Transit Orientation:	*Consistent.* The project accommodates a centrally located transit stop and provides for pedestrian-scaled building frontages to encourage walking.
Measure #9: Increased Land Use Mix	*Consistent.* The project provides for an increase land use mix and variety of land uses.
Measure #10: Reduced Commercial Parking Requirements	*Consistent.* The project provides for a managed parking system.
Measure #11: Site Design with Pedestrian/Bicycle Orientation	*Consistent.* The project provides for pedestrian-scaled building frontages to encourage walking and bicycling. The project also provides pedestrian and bicycle amenities.
Measure #12: Bicycle Integration with Transit and Employment	*Consistent.* The project promotes alternatives to vehicle use thereby reducing VMTs that in turn reduced GHG emissions
Measure #13: Bike Lanes, paths, and routes	*Consistent.* The project provides for separated bike lanes.
Measure #14: Energy Efficient Landscaping	*Consistent.* The Project provides for landscaped parkways with street trees. The Water Conservation Plan identifies appropriate trees to increase water efficiency.
Measure #15: Solar Pool Heating	*Consistent.* Any installation of a pool will comply with the City's Municipal Code, which requires mandatory solar heating of new pools or optional motorized insulated pool covers.
Measure #16: Traffic Signal and System Upgrades	*Consistent.* All traffic signals will comply with the requirements of the City's Traffic Signal Program.
Measure #18: Energy Efficient Building Recognition Program	*Consistent.* All new construction will comply with the Municipal Code requirements to exceed Title 24 by 15%.
Measure #20: Increased Employment Density Near Transit	*Consistent.* The Project provides for increased density within 0.25 mile of a transit stop.

5.10.4 Level of Significance Prior to Mitigation

A. GHG Emissions

Impacts due to GHG emissions would be less than significant, due to the inclusion of the Project Design Features included in Chapter 4 of the Project's Air Quality Improvement Plan (refer to Appendix B of the UID SPA Plan). Therefore, no mitigation measure is required.

B. Plan Consistency

Implementation of the Project would not conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions. This would represent a less than significant impact.

5.10.5 Mitigation Measures

A. GHG Emissions

Impacts due to GHG emissions would be less than significant. Therefore, no mitigation is required.

B. Plan Consistency

No mitigation measures are required.

5.10.6 Level of Significance After Mitigation

A. GHG Emissions

The Project's GHG emissions, as shown above, would result in less than significant impacts without mitigation, due to the inclusion of the Project Design Features included in Chapter 4 of the Project's Air Quality Improvement Plan (refer to Appendix B of the UID SPA Plan).

B. Plan Consistency

Impacts related to compliance with applicable plans, policies, and regulations adopted for the purpose of reducing GHG emissions would be less than significant without mitigation.

5.11 HYDROLOGY AND WATER QUALITY

This section describes the hydrologic and water quality setting of the project site and applicable off-site areas, and evaluates the potential for impacts to drainage, runoff (including hydromodification), groundwater, and water quality conditions from implementation of the Project.

This EIR tiers from the Previous Environmental Review Documents, as described in Chapter 2.0, *Introduction*. The 2013 SEIR did not address hydrology and water quality but relied on analysis in the 1993 Program EIR for the GDP (EIR 90-01). Section 3.9, *Water Resources and Water Quality*, of the 1993 Program EIR analyzed the potential impacts related to hydrology and water quality for the entire Otay Ranch GDP, including the Main Campus Property. This analysis concluded that implementation of the GDP would result in significant but mitigable environmental impacts to regional hydrologic and water quality conditions and is hereby incorporated by reference. The measures applicable to the UID project include requiring site-specific hydrology studies and BMP implementation at the SPA Plan level, implementing plans provided in the 1991 Urban Runoff/Reservoir Study by Baldwin Vista, compliance with all applicable runoff and stormwater discharge regulations, requiring additional studies related to groundwater recharge, and future compliance with an Urban Runoff Master Plan for Otay Lakes. It is noted, however, that no previous mitigation measures are incorporated by reference because the reports related to the current Project include updated mitigation measures that are equivalent to or more efficient than measures included in previous environmental review. Section 4.4, *Hydrology/Drainage*, of the 2001 SEIR (01-01) analyzed potential impacts associated with implementation of the EastLake III SPA, including the Lake Property. These analyses concluded that potentially significant impacts could be reduced to a level below significance by requiring compliance with applicable federal, state and City regulations related to stormwater runoff with future development plans and are herein incorporated by reference.

Information contained in this section is based on site-specific technical reports related to hydrology and water quality, prepared by Rick Engineering, including a site-specific *Water Quality Technical Report and Hydromodification Management Plan* (Appendix H) and a *Drainage Study* (Appendix I). The technical reports update the applicable information contained in the SEIRs. It should be noted that the Water Quality Technical Report (WQTR) was prepared in September 2015, prior to the 2016 City of Chula Vista BMP Design Manual, and does not reflect the format of a Priority Development Project Storm Water Quality Management Plan (PDP SWQMP). However, the WQTR incorporates the design requirements based on the 2013 Municipal Separate Stormwater Systems (MS4) Permit (Order No, R9-2013-0001, as amended by Order Nos. R9-2015-0001 and R9-2015-0100). For the purposes of this report, the WQTR will herein be referred to throughout this section as a PDP SWQMP to reflect current nomenclature related to water quality.

5.11.1 Existing Conditions

A. Regulatory Framework

1. Federal

a. The Clean Water Act

The Clean Water Act (CWA) (33 U.S.C. 1251–1376), as amended by the Water Quality Act of 1987, is the major federal legislation governing water quality. The objective of the CWA is "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." Important sections of the Act are as follows:

- Sections 303 and 304 provide for water quality standards, criteria, and guidelines.
- Section 401 (Water Quality Certification) requires an applicant for any federal permit that proposes an activity, which may result in a discharge to waters of the United States, to obtain certification from the state that the discharge will comply with other provisions of the Act.
- Section 402 establishes the National Pollutant Discharge Elimination System (NPDES), a permitting system for the discharge of any pollutant (except for dredged or fill material) into waters of the United States. This permit program is administered by the State Water Resources Control Board (SWRCB).
- Section 404 establishes a permit program for the discharge of dredged or fill material into waters of the United States. This permit program is jointly administered by the ACOE and the USEPA.

b. National Pollution Discharge Elimination System Permits

The NPDES permit system was established under the federal CWA to regulate both point and nonpoint source discharges to surface Waters of the U.S. The NPDES program characterizes receiving water quality, identifies harmful constituents, targets potential sources of pollutants, and implements a comprehensive storm water management program. In California, the SWRCB and the nine statewide RWQCBs administer the NPDES permit program, pursuant to authority delegated by the USEPA. Specifically, as outlined below under the discussion of State Requirements, construction activities are typically regulated under statewide general permits issued by the SWRCB, while municipal permits for operational activities and groundwater extraction permits (along with individual waste discharge requirements [WDRs]) are issued by the individual RWQCBs. These permits are typically implemented by the local permittees (e.g., the City of Chula Vista) with direction and oversight by the SWRCB and/or RWQCBs, including the San Diego RWQCB for the proposed project area (hereafter referred to as the RWQCB).

c. Federal Antidegradation Policy

The federal antidegradation policy is designed to protect water quality and water resources. The policy directs states to adopt a statewide policy that includes the following primary provisions:

(1) existing instream uses and the water quality necessary to protect those uses shall be maintained and protected; (2) where existing water quality is better than necessary to support fishing and swimming conditions, that quality shall be maintained and protected unless the state finds that allowing lower water quality is necessary for important local economic or social development; and (3) where high-quality waters constitute an outstanding national resource, such as waters of national and state parks, wildlife refuges, and waters of exceptional recreational or ecological significance, that water quality shall be maintained and protected.

d. Safe Drinking Water Act

Under the Safe Drinking Water Act (SDWA) (Public Law 93-523), passed in 1974, the USEPA regulates contaminants of concern to domestic water supply. Contaminants of concern relevant to domestic water supply are defined as those that pose a public health threat or that alter the aesthetic acceptability of the water. These types of contaminants are regulated by the USEPA primary and secondary maximum contaminant levels (MCLs). MCLs and the process for setting these standards are reviewed triennially. Amendments to the SDWA enacted in 1986 established an accelerated schedule for setting drinking water MCLs.

e. Federal Emergency Management Agency

The City of Chula Vista and San Diego County are participants in the National Flood Insurance Program (NFIP), a federal program administered by the Federal Emergency Management Agency (FEMA). Participants in the NFIP must satisfy certain mandated floodplain management criteria. The National Flood Insurance Act of 1968 adopted a desired level of protection that would protect developments from floodwater damage associated with an Intermediate Regional Flood, a flood which is defined as a flood having an average frequency of occurrence on the order of once in 100 years, although such a flood may occur in any given year.

2. State

a. Porter-Cologne Water Quality Control Act

The Porter–Cologne Water Quality Control Act (California Water Code Section 13000 et seq.) provides the basis for water quality regulation within California. The act requires a "Report of Waste Discharge" for any discharge of waste (liquid, solid, or otherwise) to land or surface waters that may impair a beneficial use of surface or groundwater of the state.

b. State Water Resources Control Board and Regional Water Quality Control Board

The SWRCB administers water rights, water pollution control, and water quality functions throughout the state, while the Regional Water Quality Control Boards (RWQCBs) conduct planning, permitting, and enforcement activities. The proposed project area lies within the jurisdiction of the San Diego Regional Water Quality Control Board (SDRWQCB).

The SDRWQCB uses planning, permitting, and enforcement authorities to meet this responsibility, and has adopted the Water Quality Control Plan for the San Diego Basin (Basin Plan; SDRWQCB 2011) to implement plans, policies, and provisions for water quality management. The Basin Plan was prepared in compliance with the federal CWA and the state Porter–Cologne Water Quality

Control Act. The Basin Plan establishes beneficial uses for major surface waters and their tributaries, water quality objectives that are intended to protect the beneficial uses, and implementation programs to meet stated objectives.

State and federal laws mandate the protection of designated beneficial uses of water bodies. State law defines beneficial uses as "domestic; municipal; agricultural and industrial supply; power generation; recreation; aesthetic enjoyment; navigation; and preservation and enhancement of fish, wildlife, and other aquatic resources or preserves" (Water Code Section 13050[f]). Beneficial uses are generally defined in the Basin Plan as "the uses of water necessary for the survival or well-being of man, plus plants and wildlife." Identified existing and potential beneficial uses for the project site and applicable downstream portions of the Otay River, Lower Otay Reservoir, and associated coastal areas include the following (with additional description provided in the project PDP SWQMP included as Appendix H of this EIR): municipal and domestic supply (MUN); agricultural supply (AGR); industrial service supply (IND); industrial process supply (PROC); contact and non-contact water recreation (REC 1 and REC 2); warm and cold freshwater habitat (WARM and COLD); wildlife habitat (WILD); and rare, threatened or endangered species (RARE). Identified beneficial uses for local groundwater resources include MUN, AGR and IND. Water quality objectives identified in the Basin Plan are based on established beneficial uses and are defined as "the limits or levels of water quality constituents or characteristics which are established for the reasonable protection of beneficial uses."

c. General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit)

Construction activities exceeding one acre (or meeting other applicable criteria) are subject to pertinent requirements under the Construction General Permit. This permit was issued by the SWRCB (pursuant to authority delegated by the USEPA), as NPDES No. CAS000002 and SWRCB Order 2009-0009-DWQ (as amended by Order Nos. 2010-0014-DWQ and 2012-0006-DWQ). Specific conformance requirements include implementing a SWPPP, an associated CSMP, employee training, and minimum BMPs, as well as a REAP for applicable projects (e.g., those in Risk Categories 2 or 3, as outlined below). Under the Construction General Permit, project sites are designated as Risk Level 1 through 3 based on site-specific criteria (e.g., sediment erosion and receiving water risk), with Risk Level 3 sites requiring the most stringent controls. Based on the site-specific risk level designation, the SWPPP and related plans/efforts identify detailed measures to prevent and control the off-site discharge of pollutants in storm water runoff. Depending on the risk level, these may include efforts such as minimizing/stabilizing disturbed areas, mandatory use of technology-based action levels, effluent and receiving water monitoring/reporting, and advanced treatment systems (ATS). Specific pollution control measures require the use of best available technology economically achievable (BAT) and/or best conventional pollutant control technology (BCT) levels of treatment, with these requirements implemented through applicable BMPs. While site-specific measures vary with conditions such as risk level, proposed grading, and slope/soil characteristics, detailed guidance for construction-related BMPs is provided in the permit and related City standards (as outlined below), as well as additional sources including the USEPA National Menu of Best Management Practices for Storm Water Phase II – Construction (USEPA 2013), and Storm Water Best Management Practices Handbooks (California Stormwater Quality Association [CASQA] 2009). Specific requirements for the proposed project under this

permit would be determined during SWPPP development, after completion of project plans and application submittal to the SWRCB.

d. General Groundwater Extraction Discharges to Surface Waters Permit

If project-related construction activities entail the discharge of extracted groundwater into receiving waters, the coverage under the General Groundwater Extraction Discharges to Surface Waters Permit (Groundwater Permit; NPDES No. CAG919003, Order No. R9-2015-0013) would be required. Conformance with the Groundwater Permit is generally applicable to all temporary and certain permanent groundwater discharge activities, with exceptions as noted in the permit. Specific requirements for permit conformance include: (1) submittal of appropriate application materials and fees; (2) implementation of pertinent (depending on site-specific conditions) monitoring/testing, disposal alternative, and treatment programs; (3) provision of applicable notification to the associated local agency prior to discharging to a municipal storm drain system; (4) conformance with appropriate effluent standards (as outlined in the permit); and (5) submittal of applicable documentation (e.g., monitoring reports).

e. Waste Discharge Requirements for Municipal Separate Storm Sewer Systems Permit

The current MS4 Permit (Municipal Permit) became effective for listed co-permittees, including the City of Chula Vista, on June 27, 2013 (NPDES No. CAS 0109266, Order No. R9-2013-0001, as amended by Order Nos. R9-2015-0001 and R9-2015-0100). The Municipal Permit implements a regional strategy for water quality and related concerns and mandates a watershed-based approach that often encompasses multiple jurisdictions. The overall permit goals include: (1) providing a consistent set of requirements for all MS4 co-permittees; and (2) allowing the co-permittees to focus their efforts and resources on achieving identified goals and improving water quality, rather than just completing individual actions (which may not adequately reflect identified goals). Under this approach, the co-permittees are tasked with prioritizing their individual water quality concerns, as well as providing implementation strategies and schedules to address those priorities. Municipal Permit conformance entails considerations such as receiving water limitations (e.g., Basin Plan criteria as outlined below), waste load allocations (WLAs), and numeric water quality based effluent limitations (WQBELs). Specific efforts to provide permit conformance and reduce runoff and pollutant discharges to the maximum extent practicable (MEP) involve methods such as: (1) using jurisdictional planning efforts (e.g., discretionary general plan approvals) to provide water quality protection; (2) requiring coordination between individual jurisdictions to provide watershed-based water quality protection; (3) implementing appropriate BMPs, including Low Impact Development (LID) measures, to avoid, minimize and/or mitigate effects including increased erosion and sedimentation, hydromodification[1] and the discharge of pollutants in urban runoff; and (4) using appropriate monitoring/assessment, reporting, and enforcement efforts to ensure proper implementation, documentation, and (as appropriate) modification of permit requirements.

[1] Hydromodification is generally defined in the Municipal Permit as the change in natural watershed hydrologic processes and runoff characteristics (interception, infiltration, and overland/groundwater flow) caused by urbanization or other land use changes that result in increased stream flows and sediment transport.

f. State Nondegradation Policy

In 1968, as required under the federal antidegradation policy described previously, the SWRCB adopted a nondegradation policy aimed at maintaining high quality for waters in California. The nondegradation policy states that the disposal of wastes into state waters shall be regulated to achieve the highest water quality consistent with maximum benefit to the people of the state and to promote the peace, health, safety, and welfare of the people of the state. The policy provides as follows:

a) Where the existing quality of water is better than required under existing water quality control plans, such quality would be maintained until it has been demonstrated that any change would be consistent with maximum benefit to the people of the state and would not unreasonably affect present and anticipated beneficial uses of such water.

Any activity which produces waste or increases the volume or concentration of waste and which discharges to existing high-quality waters would be required to meet waste discharge requirements which would ensure (1) pollution or nuisance would not occur and (2) the highest water quality consistent with the maximum benefit to the people of the state would be maintained.

g. California Toxics Rule

In May 2000, the SWRCB adopted and CalEPA approved the California Toxics Rule (CTR), which establishes numeric water quality criteria for approximately 130 priority pollutant trace metals and organic compounds. The SWRCB subsequently adopted its State Implementation Policy (SIP) of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries. The SIP outlines procedures for NPDES permitting for toxic pollutant objectives that have been adopted in Basin Plans and in the CTR.

3. Local

a. Chula Vista Standard Urban Storm Mitigation Plan

All development projects will be required to meet NPDES standards and incorporate BMPs, as defined by the City of Chula Vista's Standard Urban Storm Mitigation Plan (SUSMP). Pursuant to the San Diego RWQCB Municipal Permit, and the City of Chula Vista Storm Water Management Standards Requirements Manual, which includes the SUSMP, all development and redevelopment located within or directly adjacent to or discharging directly to an environmentally sensitive area (as defined in the Municipal Permit and the Local SUSMP), are required to implement site design, source control, and treatment control BMPs.

b. City of Chula Vista BMP Design Manual

The City adopted a jurisdiction-specific BMP Design Manual (BMP Manual, City of Chula Vista 2017) to reflect related NPDES standards, as well as the associated Model BMP Manual for the San Diego Region (Project Clean Water 2016). The BMP Manual identifies construction and post-construction storm water requirements for Standard Projects and Priority Development Projects (PDPs), with the proposed Project constituting a PDP (Rick Engineering 2015b). Specifically, the BMP Manual identifies regulatory requirements and provides detailed performance standards and

monitoring/maintenance efforts for: (1) construction BMPs; (2) overall storm water management design; (3) LID site design and source control BMPs applicable to all projects; (4) pollutant (or treatment) control and hydromodification management BMPs applicable to PDPs; (5) operation and maintenance requirements for applicable BMPs; and (6) specific direction and guidance to provide conformance with City and related NPDES storm water standards.

c. City of Chula Vista Municipal Code Section 14.20, Storm Water Management and Discharge Control

Applicable requirements in Section 14.20 if the CVMC reflect the previously described NPDES standards and incorporate the related City BMP Design Manual by reference. This section of the CVMC is intended to promote the health, safety, and general welfare of the citizens of the City of Chula Vista by prohibiting non-storm water discharges to the storm water conveyance system, preventing discharges to the storm water conveyance system from disposal of materials other than storm water, and reducing pollutants in storm water discharges to the MEP to provide conformance with water quality objectives for surface waters. This ordinance specifically prohibits non-storm water discharges and illegal connections to the storm water conveyance system, as well as any discharge that would result in a violation of an NPDES permit.

d. City of Chula Vista General Plan

The Chula Vista General Plan Public Facilities and Services (PFS) and Environmental Elements address drainage facilities and the protection of water quality. Specifically, the Public Facilities and Services Element includes the following objectives and policies related to drainage and water quality: (1) Objective PFS 1, *Ensure adequate and reliable…drainage service and facilities, with related policies to adequately plan/design new drainage facilities, upgrade existing drainage facilities when applicable, and provide appropriate storm water management*; and (2) Objective PFS 2, *Increase efficiencies in…handling storm water runoff throughout the City through use of alternative technologies, with related policies to assure that drainage facilities provide appropriate storm water runoff and sediment control (including through the use of state-of-the-art technology), and limit the disruption natural landforms and water bodies through (for example) using natural channels that simulate natural drainage ways*. In addition, the Environmental Element includes the following objectives and policies related to drainage and water quality: (1) Objective E 2, *Protect and improve water quality within surface water bodies and groundwater resources within and downstream of Chula Vista*, with related policies to protect water quality though appropriate land use management, reduction of pollutants and toxics in urban runoff, public education, regulatory compliance, and collaborative watershed protection; and (2) Objective E 15, *Minimize the risk of injury and property damage associated with flood hazards, with related policies to preclude unsuitable development and require hydrologic analyses for proposed development in areas susceptible to flood hazards, implement associated measures deemed necessary by the City Engineer, and remove or eliminate existing facilities and activities determined to be unsuitable for flood hazard areas*.

e. Zoning Code and Growth Management Ordinance

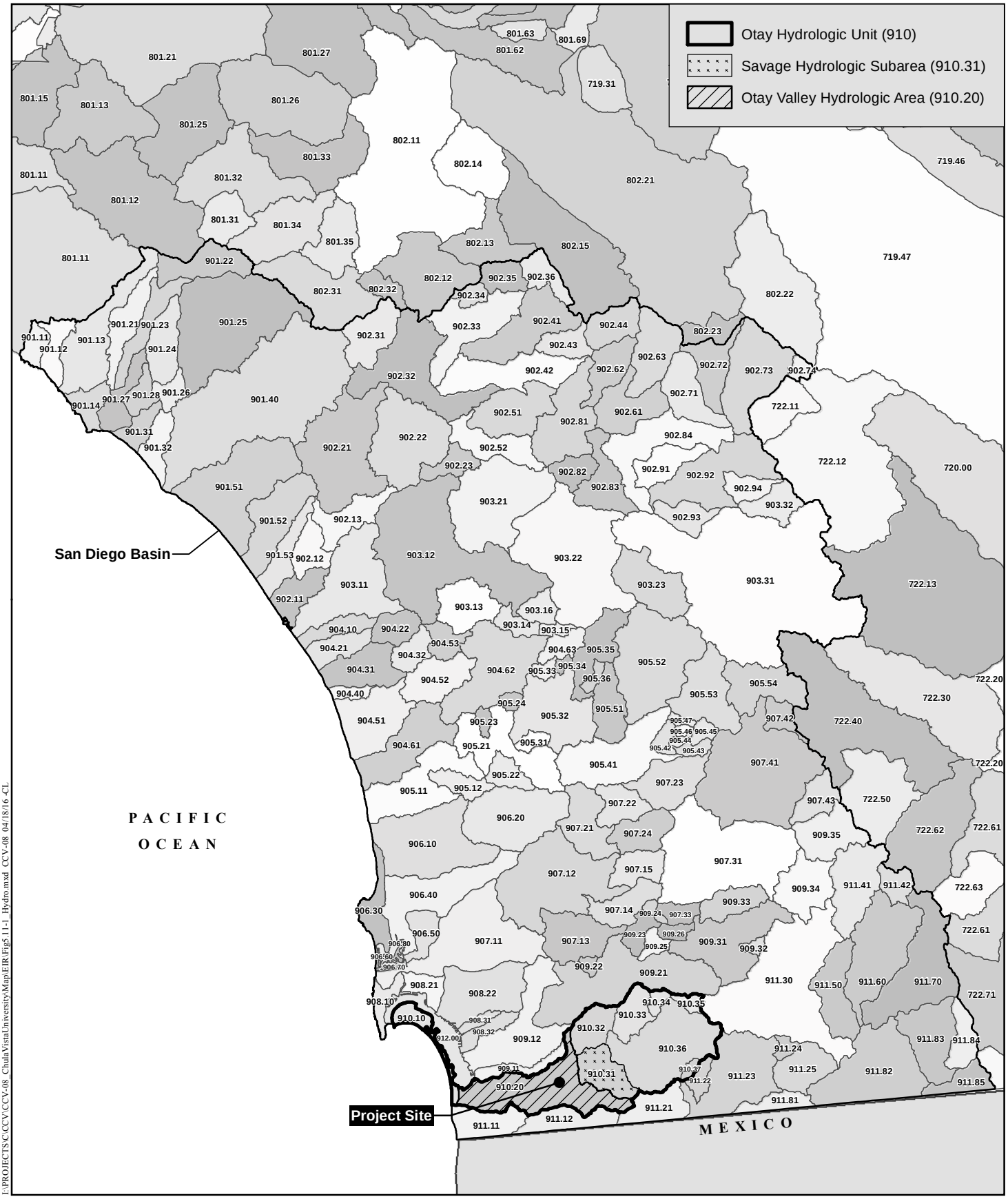
Zoning Code Section 19.80.030 is intended to ensure that new development would not degrade existing public services and facilities below acceptable standards for storm water collection and

other services and requires inclusion of a related Public Services and Facilities Element in the General Plan. Section 19.80.040 requires that discretionary approvals for development projects ensure adequate funding for public facilities (e.g., through a Public Facilities Finance Plan [PFFP]), while Section 19.09 (Growth Management) provides policies and programs that tie the pace of development to the provision of public facilities and improvements. Specifically, Section 19.09.040 F requires that: (1) storm water flows and volumes shall not exceed City engineering standards and shall comply with associated current regulatory requirements; and (2) the GMOC shall annually review the performance of the City storm drain system, with respect to the impacts of new development, to determine its ability to meet the goals and objectives for drainage. In addition, Section 19.09.080 also requires a PFFP for applicable development approvals, as described above for Section 19.80.040.

B. Hydrologic Setting

The project site is located within the Otay Hydrologic Unit (HU) 910, one of 11 major drainage areas identified in the SDRWQCB Basin Plan. The Otay HU is divided into a number of hydrologic areas and subareas based on local drainage characteristics, with the project site located within the Otay Valley Hydrologic Area (HA) 910.20, and the Savage Hydrologic Subarea (HSA) 910.31 of the Dulzura HA (refer to Figure 5.11-1, *Hydrologic Conditions*). Drainage within the Otay HU is primarily through the Otay River and related tributaries, including Salt Creek in the Project vicinity. The Otay River is located approximately 0.6 mile south of the Project site at its closest point and flows generally west before discharging to San Diego Bay approximately eight miles to the west. Salt Creek is located within and east of the Main Campus Property (and west of the Lake Property) and flows generally south to the Otay River. The Otay River watershed encompasses approximately 160 square miles in southwestern San Diego County and consists largely of unincorporated areas in the County of San Diego (but also includes incorporated areas within the cities of Chula Vista, Imperial Beach, Coronado, National City, and San Diego). Two large surface reservoirs, Upper and Lower Otay lakes, are located east of the site (immediately east of the Lake Property), with the Otay River flowing into and out of Lower Otay Lake. Downstream receiving waters for the Main Campus Property portion of the Project site include Salt Creek, the Otay River and San Diego Bay as noted, while the Lake Property drains east directly to Lower Otay Lake.

The Project site is mostly undeveloped, although substantial areas have been previously disturbed by agricultural or grading activities, including the High Tech K-12 School. Existing on-site development is limited primarily to a number of paved and unpaved roads/trails, electrical transmission/distribution line right-of-way (ROW) corridors (including several metal lattice towers and wooden poles), and a number of drainage improvements. Specifically, existing drainage facilities consist mainly of concrete-lined ditches, an outlet structure, a riprap energy dissipater located east of the High Tech K-12 School campus, an outlet/headwall structure located at the base of a manufactured slope just southwest of the Eastlake Parkway/Hunte Parkway intersection, and several minor crossing structures (culverts) at road/wash intersections. Downstream drainage facilities include several larger bridge crossings along the Otay River at roadways including SR-125, I-805, and I-5.



Source: California Interagency Watershed Map of 1999 (Calwater 2.2.1)

Hydrologic Conditions

UNIVERSITY INNOVATION DISTRICT EIR

N 0 12 Miles

Figure 5.11-1

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1. On-site Hydrology

As noted above, surface drainage within the Main Campus Property and related watershed areas flows generally south to the Otay River, while drainage in the Lake Property flows east to Lower Otay Lake. The project site is divided into 10 drainage basins in the Project Drainage Study, designated as Basins 100 through 700, 1000, 1100, and 1200. Basins 100 through 700 are associated with the Main Campus Property, while basins 1000, 1100, and 1200 are located within the Lake Property (with the location and extent of all existing drainage basins shown on the Pre-Project Drainage Study Map included as Figure 5.11-2a, *Existing Drainage Conditions (Main Campus Property)*, and Figure 5.11-2b, *Existing Drainage Conditions (Lake Property)*). Basins 100 and 200 are located in the western portion of the Main Campus Property and drain generally south as primarily non-point (sheet) flow to the Otay River. Basins 300 through 700 encompass the central and western portions of the Main Campus Property and drain southeast as primarily sheet flow to Salt Creek, which then continues south to the Otay River as previously described. Drainage in Basins 1000, 1100, and 1200 moves east to Lower Otay Lake as sheet flow and drains through three existing culvert crossings beneath Wueste Road before entering the lake. As described in the Project Drainage Study, Basins 200, 300 and 700 currently receive off-site flows from developed properties to the north. Specifically, flows from various portions of Otay Ranch Village (Village) 11 enter Basins 200 and 700, flows from High Tech High School and/or adjacent slopes enter Basins 300 and 700, and flows from the Millenia development enter Basin 200.

2. Groundwater

The Project site is not located within the areal extent of any known mapped regional groundwater basins, with the closest such basin, the Otay Valley Groundwater Basin, located to the south along the Otay River corridor (California Department of Water Resources [DWR] 2003). Pursuant to information in the project Geotechnical Evaluation, no known water wells are present with the site vicinity, with typical groundwater depths in the Otay HU of 25 feet or less and groundwater movement generally to the south and west. Perched aquifers may occur locally, however, particularly in association with alluvial deposits along larger drainages such as Salt Creek. Perched aquifers generally consist of unconfined (i.e., not under pressure) groundwater contained by impermeable or semi-permeable strata, with the presence and/or extent of such groundwater bodies typically associated with and influenced by seasonal precipitation, as well as local landscape and/or agricultural irrigation.

3. Water Quality

a. Surface Water

Surface water within the Project site consists of intermittent flows from storm events and runoff from landscape irrigation (or other sources) in off-site properties as described above. No known water quality data is available for the Project site or immediate vicinity, with surface storm and irrigation flows typically subject to variations in water quality due to local conditions such as runoff rates/amounts and land use. Historic and current water quality monitoring has been/is being conducted within the Otay HU in association with requirements under the federal CWA/NPDES and the related Municipal Permit, as outlined above under the discussion of Regulatory Framework. Specifically, this includes wet and dry season monitoring as summarized below.

Wet weather monitoring was conducted during the 2009/2010 and 2011/2012 seasons at the Otay River Temporary Watershed Assessment Station (TWAS-1), located approximately 7.5 miles west (downstream) of the Project site (with no previous or subsequent monitoring conducted at TWAS-1). This monitoring included numerous physical, chemical and biological parameters, with resulting data for 2011/2012 indicating the following trends: (1) applicable water quality objectives were exceeded at a high frequency (more than 50 percent) for bioassessment scores (as outlined below); (2) water quality objectives were exceeded at a medium frequency (25 to 50 percent) for general chemical parameters (turbidity, methylene blue active substances [MBAS[2]], dissolved copper/zinc/lead and pyrethroid insecticides), toxicity to aquatic organisms, fecal coliform bacteria, and total dissolved solids (TDS); and (3) water quality objectives were exceeded at a low frequency (less than 25 percent) for nutrients (Weston Solutions, Inc. [Weston] 2013). Bioassessment testing involves evaluation of the taxonomic richness and diversity of benthic macroinvertebrate (BMI) communities based on the Index of Biotic Integrity (IBI), which provides a quantified score reflecting biological conditions and associated water quality.

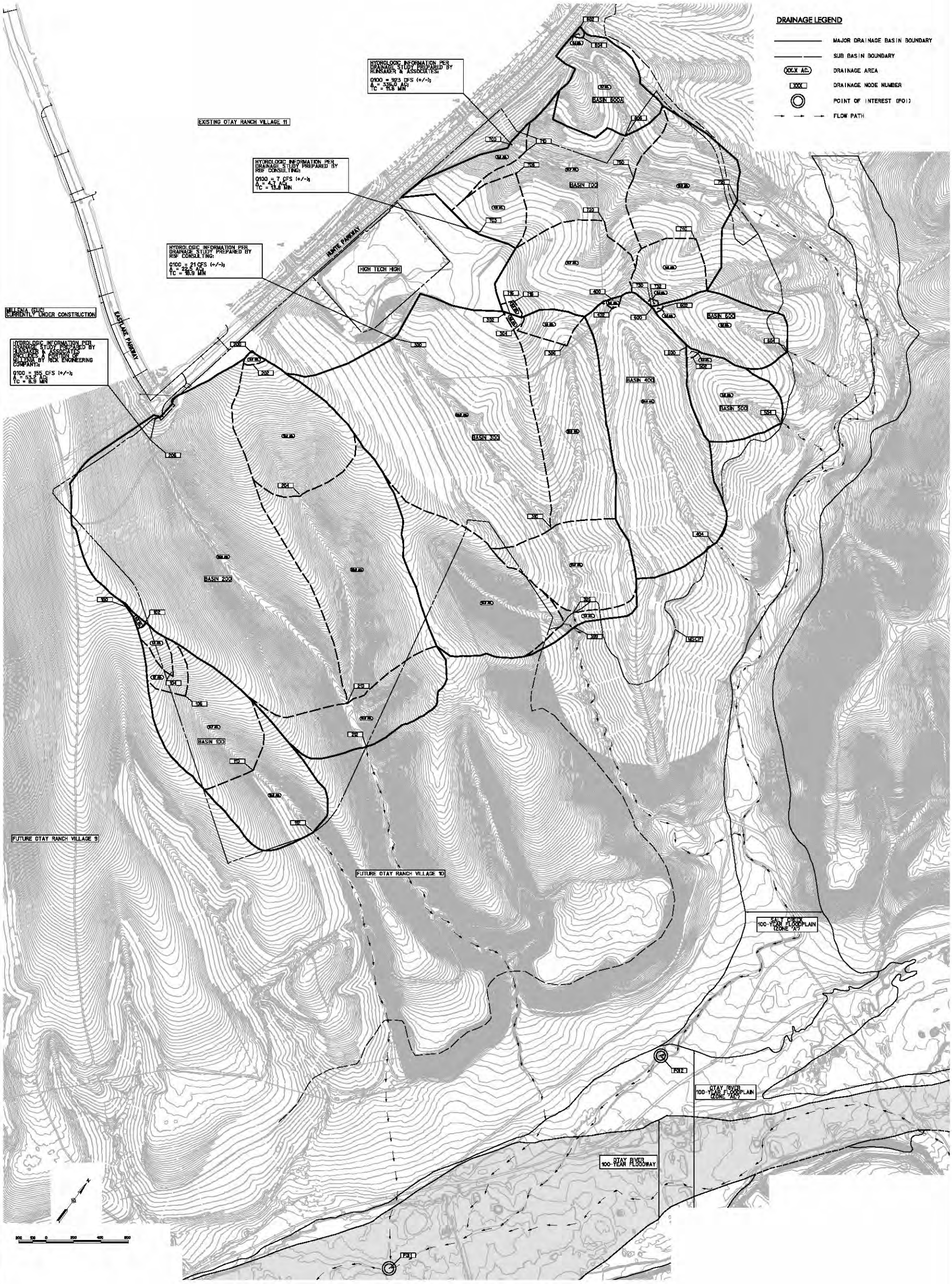
Jurisdictional dry weather sampling was conducted most recently in 2011 at a number of locations both up- and downstream of the Project site. These efforts documented that water quality objectives were most commonly exceeded for conductivity, MBAS, nitrate, and ammonia; and less commonly for pollutants including orthophosphate, pH, and coliform bacteria (Weston 2013).

The SWRCB and RWQCBs are required to produce biennial qualitative assessments of statewide and regional water quality conditions. These assessments are focused on CWA Section 303(d) impaired water listings and scheduling for assignment of total maximum daily load (TMDL) requirements. A TMDL establishes the maximum amount of an impairing substance or stressor that a water body can assimilate and still meet water quality standards and allocates that load among pollution contributors. TMDLs are quantitative tools for implementing state water quality standards, based on the relationship between pollution sources and water quality conditions. States are required to identify and document any and all polluted surface water bodies, with the resulting documentation referred to as the Clean Water Act Section 303(d) List of Water Quality Limited Segments, or more commonly the 303(d) list. This list of water bodies identifies the associated pollutants and TMDLs, along with projected TMDL implementation schedules/status. The most current (2010) approved 303(d) list identifies the following impairment listings in downstream waters (SWRCB 2016):

- Lower Otay Lake (1,050 acres) is listed for ammonia, color, iron, manganese, phosphate, nitrogen, and elevated pH levels. The expected TMDL completion dates are 2021 for nitrogen, and 2019 for all other listed pollutants.

- San Diego Bay is listed for the following locations/pollutants: (1) San Diego Bay, general (10,783 acres), is listed for polychlorinated biphenyls (PCBs); (2) South Bay, Bayside Park at J Street (50 acres), is listed for enterococcus and total coliform bacteria; and (3) South Bay, Chula Vista Marina (no quantified area), is listed for copper. The expected TMDL

[2] MBAS consist of surfactants (compounds that lower surface tension between two liquids or liquids/solids) that typically occur in substances such as commercial detergents, wetting agents, emulsifiers, foaming agents, and dispersants.



Source: Rick Engineering 2017

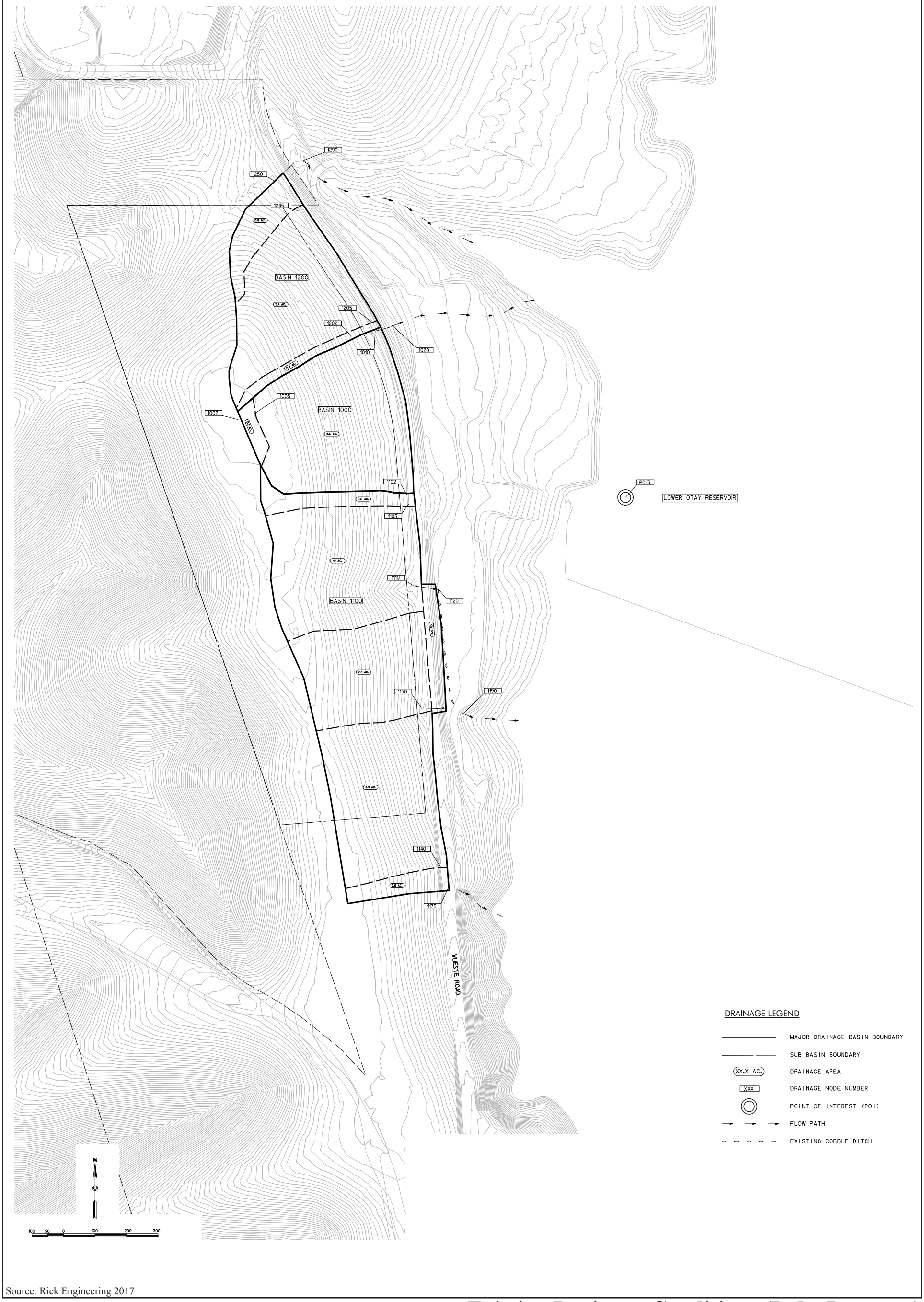
Existing Drainage Conditions (Main Campus Property)

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Figure 5.11-2a

HELIX Environmental Planning

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I:\PROJECTS\CCCV\CCV-08_ChulaVistaUniversityMap\EIR\Fig5.11-2b_ExistingDrainage_LP.indd CCV-08 08/102/17-CL

Source: Rick Engineering 2017

Existing Drainage Conditions (Lake Property)

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HELIX Environmental Planning

Figure 5.11-2b

completion dates are 2021 for enterococcus bacteria, and 2019 for all other listed pollutants.

b. Groundwater

No known site-specific data are available regarding groundwater quality in the Project vicinity. The eastern portion of the Otay Valley Groundwater Basin to the south is identified as generally sodium-calcium-bicarbonate in character, with reported TDS levels ranging between approximately 500 and 2,000 milligrams per liter (mg/l, DWR 2003).

5.11.2 Thresholds of Significance

Based on Appendix G of the CEQA Guidelines and related City criteria, impacts regarding hydrology and water quality would be significant if the Project would:

- **Threshold 1:** Violate any water quality standards or waste discharge requirements, including City of Chula Vista engineering standards for storm water flows and volumes.

- **Threshold 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).

- **Threshold 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 the site, or violate City of Chula Vista Engineering Standards for storm water flows and volumes.

- **Threshold 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 the site.

- **Threshold 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.

- **Threshold 6:** Otherwise substantially degrade water quality.

- **Threshold 7:** Place housing or other structures 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, which would impede or redirect flood flows.

- **Threshold 8:** 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.

- **Threshold 9:** Result in a substantial increase in risk of exposure to inundation by seiche, tsunami, or mudflow.

5.11.3 Impact Analysis

A. Threshold 1: Violate any water quality standards or waste discharge requirements, including City of Chula Vista Engineering Standards for storm water flows and volumes.

Potential Project-related water quality impacts are associated with both short-term construction activities and long-term operation and maintenance. Because the proposed project does not involve activities that could directly affect groundwater quality (e.g., underground fuel storage tanks or septic systems), potential impacts to groundwater quality are limited to the percolation of project-related surface runoff and associated pollutants (e.g., in pervious portions of the proposed storm drain system). Accordingly, the following assessment of potential water quality impacts is applicable to both surface and groundwater resources.

1. Construction

Potential water quality impacts related to on- and off-site Project construction include erosion/sedimentation, accidental discharges of construction-related hazardous materials used/stored onsite (e.g., fuels, etc.), and disposal of extracted groundwater (if required), as described below.

a. Erosion and Sedimentation

Construction-related erosion and sedimentation impacts would be addressed through conformance with applicable elements of the NPDES Construction General Permit and related City storm water standards (refer to the discussion of *Regulatory Framework* in Section 5.11.1). Specifically, this would entail implementing an appropriate SWPPP and related efforts, including erosion and sediment control BMPs (with typical erosion and sediment control BMPs). Without implementation of erosion and sediment control BMPs, water quality impacts are considered to be potentially significant (Impact 5.11-1a).

b. Construction-Related Hazardous Materials

Project construction would involve the use and/or storage of hazardous materials such as fuels, lubricants, solvents, concrete, paint, and portable septic system wastes. The accidental discharge of such materials during project construction could potentially result in significant impacts if these pollutants reach downstream receiving waters, particularly materials such as petroleum compounds that are potentially toxic to aquatic species in low concentrations. Implementation of a SWPPP would be required under NPDES guidelines as previously described and would include measures to avoid or mitigate potential impacts related to the use and potential discharge of construction-related hazardous materials. While detailed BMPs would be determined as part of the NPDES/SWPPP process based on project-specific parameters, they are likely to include the following types of standard industry measures and guidelines from sources including the Construction General Permit and City BMP Design Manual, as well as the additional sources identified in Section 5.8, *Geology and Soils*, (including CASQA [2009] and USEPA [2016]): (1) minimizing and properly locating (e.g., away from drainages/storm drains) hazardous material use/storage areas; (2) providing appropriate covers/enclosures, secondary containment (e.g., berms), monitoring/maintenance, and inventory control (e.g., delivery logs/labeling) for

hazardous material use/storage areas; (3) restricting paving operations during wet weather and providing appropriate sediment control downstream of paving activities; (4) utilizing properly designed and contained washout areas for materials including concrete, dry wall and paint; (5) properly maintaining all construction equipment and vehicles; (6) providing training to applicable construction employees on the proper use, handling, storage, disposal and notification/cleanup for construction-related hazardous materials; (7) storing containment and cleanup materials on site; (8) implementing appropriate solid waste containment, disposal and recycling efforts; and (9) properly locating, maintaining and containing portable wastewater facilities. Therefore, water quality impacts associated with construction-related hazardous materials would be potentially significant (Impact 5.11-1b) until specific measures are identified as part of the SWPPP.

c. Disposal of Extracted Groundwater

While shallow groundwater is generally not expected to occur in the project site and vicinity, construction dewatering could potentially be required during project construction (e.g., in associated with locally perched groundwater aquifers). Disposal of groundwater extracted during construction activities into local drainages and/or storm drain facilities could potentially generate significant water quality impacts through erosion/sedimentation, or the possible occurrence of pollutants in local aquifers. Project construction would require conformance with NPDES Groundwater Permit criteria prior to disposal of extracted groundwater (as outlined above under *Regulatory Framewor*k in Section 5.11.1). While specific BMPs to address potential water quality concerns from disposal of extracted groundwater would be determined based on site-specific parameters, they would likely include erosion/sedimentation controls (as outlined in Section 5.8), as well as the following types of standard measures from the Groundwater Permit: (1) submittal of appropriate application materials and fees; (2) implementation of pertinent (depending on site-specific conditions) monitoring/testing, disposal alternative, and treatment programs; (3) provision of applicable notification to the associated local agency prior to discharging to a municipal storm drain system; (4) conformance with appropriate effluent standards (as outlined in the permit); and (5) submittal of applicable documentation (e.g., monitoring reports).

Water quality impacts related to extraction of groundwater during construction would be potentially significant (Impact 5.11-1c). However, based on required conformance with NPDES and related City storm water standards, including the implementation of a SWPPP and appropriate BMPs, construction-related water quality impacts from implementation of the Project would be mitigated to less than significant.

2. Operation (Post-Construction)

a. Water Quality Assessment

The Project PDP SWQMP/Hydromodification Management Plan ([HMP] Appendix H) identifies pollutants of concern and appropriate control measures related to development of the Project, based on procedures identified in the NPDES Municipal Permit and related City storm water standards. As previously noted, the proposed project is identified as a PDP under City guidelines, due to the inclusion of proposed development categories such as commercial sites, restaurants, hillside development, parking areas, and roadways. Anticipated and potential pollutants associated

with the proposed Project include sediment, nutrients, heavy metals, organic compounds, trash and debris, oxygen demanding substances, oil and grease, bacteria and viruses, and pesticides (refer to Table 2-1 of the PDP SWQMP/HMP in Appendix H). Based on the previously described conditions and related 303(d) listings of the downstream receiving waters, the primary pollutants of concern for the Project are identified as pesticides, nutrients, and metals. Secondary pollutants of concern for the Project include sediment, organic compounds, trash and debris, oxygen demanding substances, oil and grease, and bacteria and viruses (with descriptions of all pollutant categories provided in Section 2.1 of the Project PDP SWQMP/HMP in Appendix H). Urban pollutants accumulate in areas such as streets, parking areas, and drainage facilities, and are picked up in runoff during storm events. Runoff within the Project site would increase as a result of constructing impervious surfaces, with a corresponding increase in pollutant loading potential. Based on these conditions, long-term Project operation could result in the on- and off-site transport of urban pollutants and associated significant effects such as increased turbidity, oxygen depletion, and toxicity to attendant species in downstream receiving waters.

The Project would conform to applicable City and NPDES storm water standards, with such conformance to include the use of appropriate post-construction LID site design, source control and treatment control BMPs, as identified in the City BMP Design Manual. Specific proposed BMPs are identified in the Project PDP SWQMP/HMP, with these measures summarized below and followed by a discussion of associated monitoring and maintenance activities.

Low Impact Development (LID) Site Design BMPs

Site design BMPs are intended to avoid, minimize and/or control post-development runoff, erosion potential and pollutants generation to the MEP by mimicking the natural hydrologic regime. The LID process employs design practices and techniques to effectively capture, filter, store, evaporate, detain, and infiltrate runoff close to its source. Specific LID site design BMPs identified in the Project PDP SWQMP/HMP are based on three site design concepts, which are summarized below along with associated implementation measures (with additional discussion provided in Appendix H). All of the proposed LID site design BMPs would help reduce long-term urban pollutant generation by minimizing runoff rates and amounts, retaining permeable areas, increasing on-site filtering and infiltration, and reducing erosion/sedimentation potential.

Site Design BMP Concept LID-1, Minimize the Impervious Footprint and Conserve Natural Areas

The Project site is primarily undeveloped as previously described, with the proposed development footprint part of a larger planning process with dedicated open space areas for habitat preservation under the Multiple Species Conservation Program (including much of the Salt Creek and Otay River corridors). Under this design concept, the noted process would be enhanced on-site through design efforts such as dedicating additional habitat conservation areas as permanent open space, providing recreation and landscaped areas to help reduce the total amount of impervious surfaces, directing runoff from impervious surfaces into landscaping where feasible, including substantial tree plantings throughout the developed portions of the site to maximize canopy interception, and minimizing soil compaction in areas such as the downstream bioretention basins to allow for incidental infiltration (with additional discussion of the bioretention basins provided below under the analysis of treatment control BMPs). Proposed implementation measures for Site Design BMP Concept LID-1 are listed below.

- Minimize and disconnect impervious surfaces.
- Conserve natural areas, soils, and vegetation where feasible.
- Construct walkways, trails, patios, overflow parking lots, alleys and other low-traffic areas with permeable surfaces such as permeable concrete or asphalt, unit pavers, or granular materials.
- Construct streets, sidewalks, and parking lot aisles to the minimum widths necessary while meeting requirements for public safety and providing a "walkable environment" for pedestrians.
- Maximize canopy interception and water conservation by preserving existing native trees and shrubs and planting additional native or drought-tolerant varieties.
- Minimize the use of impervious surfaces, such as decorative concrete, in landscaped areas.
- Use natural drainage features in the Project storm water system to the MEP.
- Minimize soil compaction through efforts such as restricting construction equipment access in applicable areas (e.g., open space and appropriate drainage facilities), and collecting/storing native soil for reuse in on-site landscaping.
- Employ other applicable LID site design concepts that are comparable and equally effective.

Site Design BMP Concept LID-2, Minimize Directly Connected Impervious Areas

This concept entails directing runoff from rooftops and other impervious surfaces into landscaped areas to the MEP to help reduce the "effective"[3] impervious cover within the Project site, with associated implementation measures listed below.

- Drain rooftops into adjacent landscaping where proposed, prior to discharging into the storm drain system.
- Drain impervious sidewalks, walkways, trails, and patios into adjacent landscaping where proposed.
- Utilize other applicable design characteristics that are comparable and equally effective.

Site Design BMP Concept LID-3, Protect Slopes and Channels

Under this design concept, larger natural drainage features would be preserved (e.g., the Salt Creek and Otay River corridors), the site would be stabilized/landscaped in conformance with the City

[3] Pursuant to Section 3.7 of the Development Storm Water Manual, the City of Chula Vista will not consider storm water BMPs "effective," unless a mechanism is in place that will ensure ongoing long-term maintenance of all structural BMPs. This mechanism may be provided by the City or by a project proponent (Chula Vista 2011c).

Landscape Manual, runoff would be conveyed away from the tops of slopes via swales or drains, energy dissipators would be installed at all storm drain outlet/outfall locations, and splash pads or rock would be placed at outlets from roof drains into landscaped areas to help avoid/minimize erosion. Proposed implementation measures for Site Design BMP Concept LID-3 are listed below.

- Minimize disturbance to natural drainages.
- Convey runoff safely from the tops of slopes.
- Vegetate slopes with native and/or drought-tolerant vegetation.
- Control and treat flows by conveying drainage into landscaped areas, or other methods, prior to reaching natural drainage systems.
- Stabilize permanent channel crossings.
- Install energy dissipators to minimize impacts to receiving waters.

  Utilize other applicable design principles that are comparable and equally effective.

Source Control BMPs

Source control BMPs are intended to avoid or minimize the introduction of pollutants into storm drains and natural drainages to the MEP by reducing on-site pollutant generation and off-site pollutant transport at the source. Specifically, this involves minimizing contact between pollutants and urban runoff, with source control BMPs identified in the Project PDP SWQMP/HMP based on four source control design concepts which are summarized below along with associated implementation measures (and additional discussion provided in Appendix H). All of the proposed source control BMPs would help to improve long-term water quality within and downstream from the Project site by avoiding or minimizing pollutant generation and exposure to storm flows at the source.

Source Control BMP Design Concept SC-1, Provide Storm Drain Stenciling

Under this design concept, storm drain inlets and catch basins would be signed, stenciled, or labeled with prohibitive language and/or graphic icons to discourage illegal dumping, with associated implementation measures listed below.

- Provide stenciling or labeling at all Project storm drain inlets and catch basins, with prohibitive language such as "No Dumping – I Live Downstream" and/or related graphic icons such as fish or other aquatic organisms.
- Post signs with prohibitive language and/or graphic icons which prohibit illegal dumping at public access points along applicable channels and creeks.
- Maintain the legibility of storm drain/public access stencils, signs, and labels.

Source Control BMP Design Concept SC-3, Design Trash Storage Areas to Reduce Pollutant Introduction

This design concept is intended to avoid/minimize the introduction of pollutants from trash storage areas (e.g., dumpsters), by reducing the potential for trash dispersal through requiring the following implementation measures at all trash storage/container areas.

- Pave trash storage/container areas with an impervious surface designed to prevent run-on from adjacent areas and provide screens or walls to prevent off-site trash dispersal.
- Cover trash receptacles with a roof or awning to avoid/minimize direct precipitation contact.
- Design all trash storage/container areas in conformance with CVMC Section 19.58.340 (e.g., proper design and maintenance of trash/recycling areas).

Source Control BMP Design Concept SC-4, Use Efficient Irrigation Systems and Landscape Design

Under this concept, irrigation systems and landscape design would be tailored to address site-specific requirements while minimizing water use/runoff, with associated implementation measures listed below.

- Employ rain shutoff devices to prevent irrigation during or after precipitation events.
- Design irrigation systems and schedules to match the specific watering requirements of individual landscaped areas.
- Use flow reducers or shutoff valves triggered by pressure reductions to minimize water loss in the event of broken sprinkler heads or lines.
- Utilize other applicable design principles that are comparable and equally effective to reduce irrigation runoff.

Source Control BMP Design Concept SC-5, Incorporate Requirements Applicable to Individual Priority Project Categories

This design concept would ensure that applicable individual PDP requirements from the City BMP Design Manual are implemented. Specifically, this would include measures related to residential driveways and guest parking, designated parking areas, and hillside landscaping for the proposed Project, with associated implementation measures listed below.

For residential driveways and guest parking, the following implementation measures are applicable:

- Design driveways with shared access, a flared layout (i.e., a single lane at the street), pavement strips only under tire pathways, and/or drainage to landscaping.

- Pave uncovered parking on private residential lots with a permeable surface or drain parking areas to landscaping.

- Utilize other applicable features that are comparable and equally effective, as determined by the City Engineer.

For parking areas, the following implementation measures are applicable:

- Where landscaping is proposed in parking areas, incorporate landscaped areas into the drainage design where feasible.

- Utilize permeable pavement where feasible in overflow parking areas (i.e., parking in excess of minimum City requirements).

- Include other applicable design concepts that are comparable and equally effective, as determined by the City Engineer.

For hillside landscaping, the following implementation measure is applicable:

- Pursuant to the City Landscape Manual, areas disturbed by Project development would be landscaped with deep-rooted, drought-tolerant plant species selected for erosion control, to the satisfaction of the City.

Treatment Control BMPs

Treatment control (or structural) BMPs are designed to remove pollutants from urban runoff for a design storm event to the MEP through means such as filtering, settling, biological uptake, media adsorption, or other applicable processes. Treatment control BMPs are required to address the identified priority pollutants of concern and must provide medium or high levels of removal efficiency for these pollutants (per applicable regulatory requirements). Specific treatment control BMPs identified in the Project PDP SWQMP/HMP include bioretention basins, which filter storm water through plant roots and a biologically active soil mix before infiltrating into the native soil if appropriate soil conditions are present. If local soil conditions are not conducive to infiltration, subdrains would be incorporated to convey treated flows to the storm drain system. Five individual bioretention basins are proposed, including three associated with the Main Campus Property (two of which would be constructed as part of an adjacent development but would treat flows from the proposed project as well), and two on the Lake Property (with portions of the Lake Property to be self-treating, as described below). Bioretention basins exhibit a high-level removal efficiency for coarse sediment and trash, as well as pollutants that tend to associate with fine particles during treatment (including sediment, heavy metals, organic compounds, oxygen demanding substances, bacteria and viruses, oil and grease, and pesticides). Bioretention basins provide a medium-level removal efficiency for pollutants that tend to be dissolved during treatment, including nutrients. As noted above, two of the bioretention basins associated with the Main Campus Property are proposed to be constructed as part of the Village 10 development located south of the Project site. If, as noted in the Project PDP SWQMP/HMP, these Village 10 treatment control facilities are not operational when the proposed Project is completed, similar bioretention facilities would be placed within the Project footprint as an interim measure to provide regulatory conformance until the

Village 10 basins are operational. These temporary facilities, if implemented, would be designed to address both water quality and hydromodification management criteria, as the intervening tributary drainages between the Project site and the Otay River are not exempt from HMP criteria (refer to the Hydromodification Assessment below in this section).

The proposed treatment control BMPs would help to improve long-term water quality within and downstream of the Project site by treating/removing pollutants from urban runoff to the MEP prior to downstream discharge. Additional discussion of proposed treatment control BMP design standards, including selection criteria, sizing (i.e., volume- and flow-based design), locations, shared/interim function, and performance requirements is provided in the Project PDP SWQMP/HMP (Appendix H). It should also be noted that the proposed treatment control BMPs would meet the applicable water quality requirements identified for Lower Otay Lake by the City of San Diego (which uses the lake as a drinking water source). Specifically, the two proposed bioretention basins on the Lake Property portion of the site would provide treatment for associated Project flows prior to discharge to the storm water system, which would drain directly to Lower Otay Lake. Specifically, these basins would provide treatment for flows from Basins 1100 and 1200, while Basin 1000 would consist of landscaped slopes and is considered self-treating[4] (Rick Engineering 2015b). Additional discussion regarding City of San Diego treatment requirements for Lower Otay Lake is provided in Appendix H.

Post-construction BMP Monitoring/Maintenance

The identified BMPs include physical facilities that require ongoing monitoring and maintenance, such as bioretention basins, signs/stencils, irrigation systems, and landscaping. Pursuant to requirements in the NPDES Municipal Permit, maintenance of applicable BMPs is required, with associated criteria identified in the City BMP Design Manual and the Project PDP SWQMP/HMP, as outlined below.

Long-term BMP maintenance requires that the property owner enter into a Storm Water Management Facilities Maintenance Agreement (Maintenance Agreement) with the City and develop an Operation and Maintenance Plan (O&M Plan). The Maintenance Agreement and O&M Plan specify applicable criteria to ensure appropriate and ongoing BMP maintenance, through efforts such as identifying maintenance responsibilities (e.g., the property owner or the City); ensuring adequate funding (through means such as a cash deposit, letter of credit, or other means acceptable to the City); documenting BMP specifications, locations, and individual maintenance requirements/schedules; and maintaining appropriate records of maintenance activities and results. Based on the noted requirements, the Project PDP SWQMP/HMP identifies the following typical maintenance procedures for proposed BMPs.

Bioretention Basins

Inspections would be conducted monthly during the first four to six months of operation, annually thereafter, and after major storm events, to identify: (1) accumulation of sediment, litter and/or debris at inlets/outlets; (2) standing water; and (3) dislodged or damaged energy dissipators or

[4] Self-treating areas typically consist of undeveloped or vegetated sites that do not receive runoff from development and prevent pollutants from combining with storm water through processes such as filtering by vegetation and/or infiltration.

other facilities. Ongoing maintenance would include removal (and proper disposal) of accumulated materials (e.g., sediment and debris), as-needed repairs, and identification of additional maintenance/cleaning services if applicable.

Signs/Stencils/Labels

Inspections would be conducted annually to ensure legibility, with associated maintenance to include as-needed repairs or replacement of faded, vandalized, or otherwise illegible signs, stencils, or other labeling facilities.

Irrigation Systems

Irrigation systems would be inspected monthly to ensure proper function and avoid conditions including leaks (e.g., from broken lines or sprinkler heads), erosion from concentrated flows, ponded water, and overwatering (e.g., during rain events) or under-watering. Associated maintenance would consist of as-needed system adjustments and repair/replacement of applicable facilities.

Landscaping

Inspection of landscaped areas would be conducted monthly to assess potential problems including erosion; ponded water; areas with less than 70 percent vegetation cover; animal burrows, holes, or mounds; and trash and debris accumulation. Maintenance would be conducted monthly and would include routine mowing, trimming and trash/debris removal, as well as as-needed repairs/ replacement. These efforts may also include implementation of corrective integrated pest management (IPM) measures, such as using physical barriers, weeding, manual removal, biological controls, or proper use of pesticides.

Conclusion

Prior to mitigation, which would ensure the implementation of proposed LID site design, source control, and treatment control BMPs in conformance with NPDES and related City storm water standards (including monitoring/maintenance efforts), long-term Project-related water quality impacts would be considered significant (Impact 5.11-1d). Implementation of these considerations is included as mitigation to ensure that impacts are reduced to a level below significance.

b. Hydromodification Assessment

As discussed in the Project PDP SWQMP/HMP and outlined in this section, runoff from proposed development would be conveyed through the proposed storm drain system and treated in conformance with applicable regulatory standards before ultimately being discharged directly to the Otay River (Main Campus Property) or Lower Otay Lake (Lake Property). The Project PDP SWQMP/HMP concludes that the Project would be exempt from applicable HMP requirements in the City BMP Design Manual and the countywide HMP (County of San Diego 2011a), based on the following considerations: (1) flows from the Main Campus Property would be conveyed (via appropriate storm water facilities/water quality BMPs) directly to a portion of the Otay River exempt from HMP requirements; and (2) flows from the Lake Property would be discharged directly to Lower Otay Lake via stabilized conveyance systems. As a result, potentially significant

impacts related to hydromodification requirements would occur (Impact 5.11-1e); however, impacts would be reduced to a less-than-significant level as a result of Project implementation.

It should also be noted, as discussed above under the Water Quality Assessment, that if the Village 10 bioretention basins are not operational when the proposed Project is completed, the temporary bioretention facilities placed within the Project footprint as an interim measure would be designed to address both water quality and hydromodification management criteria (e.g., though appropriate flow detention/retention). Specifically, this would be required because the intervening tributary drainages between the Project site and the Otay River are not exempt from HMP criteria. Under the described interim scenario, associated potential impacts would be avoided or reduced below a level of significance though incorporating applicable hydromodification elements into the design of temporary bioretention facilities. Hydromodification requirements are included as mitigation to reduce this potentially significant impact to a level below significance.

B. Threshold 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).

The Project would not entail any long-term withdrawal or other use of groundwater, with no associated impacts to local groundwater supplies, aquifer volumes, or water tables from Project implementation. In the unlikely event that shallow groundwater is encountered during Project construction, temporary dewatering efforts would be implemented in conformance with applicable NPDES requirements as previously described. Based on the minor and temporary nature of such potential dewatering activities, as well as the fact that disposal of any extracted groundwater would likely occur within the areal extent of the same basin from which the groundwater was extracted (with associated potential for infiltration/recharge), no associated significant impacts related to drawdown or depletion of local groundwater resources are anticipated.

While Project implementation would include the installation of impervious surfaces such as structures and pavement, associated potential impacts to existing on-site recharge capacity would be less than significant based on the following considerations: (1) the site design includes extensive open space and landscaping that would provide recharge capacity (with flows from rooftops and paved areas to be directed into landscaping as outlined above under Threshold 1); and (2) the proposed storm drain system incorporates natural drainage systems to the MEP, as well as the use of bioretention basins as treatment control BMPs, with some associated potential for infiltration and associated groundwater recharge.

C. Threshold 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, or violate Chula Vista Engineering Standards for storm water flows and volumes.

1. Existing Drainage Conditions

As described in Section 5.11.1, surface flows within applicable portions of the Project site and associated off-site watersheds drain generally south to the Otay River (Main Campus Property and related off-site watersheds), and east to Lower Otay Lake (Lake Property). Flows in the Main Campus Property occur as sheet flow and within a number of small to medium-size intermittent drainages, including Salt Creek, and continue south from the site for approximately 0.6 mile before discharging directly into the Otay River. Flows from the Lake Property occur as sheet flow, which moves east before entering three existing culverts beneath Wueste Road and discharging directly into Lower Otay Lake. The Otay River continues generally west from the Project site area for approximately eight miles and enters San Diego Bay, while Lower Otay Lake provides surface water storage and outlets to the Otay River southeast of the Project site.

2. Post-Development Drainage Conditions

Project implementation would result in some modification of the described existing on-site drainage patterns and directions through proposed grading and construction. Specifically, Project development would include a series of storm drain facilities to capture, regulate and convey flows within and through the site, as depicted on Figures 3-10a and 3-10b. The Project drainage system would conform to applicable City engineering standards, however, and the Project Drainage Study notes that "In the post-project condition, the drainage characteristics are anticipated to remain similar as compared to the pre-project condition." As a result, the described modifications from Project implementation would not substantially alter the overall described on- and off-site drainage patterns. Flows within the Main Campus Property (including applicable flows from off-site areas as described in Section 5.11.1) would continue to drain primarily to the south, with the Project design including a number of appropriately designed and located drainage facilities to retain the overall existing drainage features, including the use of similar outlet points for flows discharged from the site (refer to the Pre- and Post-Project Drainage Study Maps included in Map Pockets 1 and 2 of the Project Drainage Study, Rick Engineering 2015a, in EIR Appendix I). Similarly, post-development flows in the Lake Property would continue east and discharge directly into Lower Otay Lake, similar to existing flows. As a result, post-development flows from the Project site would mimic existing conditions to the extent feasible, with overall runoff patterns and directions maintained and off-site flows continuing to drain generally south to Otay River and east to Lower Otay Lake. Based on the described conditions, Project-related impacts to drainage alteration would be less than significant, including associated potential erosion and siltation effects (with additional information on potential erosion concerns provided above under the discussion of Threshold 1 and in Section 5.8).

3 Post-Development Runoff Rates/Amounts

Implementation of the Project would result in the construction of new impervious surfaces, including pavement and structures. These areas would increase both the rate and amount of runoff

within the site by reducing infiltration capacity and concentrating flows. These flows would be conveyed through and from the site via the proposed storm drain system, as outlined above and depicted on Figures 3-10a and 3-10b. The Modified Rational Method was used to determine pre- and post-development flows in the Project Drainage Study (with specific methodology described in Section 2.0 of the Drainage Study, refer to Appendix I). A summary of pre- and post-development flows for the 10 described drainage basins is provided in Table 5.11-1, *Summary of Pre- and Post-development Drainage Conditions*. As shown, the basins are also categorized by three associated point of interest (POI) locations to evaluate potential effects to downstream "conditions of concern" including drainage system capacities, drainage area diversions, and erosion from concentrated runoff and/or increased peak flow rates. An evaluation of these potential effects at the POI locations is provided below.

Table 5.11-1 SUMMARY OF PRE- AND POST-DEVELOPMENT DRAINAGE CONDITIONS

Point of Interest (POI)	Pre-Development Conditions			Post-Development Conditions			Flow Change[1]
	Drainage Basin	Area (Acres)	Peak 100-Year Flow Rate[1]	Drainage Basin	Area (Acres)	Peak 100-Year Flow Rate[1]	
POI 1	100	24.9	25.4	100	75.3	331.6	+306.2
	200	166.5	240.1[2]	200	137.7	472.5[2]	+232.4
POI 2	300	116.2	89.4[2]	300	80.9	233.5[2]	+144.1
	400	29.7	39.5	400	27.6	79.3	+39.8
	500	7.6	11.4	500	5.8	26.9	+15.5
	600	8.2	11.4	600	7.8	30.2	+18.8
	700	404.0	982.5[2]	700	31.5	100.7[3]	n/a
POI 3	1000	4.8	6.7	1000	1.7	4.5	-2.2
	1100	12.3	14.4	1100	12.0	25.0	+10.6
	1200	4.5	6.5	1200	7.9	23.9	+17.4

Source: Rick Engineering 2015a

[1] Cubic feet per second.

[2] Includes flows from applicable off-site areas.

[3] Off-site areas are excluded in the post-development condition, as the majority of post-development flows would be conveyed generally south and discharged directly into the Otay River. Under pre-development conditions, these flows drain south via Salt Creek before entering the Otay River.

a. Point of Interest 1

The location of POI 1, which encompasses basins 100 and 200 along with applicable off-site areas, is approximately 650 feet downstream of the outfall to the Otay River associated with the Village 10 development. Specifically, flows from proposed Project Basins 100 and 200 would be conveyed off-site in the Village 10 storm drain system and discharged directly to the Otay River. The Project Drainage Study concludes that there are no downstream conditions of concern associated with flows at POI 1, based on the following considerations: (1) the increase in peak flows to the lower portion of the Otay River would be conveyed downstream prior to peak runoff within the overall Otay River Watershed reaching the lower river area; (2) all flows associated with POI 1 would continue to drain generally south to the Otay River, with no related drainage diversion; and (3) the Village 10 storm drain system facilities would include appropriately designed energy dissipators to reduce discharge velocities to non-erosive levels (pursuant to applicable City standards). It

should also be noted, as previously described under Threshold 1, that if the Village 10 facilities are not operational when the Project is completed, similar temporary bioretention facilities would be placed within the Project footprint as an interim treatment control and hydromodification measure. Under this scenario, the temporary facilities would also include appropriately designed energy dissipators as noted above.

b. Point of Interest 2

POI 2 is located approximately 100 feet downstream of the proposed storm drain outfall into the Otay River, near the mouth of Salt Creek. As indicated in Table 5.11-1, the post-development watershed area and related flows are substantially reduced from the pre-development condition. Specifically, this is due to the fact that the pre-development condition for Basin 700 includes extensive off-site areas that drain south via Salt Creek before reaching the Otay River, with these areas to discharge directly to the Otay River near POI 2 under post-development conditions. The Project Drainage Study concludes that there are no downstream conditions of concern associated with flows at POI 2, based on similar considerations as described above for POI 1.

c. Point of Interest 3

POI 3 is identified as Lower Otay Lake, with flows from Basins 1000 through 1200 to discharge directly into the lake as previously described. The Project Drainage Study concludes that there are no downstream conditions of concern associated with flows at POI 3, based on the following considerations: (1) the increase in peak flows to Lower Otay Lake would be stored therein as part of the overall water supply; (2) all flows associated with POI 3 would continue to drain generally east to the lake, with no related drainage diversion; and (3) the proposed storm drain system facilities conveying flows beneath Wueste Road would include appropriately designed energy dissipators to reduce discharge velocities to non-erosive levels prior to conveyance directly to the lake (pursuant to applicable City standards).

From the above analyses, drainages serving the Project site would be susceptible to increased erosion resulting from increased peak flow rates, increased runoff volumes, and duration, which would result in a potentially significant impact (Impact 5.11-2). With implementation of the proposed drainage improvements the Project Drainage Study concludes that there would be "…no adverse impacts to downstream conditions of concern anticipated as a result of the project." Accordingly, potential Project-related impacts to drainage alteration, associated erosion and siltation effects, and conformance with City standards related to storm water rates/amounts would be less than significant with incorporation of the proposed drainage facilities (with additional information on potential erosion concerns provided above under the discussion of Threshold 1 and in Section 5.8). Nonetheless, mitigation is included to ensure that the facilities are implemented and monitored throughout buildout of the Project and impacts related to alteration of existing drainage patters remains below a level of significance.

D. Threshold 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.

As previously described, implementation of the Project would not result in substantial alteration of existing drainage patterns, although it would result in the construction of new impervious surfaces that would increase both the rate and amount of runoff within and from the site. As discussed under Threshold 3, however, post-development runoff from the site and applicable off-site areas would be conveyed through storm drain systems associated with the Project and/or Village 10 and discharged directly to the Otay River (Main Campus Property) or Lower Otay Lake (Lake Property). These storm drain facilities would be designed to accommodate post-development flows from a 100-year storm event, pursuant to applicable City standards. In addition, the Project Drainage Study concludes that no adverse impacts related to downstream conditions of concern, including system capacities from concentrated runoff, and increased peak flow rates, would result from implementation of the Project.

In conclusion, drainages serving the southern basin would be susceptible to increased peak flow rates and increased runoff volumes, which would result in a potentially significant flooding impact (Impact 5.11-3). Installation of the proposed drainage facilities at construction would minimize these impacts. Nonetheless, mitigation would be required to ensure that the facilities are implemented and monitored throughout buildout of the Project.

E. Threshold 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.

As described above under Thresholds 3 and 4, the Project storm drain system would accommodate post-development flows from a 100-year storm event, pursuant to applicable City standards, and would not result in adverse impacts to downstream conditions of concern, including system capacities from concentrated runoff and increased peak flow rates. Accordingly, post-development flows would not generate or contribute flows that would exceed the capacity of existing or planned storm water systems. Additionally, as outlined in the discussion under Threshold 1, Project implementation would include measures to ensure conformance with applicable regulatory standards related to water quality, including NPDES and associated City requirements. Although the Project includes features to reduce the amount and rate of runoff to a less than significant level, these features are also prescribed as mitigation measures to assure implementation and facilitate monitoring through buildout of the Project (Impact 5.11-4).

F. Threshold 6: Otherwise, substantially degrade water quality.

Based on the discussions provided above under Thresholds 1 and 5, the Project would implement measures to ensure required conformance with applicable regulatory standards related to water quality, including NPDES and associated City requirements. However, supplemental water quality studies are required to identify which site-specific BMPs identified in the water quality technical report would be necessary for individual development projects to comply with the manual.

Therefore, potentially significant impacts related to degrading water quality could occur (Impact 5.11-5).

G. Threshold 7: Place housing or other structures 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, which would impede or redirect flood flows.

The 100-year floodplain boundaries designated by Federal Emergency Management Agency (FEMA) for the Otay River and Salt Creek in the Project site vicinity are included on Figure 5.11-3a, *Proposed Drainage Conditions (Main Campus Property)*, and Figure 5.11-3b, *Proposed Drainage Conditions (Lake Property)*. As shown on these figures, all proposed housing and related urban development is located outside of the mapped 100-year floodplain boundaries, with no associated impacts to result from Project implementation. Additionally, while limited portions of the outlet structure and related energy dissipater associated with the proposed off-site bioretention basin near POI 2 would be located within the Otay River 100-year floodplain, associated potential impacts related to impeding or redirecting flood flows would be less than significant based on the minor area and low profile of the noted facilities within the floodplain boundary. Associated potential impacts related to flood hazards from implementation of the Project would be less than significant.

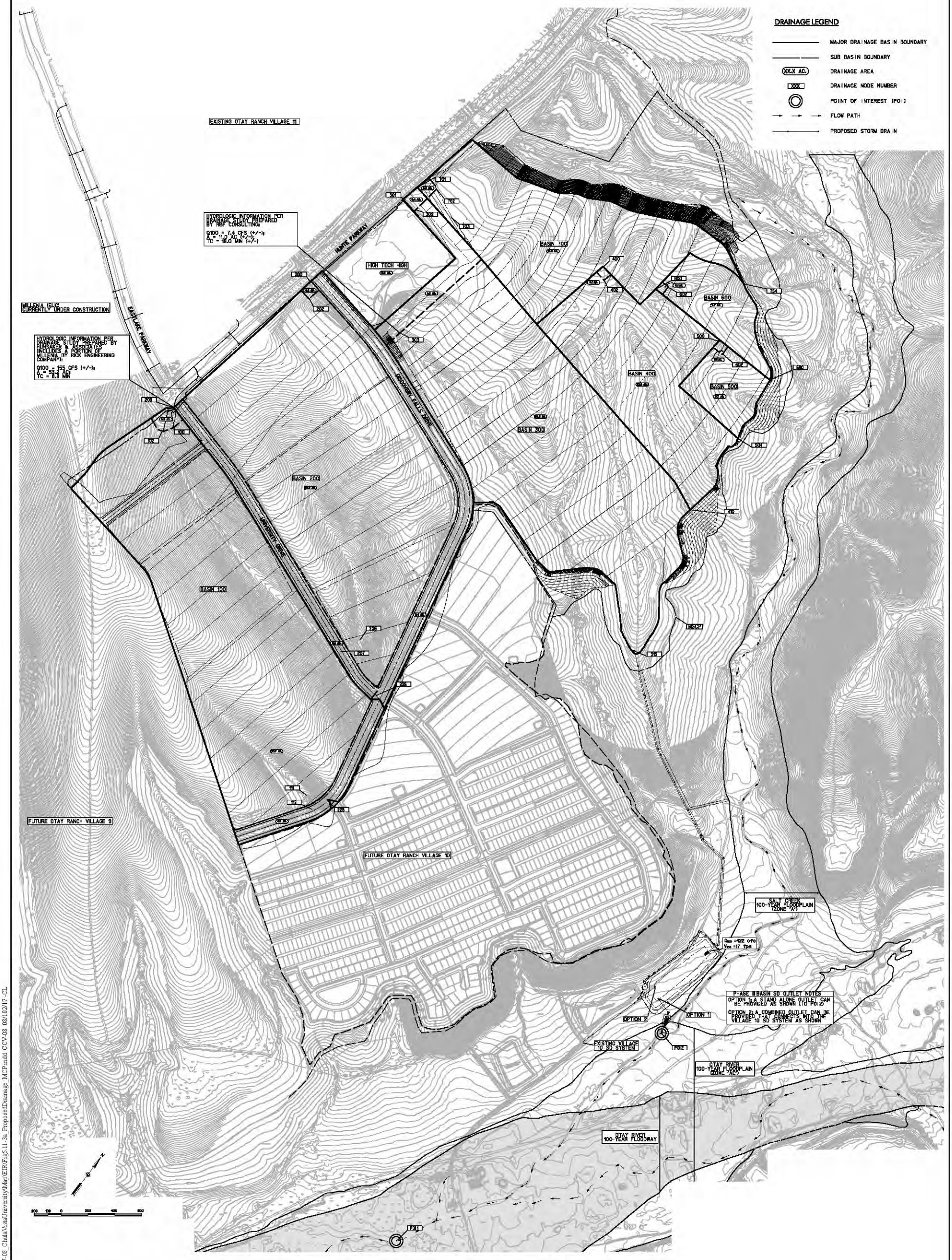
H. Threshold 8: Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam.

As discussed under Threshold 7, the Project would not result in any significant impacts related to the placement of housing within a 100-year floodplain, or the impediment or redirection of associated flood flows. Additionally, as depicted on Figure 5.11-4, *Flood and Dam Inundation Hazards Map*, of the Chula Vista General Plan Environmental Element, the Project site is not within the mapped inundation area associated with the Savage Dam (Lower Otay Lake). While portions of the off-site storm drain/water quality facilities located south of the site extend into the noted inundation area, associated potential impacts would be less than significant based on the following considerations: (1) the minor area and low profile of storm drain/water quality facilities within the dam inundation boundary; and (2) large containment structures, such as the Savage Dam, are subject to extensive design, construction, inspection and safety criteria through the California Division of Safety of Dams, with the probability for inundation from a catastrophic event (e.g., earthquake-induced failure) considered extremely low.

I. Threshold 9: Result in a substantial increase in risk of exposure to inundation by seiche, tsunami, or mudflow.

As described in Section 5.8, the Project Geotechnical Evaluation (Appendix G) concludes that potential inundation effects related to tsunamis and seiches are not design considerations due to the inland location and elevation of the Project site (see Section 5.8.1 under heading 2.p., *Tsunamis and Seiches*). As a result, no potential impacts related to tsunamis and seiches would occur.

The analysis in Section 5.8 also concludes that potential impacts related to landslide hazards (which include mudflows) are potentially significant. Project implementation would require incorporation of Mitigation Measures 5.8-1a through 5.8-1c to address potential landslide hazards



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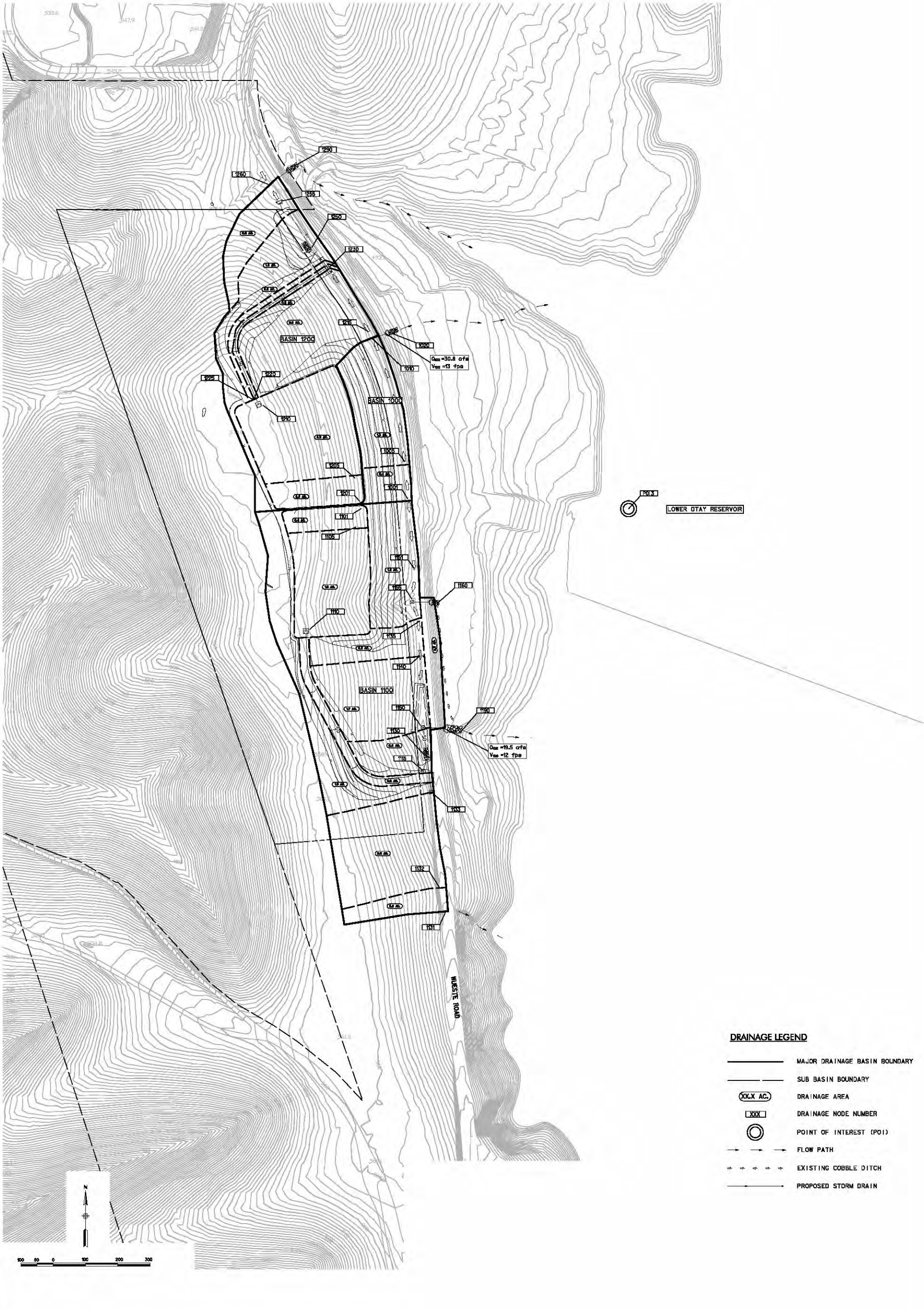
Source: Rick Engineering 2017

Proposed Drainage Conditions (Main Campus Property)

UNIVERSITY INNOVATION DISTRICT EIR

Figure 5.11-3a

HELIX Environmental Planning



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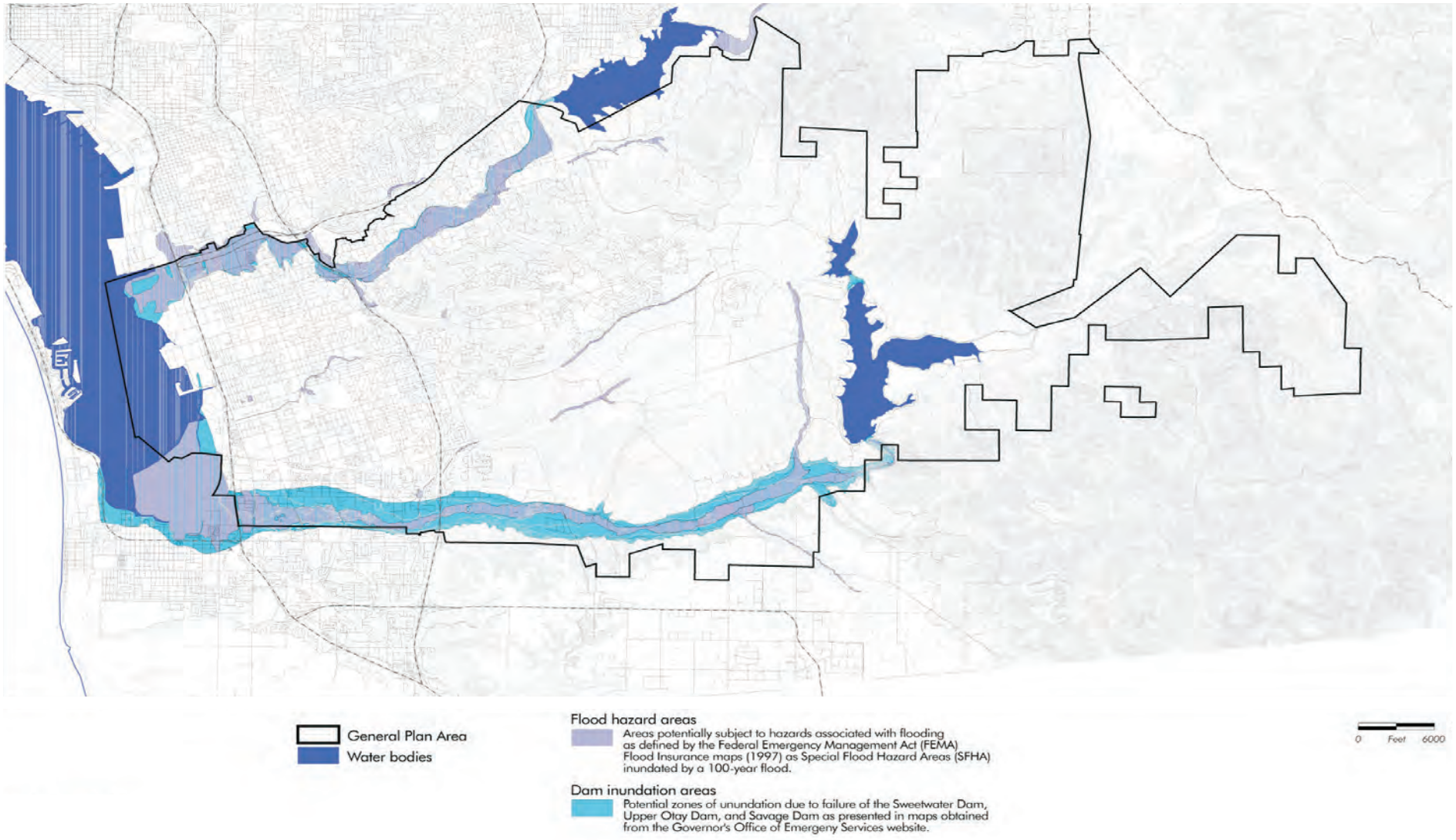
Source: Rick Engineering 2017

Proposed Drainage Conditions (Lake Property)

UNIVERSITY INNOVATION DISTRICT EIR

HELIX Environmental Planning

Figure 5.11-3b



Source: Ninyo & Moore 2003

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Flood and Dam Inundation Hazard Map

UNIVERSITY INNOVATION DISTRICT EIR

HELIX Environmental Planning

Figure 5.11.4

based on applicable industry/regulatory standards, recommendations from the Project Geotechnical Evaluation, and pertinent updates from subsequent (and required) detailed geotechnical investigation. Specifically, these measures include standard efforts such as removal of landslide deposits and replacement with engineered fill, placement of buttress fills, or a combination of these efforts. Site-specific conditions and remedial efforts associated with landslide hazards would be verified through City plan review and on-the-ground geotechnical observations and testing during Project excavation, grading and construction activities (including detailed geotechnical investigation). Without incorporation of Mitigation Measures 5.8-1a through 5.8-1c, site-specific modifications to the described recommendations may not be implemented as necessary to ensure conformance with applicable regulatory requirements and industry standards and as such, impacts would be potentially significant (Impact 5.11-6).

5.11.4 Level of Significance Prior to Mitigation

A. Water Quality Standards

Impact 5.11-1a: Water quality impacts associated with erosion and sedimentation would be potentially significant.

Impact 5.11-1b: Water quality impacts associated with construction-related hazardous materials would be potentially significant.

Impact 5.11-1c: Water quality impacts related to extraction of groundwater during construction would be potentially significant.

Impact 5.11-1d: Long-term Project-related water quality impacts would be considered significant.

Impact 5.11-1e: Potentially significant impacts related to hydromodification requirements would occur.

B. Groundwater Supplies and Recharge

No significant impacts related to groundwater supplies and recharge have been identified.

C. Erosion or Siltation

Impact 5.11-2: Drainages serving the Project site would be susceptible to increased erosion resulting from increased peak flow rates, increased runoff volumes, and duration, which would result in a potentially significant impact.

D. Surface Runoff

Impact 5.11-3: Drainages serving the southern basin would be susceptible to increased peak flow rates and increased runoff volumes, which would result in a potentially significant flooding impact.

E. Exceed Drainage Capacity

Impact 5.11-4: The Project could generate or contribute to flows that exceed capacity of existing or planned water systems.

F. Degradation of Water Quality

Impact 5.11-5: Potentially significant impacts related to degrading water quality could occur.

G. 100-Year Flood Hazards

No significant impacts related to 100-year flood hazards have been identified for the Project.

H. Consistency with Water Quality Policies

No significant impacts related to consistency with water quality policies have been identified for the Project.

I. Flooding

No significant impacts related to flooding have been identified with the Project.

J. Inundation

Impact 5.11-6: Impacts related to inundation would be potentially significant.

5.11.5 Mitigation Measures

Development of the UID site would occur as future applicants apply for various permits. The mitigation measures below identify that a future applicant would be responsible for the implementation of the following mitigation measures. The Project includes features and would implement BMPs to reduce potential impacts to hydrology and water quality. These features are also prescribed as mitigation measures to ensure implementation.

A. Water Quality Standards

Water quality impacts associated with erosion and sedimentation would be potentially significant (Impacts 5.11-1a through 5.11-1e). Mitigation Measures 5.11-1a through 5.11-1f would reduce impacts to level than significant levels:

5.11-1a Storm Water Pollution Prevention Plan (SWPPP). Prior to the issuance of each grading permit for any land development permit, including clearing and grading, the Project applicant shall submit notice of intent and obtain coverage under the National Pollutant Discharge Elimination System permit for construction activity from the State Water Resources Control Board. Adherence to all conditions of the General Permit for Construction Activity is required. The applicant shall be required under the State Water Resources Control Board General Construction Permit to develop a SWPPP and monitoring plan that shall be submitted to the City Engineer and the Director of Public Works. The SWPPP shall be incorporated into the grading and drainage plans and shall

specify both construction and post-construction structural and non-structural best management practices on the site to reduce the amount of sediments and pollutants in construction and post-construction surface runoff before it is discharged into off-site storm water facilities. Section 7 of the City's Storm Water Manual outlines construction site best management practice requirements. The SWPPP shall also address operation and maintenance of post-construction pollution prevention measures, including short-term and long-term funding sources and the party or parties that will be responsible for said measures, as well as measures to maintain the Project area free of trash and debris; employ appropriate standard spill prevention practices and clean-up materials; install and maintain sediment and erosion control measures in accordance with an approved SWPPP; maintain effective control of fugitive dust; and properly store, handle, and dispose of all toxins and pollutants including waste materials. The SWPPP shall incorporate construction and post-construction best management practices as outlined in the UID Edge Plan (Appendix D of the UID SPA Plan). The grading plans shall note the condition requiring a SWPPP and monitoring plans. Additional notes shall be included on the applicable construction plans to the satisfaction of the City Engineer and the Director of Public Works:

- A qualified biologist shall be on site to monitor all vegetation clearing and periodically thereafter during construction to ensure implementation of appropriate resource protection measures.

- Dewatering shall be conducted in accordance with standard regulations of the RWQCB. A permit to discharge water from dewatering activities will be required.

- During construction, material stockpiles shall be placed such that they cause minimal interference with on-site drainage patterns.

- Material stockpiles shall be covered when not in use.

- Graded areas shall be periodically watered to minimize dust that may affect adjacent vegetation.

Also, performance measures contained in the Edge Plan shall be implemented to avoid the release of toxic substances associated with urban runoff, including:

- Sediment shall be retained on site by a system of sediment basins, traps, or other appropriate measures.

- Storm drains shall be equipped with silt and oil traps to remove oils, debris, and other pollutants. Storm drain inlets shall be labeled "No Dumping-Drains to Ocean." Storm drains shall be regularly maintained to ensure their effectiveness.

- The parking lots shall be designed to allow storm water runoff to be directed to vegetative filter strips and/or oil-water separators to control sediment, oil, and other contaminants.

- Permanent energy dissipators shall be included for drainage outlets.

- The BMPs contained in the SWPPP shall include, but are not limited to, silt fences, fiber rolls, gravel bags, and soil stabilization measures such as erosion control mats and hydro-seeding.

- The Project area drainage basins will be designed to provide effective water quality control measures, as outlined in the Project's Water Quality Technical Reports. Design and operational features of the drainage basins will include design features to provide maximum infiltration and maximum detention time for settling of fine particles; maximize the distance between basin inlets and outlets to reduce velocities; and establish maintenance schedules for periodic removal of sedimentation, excessive vegetation, and debris.

5.11-1b **Supplemental Water Quality Report**. Prior to the issuance of each grading permit, the applicant shall submit a supplemental report to the site-specific PDP SWQMP (Rick Engineering 2015b; Appendix H of this EIR) that identifies which on-site storm water management measures from the PDP SWQMP have been incorporated into the Project to the satisfaction of the City Engineer. If a storm water management option is chosen by the planning area owner that is not shown in the water quality technical report, a project-specific water quality technical report shall be prepared for the planning area, referencing the Water Quality Technical Report for the UID for information relevant to regional design concepts (e.g., downstream conditions of concern) to the satisfaction of the City Engineer.

5.11-1c **Post-Construction/Permanent Best Management Practices**. Prior to issuance of each grading permit, the City Engineer shall verify that applicants have incorporated and will implement post-construction BMPs in accordance with current regulations. In particular, applicants are required to comply with the requirements of Section 2c of the City of Chula Vista's Standard Urban Storm Water Management Plan, the Chula Vista Development Storm Water Manual, and the PDP SWQMP for the UID or any supplements thereto to the satisfaction of the City Engineer. Specifically, the applicant shall implement low impact development (LID) best management practices in the preparation of all site plans and incorporate structural on-site design features into the Project design to address site design and treatment control best management practices as well as requirements of the hydromodification management plan. The applicant shall monitor and mitigate any erosion in downstream locations that may occur because of on-site development.

5.11-1d **Limitation of Grading**. Prior to issuance of each grading permit, the Project applicant shall comply with the Chula Vista Development Storm Water Manual limitation of grading requirements, which limit disturbed soil area to 100 acres, unless expansion of a disturbed area is specifically approved by the Director of Public Works. With any phasing resulting from this limitation, if required, the Project applicant shall provide, to the satisfaction of the City Engineer, erosion and sediment control best management practices in areas that may not be completed, before grading of additional areas begin.

5.11-1e Hydromodification Criteria. Prior to issuance of each grading permit, the Project applicant shall comply, to the satisfaction of the City Engineer, with City hydromodification criteria or the hydromodification management plan (see Appendix H), as applicable, addressed as part of the UID SPA Plan concurrent with grading and improvement plans for the Project.

5.11-1f Outfall Erosion. Prior to issuance of each grading permit, the Project applicant shall monitor any erosion at the Project's outfall at the Otay River and Lower Otay Lake and, prior to the last building permit for the Project, obtain approval for and complete any reconstructive work necessary to eliminate any existing erosion and prevent future erosion from occurring, all to the satisfaction of the Development Services Director.

B. Groundwater Supplies and Recharge

No mitigation measures are required.

C. Erosion or Siltation

Impacts related to increased erosion would be potentially significant (Impact 5.11-2). Mitigation Measures 5.11-1a through 5.11-1f above would reduce impacts related to erosion.

D. Surface Runoff

A potentially significant flooding impact associated with surface runoff could occur (Impact 5.11-3). Mitigation Measures 5.11-1a through 5.11-1f above would reduce impacts related to surface runoff.

E. Exceed Drainage Capacity

With regard to exceedance of drainage capacity (Impact 5.11-4), although the Project includes features to reduce the amount and rate of runoff to a less than significant level, these features are included as Mitigation Measures 5.11-1a through 5.11-1f to assure implementation and facilitate monitoring through buildout of the Project.

F. Degradation of Water Quality

Potentially significant impacts related to degrading water quality could occur (Impact 5.11-5). Mitigation Measures 5.11-1a through 5.11-1f above would reduce impacts related to degradation of water quality.

G. 100-Year Flood Hazards

No mitigation measures are required.

H. Consistency with Water Quality Policies

No mitigation measures are required.

I. Flooding

No mitigation measures are required.

J. Inundation

Impacts related to inundation would be potentially significant (Impact 5.11-6). Implementation of Mitigation Measures 5.8-1a through 5.8-1c would reduce impacts related to inundation.

5.11.6 Level of Significance After Mitigation

A. Water Quality Standards

Water quality impacts associated with erosion and sedimentation (Impacts 5.11-1a through 5.11-1e) would be reduced to less than significant levels with implementation of Mitigation Measures 5.11-1a through 5.11-1f because the mitigation requires appropriate water quality control BMPs in conformance with the Project SWPPP and related City and NPDES requirements, which are designed to address water quality standards. Specifically, the mitigation measures would minimize erosion, siltation, and pollution within sensitive vegetation communities.

B. Groundwater Supplies and Recharge

Impacts related to groundwater would be less than significant without mitigation.

C. Erosion or Siltation

Impacts associated with increased erosion (Impact 5.11-2) would be reduced to less than significant levels with implementation of Mitigation Measures 5.11-1a through 5.11-1f because the mitigation would require appropriate water quality control BMPs in conformance with the Project SWPPP and related City and NPDES requirements, which are designed to address erosion and siltation.

D. Surface Runoff

A potentially significant flooding impact associated with surface runoff erosion (Impact 5.11-3) would be reduced to less than significant levels with implementation of Mitigation Measures 5.11-1a through 5.11-1f because the mitigation would require appropriate water quality control BMPs would be in conformance with the Project SWPPP and related City and NPDES requirements, which are designed to address surface runoff.

E. Exceed Drainage Capacity

With regard to exceedance of drainage capacity (Impact 5.11-4), although the Project includes features to reduce the amount and rate of runoff to a less than significant level, these features are included as Mitigation Measures 5.11-1a through 5.11-1f to assure implementation and facilitate monitoring through buildout of the Project. Implementation of Mitigation Measures 5.11-1a through 5.11-1f would require appropriate water quality control BMPs in conformance with the Project SWPPP and related City and NPDES requirements, which are designed to address drainage capacity.

F. Degradation of Water Quality

Potentially significant impacts related to degradation of water quality (Impact 5.11-5) would be reduced to less than significant levels with implementation of Mitigation Measures 5.11-1a through 5.11-1f because the mitigation would require appropriate water quality control BMPs in conformance with the Project SWPPP and related City and NPDES requirements.

G. 100-Year Flood Hazards

Impacts would be less than significant without mitigation.

H. Consistency with Water Quality Policies

Impacts would be less than significant without mitigation.

I. Flooding

Impacts would be less than significant without mitigation.

J. Inundation

Impacts related to inundation (Impact 5.11-6) would be reduced to less than significant levels with implementation of Mitigation Measures 5.8-1a through 5.8-1c because the mitigation would require compliance with state and City standards related to removal of landslide deposits and replacement with engineered fill, placement of buttress fills, or a combination of these efforts.

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5.12 AGRICULTURAL RESOURCES

This section describes the agricultural setting of the Project site and evaluates the potential for changes in agricultural land use due to implementation of the Project.

This EIR tiers from the Previous Environmental Review Documents, as described in Chapter 2.0, *Introduction*. The 2013 SEIR did not address agricultural resources, but relies on the analysis in the 2005 GPU EIR (05-01) and the 1993 Program EIR for the GDP (90-01). Section 3.7, *Agricultural Resources*, of the Otay Ranch GDP Program EIR (90-01) analyzed impacts relating to agricultural resources and concluded that implementation of the Otay Ranch GDP would result in significant cumulative effects on agricultural resources. The Otay Ranch GDP Program EIR includes a mitigation measure that requires the preparation of an Agriculture Plan as a condition of approval for all projects within Otay Ranch GDP. However, even with implementation of this mitigation the permanent loss of agricultural land was determined to be a significant and unmitigable effect of the Otay Ranch GDP. The 2001 SEIR (01-01) did not evaluate impacts on agricultural resources, but relied on the 1989 EastLake III EIR (89-09). The analysis and discussion of agricultural resources contained in the Otay Ranch GDP Program EIR are incorporated by reference. The agricultural resources evaluation in this section also updates information in Section 5.7 of the 2005 GPU EIR pertaining to the UID site and off-site locations. The proposed Project includes an Agriculture Plan (Appendix E to the UID SPA Plan), as required by a mitigation measure from the Otay Ranch GDP Program EIR (see page 3.7-26 of the Otay Ranch GDP Program EIR), and is discussed further below.

5.12.1 Existing Conditions

A. Regulatory Framework

1. Federal

a. Farmland Protection Policy Act of 1981 (FPPA)

FPPA (7 U.S. Code, § 4201, et seq.) is administered by the Natural Resource Conservation Service (NRCS). NRCS maps soils and farmland to provide comprehensive information necessary for understanding, managing, conserving, and sustaining the nation's limited soil resources. NRCS determines impacts to farmland that could occur due to a proposed project. The determination is made through coordination between the federal agency proposing or supporting the project and NRCS. NRCS makes a determination, using set thresholds, as to whether additional project-specific mitigation is required. FPPA is intended to minimize the impact federal programs have on the unnecessary and irreversible conversion of farmland to non-agricultural uses. It assures that federal programs are administered to be compatible with state, local government, and private programs and policies to protect farmland to the extent possible. Federal agencies are required to develop and review their policies and procedures to implement FPPA every two years. For the purpose of FPPA, farmland includes prime farmland, unique farmland, and land of statewide or local importance. Farmland subject to FPPA requirements does not have to be currently used for cropland. It can be forestland, pastureland, cropland, or other land, but not water or urban built-up land.

b. Federal Farm Bill of 1990 − Federal Forest Legacy Program (FLP)

FLP (16 U.S. Code, §2103c) was part of the 1990 Federal Farm Bill. The purpose of the FLP is to protect environmentally-important forestland under private ownership from conversion to non-forest uses, such as residential or commercial development. The FLP promotes the use of voluntary conservation easements on these properties. Landowners who wish to participate may sell or transfer particular rights, such as the right to develop the property or to allow public access, while retaining ownership of the property and the right to use it in any way consistent with the terms of the easement. The agency or organization holding the easement is responsible for managing the rights it acquires and for monitoring compliance by the landowner. Forest management activities, including timber harvesting, hunting, fishing, and hiking are encouraged, provided they are consistent with the program's purpose.

2. State

a. Farmland Mapping and Monitoring Program

In response to the need for assessing the location, quality, and quantity of agricultural lands and conversion of these lands over time, the California Department of Conservation established the Farmland Mapping and Monitoring Program (FMMP) in 1982. The goal of the FMMP is to provide consistent and impartial data to decision makers for use in assessing present status, reviewing trends, and planning for the future of California's agricultural land resources. A basic purpose of the FMMP is to produce Important Farmland Maps and statistical data for California's agricultural resources. Important Farmland Maps identify the location and quality of agricultural land across the state. The quality of agricultural lands, which is rated on soil quality and irrigation status, is classified into five categories described below: prime farmland, farmland of statewide importance, unique farmland, farmland of local importance, and grazing land. The minimum mapping unit for all categories is 10 acres unless otherwise specified. The project site contains Farmland of Local Importance and Grazing Land according to the FMMP. In addition, the FMMP identifies non-agricultural lands as either urban and built-up land or other land. Important Farmland Maps are updated every two years with the use of aerial photographs, a computer mapping system, public review, and field reconnaissance. The FMMP is a non-regulatory program.

i. Prime Farmland

Prime Farmland is land that has the best combination of physical and chemical characteristics for the production of crops. It has the soil quality, growing season, and moisture supply needed to produce sustained high yields of crops when treated and managed, including water management. Prime farmland has been used for the production of irrigated crops at some time during the two updated cycles to the mapping date.

ii. Farmland of Statewide Importance

Farmland of Statewide Importance is similar to Prime Farmland but includes specific limitations to crop production, such as greater slopes or less ability to hold and store moisture. Farmland of Statewide Importance has been used for the production of irrigated crops at some time during the two cycles prior to the mapping date.

iii. Unique Farmland

Unique Farmland includes lesser quality soils used for the production of specific high economic value crops (as listed in *California Agriculture* produced by the California Department of Food and Agriculture) at some time during the two update cycles prior to the mapping date. It has the special combination of soil quality, location, growing season, and moisture supply needed to produce sustained high quality or high yields of a specific crop when treated and managed according to current farming methods. Unique Farmland is usually irrigated, but may include non-irrigated orchards or vineyards as found in some climatic zones in California. Examples of crops cultivated on Unique Farmland include oranges, olives, avocados, rice, grapes, and cut flowers.

iv. Farmland of Local Importance

Farmland of Local Importance is important to the local agricultural economy, as determined by the County of San Diego Board of Supervisors and a local advisory committee. The County defines Farmland of Local Importance as land with the same characteristics as Prime Farmland and Farmland of Statewide Importance.

v. Grazing Land

Grazing Land is land on which the existing vegetation, whether grown naturally or through management, is suitable for grazing or browsing of livestock. The minimum unit for grazing land is 40 acres.

vi. Urban and Built-Up Land

This classification consists of land occupied by structures with a building density of at least one unit to 1.5 acres, or approximately six structures to a 10-acre parcel. This land is used for residential, industrial, commercial, construction, institutional, public administration, railroad and other transportation yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, water control structures, and other developed purposes.

vii. Other Land

Other land consists of land not included in any other mapping category. Common examples include low density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock; poultry or aquaculture facilities; strip mines, borrow pits; and water bodies smaller than 40 acres. Vacant and non-agricultural land that is greater than 40 acres and surrounded on all sides by urban development is mapped as other land.

b. Williamson Act

The California Land Conservation Act of 1965, commonly referred to as the Williamson Act, enables local governments to enter into contracts with private landowners for the purpose of restricting specific parcels of land to agricultural or related open space use. In return, landowners receive property tax assessments that are much lower than normal because they are based upon farming and open space uses as opposed to full market value. The goal of the Williamson Act is to encourage the preservation of California's agricultural land and to prevent its premature

conversion to urban uses. Currently, there are no active Williamson Act contracts or properties, which are established agricultural preserves, within Chula Vista (Chula Vista 2005a).

3. Local

a. City of Chula Vista General Plan

According to the Chula Vista General Plan, through the early 1990s, the last of the large-scale agricultural operations were located primarily on large landholdings within the eastern portion of the city, which includes the project site. Agricultural production has been historically constrained due to the limited availability of water for irrigation and the high cost of water where it has been available. Although the city does not contain any lands specifically designated for agricultural uses within its General Plan area, the potential for agricultural uses to occur within certain portions of the City on both an interim and long-term basis still exists.

A limited number of parcels in the City retain agricultural zoning, which is considered a holding zone, pending development proposals in conformance with the applicable land use plans. Agricultural production associated with these areas is not significant in terms of countywide agricultural value. Long-term agricultural use is not planned for the General Plan area, but is allowed where it is consistent with the Chula Vista MSCP Subarea Plan and zoning, including within portions of the Chula Vista Greenbelt open space system.

The Chula Vista General Plan Environmental Element includes Objective E4, which is to maintain the opportunity for limited agricultural and related uses to occur as an interim land use within planned development areas and as a potential permanent land use within appropriate locations.

b. Otay Ranch Grazing Ordinance

The Otay Ranch Grazing Ordinance (CVMC Chapter 17.30) has been prepared as one of several Chula Vista MSCP Subarea Plan implementing ordinances. The purpose of the ordinance is to implement the goals and recommendations of the range management plan for the Otay River Valley Management Area. Ordinance regulations apply to all land designated by the Otay Ranch GDP as Otay Ranch Preserve and as 100 percent conservation area in the Chula Vista MSCP Subarea Plan. Both the Main Campus Property and Lake Property parcels are outside 100 percent conservation areas. Proposed off-site improvements related to off-site drainage infrastructure south of the Main Campus Property are within a 100 percent conservation area and would need to demonstrate compliance with the requirements of the ordinance. Although grazing has historically been conducted within the project areas, grazing no longer occurs within any portions of the Project area, including off-site areas.

c. Otay Ranch General Development Plan

The Otay Ranch GDP establishes goals, objectives and policies related to the protection of agricultural resources. While these are general in nature, they are intended to be applicable to the entire Otay Ranch GDP area, including the project site. The applicable GDP objectives and policies related to agricultural resources are listed below.

- **Objective:** Preserve sensitive and significant biological, cultural, paleontological, flood plain, visual, and agricultural resources.

- **Policies:**

  - Provide opportunities for demonstration agricultural activities within the Preserve. A site, which supports prime or statewide important soils, should be located near proposed composting facilities and Bird Ranch. A plan for the size and operation of the demonstration agricultural activities will be subject to review and approval of the Preserve Owner/Manager and/or the Otay Valley Regional Park management and shall be submitted concurrent with the conveyance for this area or prior to adoption of the last SPA on the Otay Valley parcel, whichever occurs first. In addition to the demonstration agricultural site, sites should be made available for smaller community gardens adjacent to or within individual villages. Some community gardens may be located within open space areas being maintained by an open space maintenance district, with specific design and maintenance issues to be addressed at the SPA Plan review.

  - Existing agricultural uses, including cultivation and grazing, shall be permitted to continue as an interim activity only where they have occurred historically and continually. No increase in irrigation shall be allowed, except for temporary irrigation that may be installed as part of restoration plans. Grazing by sheep and goats shall not be allowed. Cattle grazing shall be phased out in accordance with the conveyance program and range management plan.

d. Otay Ranch Resource Management Plan

Chapter 3 of the Otay Ranch RMP contains several objectives and policies related to agriculture. The single unifying goal of the RMP is the establishment of an open space system that will become a permanent preserve dedicated to the protection and enhancement of environmental resources. In conformance with the RMP, a range management plan for Otay Ranch was subsequently prepared. In general, the range management plan recommendations and implementing actions provide for ongoing managed grazing activities on conveyed lands if the activity is shown not to negatively affect biological resources.

B. Existing Agricultural Operations

The 2005 GPU EIR identifies the entire Otay Ranch area as important potential agricultural land. However, the General Plan EIR also acknowledges that agricultural opportunities in the area are becoming less feasible. The land utilized for agricultural activities in areas surrounding the Otay Ranch has decreased over the years. Factors that have led to the decrease in agricultural use include the conversion of farmland to urban uses as a result of land value. The high cost of importing water for irrigation has also resulted in many agricultural activities becoming cost prohibitive.

The Project site contains Farmland of Local Importance and Grazing Land according to the FMMP. Farmland of Local Importance is important to the local agricultural economy, as determined by the County Board of Supervisors and a local advisory committee. Grazing Land

includes existing vegetation that is suitable for browsing of livestock. The Main Campus Property was used historically for agriculture as evidenced by large areas of furrowed non-native grassland in the western and central portions. The Lake Property has no reported agricultural uses in the past. No cattle or farming activities are currently active on the entire Project site; however, agricultural activity is permitted under existing conditions.

5.12.2 Thresholds of Significance

According to CEQA Guidelines, Appendix G, impacts to agricultural resources would be significant if the project would:

- **Threshold 1:** Convert prime farmland, unique farmland, or farmland of statewide importance, as shown on the maps prepared pursuant to the FMMP of the California Resources Agency, to non-agricultural use.

- **Threshold 2:** Conflict with existing zoning for agricultural use or a Williamson Act contract.

5.12.3 Impact Analysis

A. Threshold 1: Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use.

Based on the 1993 Otay Ranch GDP EIR, any conversion of agricultural land to non-agricultural use in Otay Ranch is considered a significant direct impact due to an incremental and irreversible regional loss or impairment of agricultural land. Development of the UID SPA Plan would not convert prime farmland, unique farmland, or farmland of statewide importance to non-agricultural use, based on the maps prepared by the California Department of Conservation pursuant to the FMMP (DOC 2015). However, the Project site includes Farmland of Local Importance and Grazing Land, both of which would be converted to non-agricultural use.

Interim agricultural uses would be allowed on the Project site prior to buildout of the Project; however, such agricultural uses would be subject to the CVMC (specifically Chapter 17.30, *Otay Ranch Grazing Ordinance*, and Chapter 19.20, *Agricultural Zone*) and the Chula Vista MSCP Subarea Plan. Once fully developed, the Project would not allow agricultural uses or cattle grazing activities on site. However, university-related agriculture, including horticulture nurseries, greenhouses, raising/harvesting of crops, aquaculture, agricultural processing, on-site sales, and the keeping of small animals (no meat production) would be permitted.

Agricultural use within the Project site is currently constrained because of the lack of a reliable and affordable source of water and no farming or cattle grazing activities occur on the site. Additionally, the General Plan states that agricultural production in Chula Vista is not important in terms of countywide agricultural value and is not a major factor in the local economy. Long-term agricultural uses are not planned for the City. Nevertheless, the Project would contribute to an incremental loss of grazing land. Consistent with earlier findings in the 1993 Otay Ranch GDP Program EIR, this is considered a potentially significant impact (Impact 5.12-1a).

Additionally, proposed agricultural activities on the site related to educational crop production associated with future university uses could result in land use conflicts between agricultural land uses and proposed urban land uses within the UID. Agricultural incompatibilities were associated with noise, odor, rodents, and chemical applications and identified as a short-term impact in the 1993 Otay Ranch GDP Program EIR. As a result, conflicts could occur upon implementation of UID SPA Plan development because some agricultural activities would be permitted. Accordingly, short-term land use incompatibility issues from proposed agricultural activities associated with the university, which would be located adjacent to urban land uses, would be significant (Impact 5.12-1b).

The 1993 Otay Ranch GDP Program EIR requires the preparation of an agriculture plan concurrent with the processing and approval of an SPA plan where existing or future on-site agricultural uses may affect contemplated development. The 1993 Otay Ranch GDP Program EIR's Findings of Fact require that the agriculture plan includes guidelines designed to minimize land use interface impacts related to noise, odors, dust, insects, rodents, and chemicals that may be produced or used by agricultural activities or operations. Per Mitigation Measure 5.12-1 in this EIR (see Section 5.12.5.A below), an agriculture plan has been prepared as part of the UID SPA Plan in accordance with the mitigation identified in the 1993 Otay Ranch GDP Program EIR and implementation of the agriculture plan would reduce impacts associated with incompatible land uses.

B. Threshold 2: Conflict with existing zoning for agricultural use or a Williamson Act Contract.

The Project would not affect Williamson Act contract lands because there is no land under a Williamson Act Contract within Chula Vista. No impact related to Williamson Act contracts would occur.

Agricultural activities in the City are allowed on lands zoned for Agriculture (A-8, A-X) and Planned Community (P-C) on an interim basis. Although the Project site is zoned as a planned community and interim agricultural land uses are allowed, no agricultural activities currently take place on the site. In addition, interim agricultural activities on the Project site would be permitted subject to the CVMC (specifically Chapter 17.30, *Otay Ranch Grazing Ordinance*, and Chapter 19.20, *Agricultural Zone*) and the Chula Vista MSCP Subarea Plan, and agricultural activities at buildout would be limited to university-related crop production upon buildout per the Agriculture Plan. Development is not required to maintain the potential for agricultural land used in the planned community zone. Therefore, implementation of the Project would not conflict with existing zoning and this impact would be less than significant.

Refer to the analysis under Threshold 1 for a discussion of the potential for the Project to convert farmland to non-agricultural use and the potential for short-term conflicts between agricultural and urban land uses to occur.

5.12.4 Level of Significance Prior to Mitigation

A. Direct Conversion of Agricultural Resources

Impact 5.12-1a: Implementation of the Project would result in a significant impact to agricultural resources, due to the on-site loss of farmland of local importance and grazing land.

Impact 5.12-1b: Short-term land use incompatibility issues from proposed agricultural activities associated with the university, which would be located adjacent to urban land uses, would be significant.

B. Zoning and Williamson Act Conflicts

Impacts related to land use zoning and Williamson Act conflicts would be less than significant.

5.12.5 Mitigation Measures

A. Direct Conversion of Agricultural Resources

Implementation of the Project would result in a significant impact to agricultural resources, due to the on-site loss of farmland of local importance and grazing land (Impact 5.12-1a). In addition, short-term land use incompatibility issues from proposed agricultural activities associated with the university, which would be located adjacent to urban land uses, would be significant (Impact 5.12-1b). Development of the Project site would occur as future applicants apply for various permits. Mitigation Measure 5.12-1 below identifies that a future applicant would be responsible for the implementation of the following mitigation measure, which in this case would be an applicant related to development of agricultural uses associated with the university:

5.12-1 **Agriculture Plan**. The Agriculture Plan included in the SPA Plan shall be implemented as development proceeds within the UID to ensure compatibility between university-related crop production for research and small-scale production. The following measures shall be implemented to the satisfaction of the Chula Vista Development Services Director (or their designee):

i. Prior to approval of each building permit, the applicant shall ensure that a 200-foot-wide fenced buffer shall be maintained between development and any university-related agricultural operations on the UID site.

ii. In those areas where pesticides are to be applied, the university shall utilize vegetation to shield adjacent urban development (within 400 feet) from agricultural activities. Use of pesticides shall comply with federal, state, and local regulations.

iii. The applicant shall notify adjacent property owners of potential pesticide application through advertisements in newspapers of general circulation.

B. Zoning and Williamson Act Conflicts

No mitigation is required.

5.12.6 Level of Significance After Mitigation

A. Direct Conversion of Agricultural Resources

The incremental loss of agricultural lands (farmland of local importance, grazing land [Impact 5.12-1a]), which was considered a significant impact in the 1993 Otay Ranch GDP Program EIR, remains significant because the agricultural activities allowed at Project buildout would be limited and restricted. Because this incremental loss of agricultural lands is unavoidable, associated impacts would remain significant and unavoidable in the long-term.

Short-term land use incompatibility issues from proposed agricultural activities associated with the university that would be adjacent to urban land uses (Impact 5.12-1b) would be reduced to less than significant levels with implementation of Mitigation Measure 5.12-1 because the Agriculture Plan includes guidelines designed to minimize land use interface impacts related to noise, odors, dust, insects, rodents, and chemicals that may be produced or used by university-related agricultural activities or operations.

B. Zoning and Williamson Act Conflicts

Impacts would be less than significant without mitigation.

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5.13 HAZARDS AND HAZARDOUS MATERIALS

This section identifies pertinent regulatory standards, describes existing hazards and hazardous material occurrences and listings within the project site and vicinity, and evaluates associated potential impacts and mitigation requirements related to implementation of the proposed Project.

This EIR tiers from the Previous Environmental Review Documents, as described in Chapter 2.0, *Introduction*. The 2013 SEIR did not address hazards and hazardous materials, but relied on analysis in the 1993 Program EIR for the GDP (EIR 90-01). EIR 90-01 addressed risk of upset impacts and applicable mitigation included measures to require that the transport hazardous waste be conducted in accordance with state and federal laws and that future SPA plans identify emergency evacuation routes. Impacts with mitigation were concluded to be less than significant. The 2001 SEIR (01-01) did not address hazards and hazardous materials, but relied on the 1989 EastLake III EIR (89-09), which addressed hazards related to geology and soils. Mitigation for the Lake Property was included to require detailed geotechnical and soils reports to mitigate any hazardous conditions on the property. It is noted, however, that no previous mitigation measures are incorporated by reference because the reports related to the current Project include updated mitigation measures that are equivalent to or more efficient than measures included in previous environmental review.

The following evaluation is based on a site-specific Hazardous Materials Technical Study (HMTS) that was prepared for the Project by Ninyo & Moore. The information in this report is summarized below along with other applicable data, and the complete HMTS included as Appendix J of this EIR. The technical report updates the applicable information contained in the SEIRs.

5.13.1 Existing Conditions

A. Regulatory Framework

1. Federal

a. Resource Conservation and Recovery Act of 1976

Federal hazardous waste laws are largely promulgated under the Resource Conservation and Recovery Act (RCRA, CFR Title 40, Part 260), as amended by the Hazardous and Solid Waste Amendments of 1984. These laws provide for the "cradle to grave" regulation of hazardous wastes. Specifically, under RCRA any business, institution or other entity that generates hazardous waste is required to identify and track its hazardous waste from the point of generation until it is recycled, reused, or disposed of. The USEPA has the primary responsibility for implementing RCRA, although individual states can obtain authorization to implement some or all RCRA provisions (with California an authorized RCRA state, as outlined below under State Standards).

b. Hazardous Material Transportation Act

Transportation of hazardous materials is regulated by the USDOT's Office of Hazardous Materials Safety. The office formulates, issues, and revises hazardous materials regulations under the Federal Hazardous Materials Transportation Law. The hazardous materials regulations cover hazardous materials definitions and classifications, hazard communications, shipper and carrier operations,

training and security requirements, and packaging and container specifications. The hazardous materials transportation regulations are codified in 49 CFR Parts 100–185.

The hazardous materials transportation regulations require carriers transporting hazardous materials to receive required training in the handling and transportation of hazardous materials. Training requirements include pre-trip safety inspections, use of vehicle controls and equipment including emergency equipment, procedures for safe operation of the transport vehicle, training on the properties of the hazardous material being transported, and loading and unloading procedures. All drivers must possess a commercial driver's license as required by 49 CFR Part 383. Vehicles transporting hazardous materials must be properly placarded. In addition, the carrier is responsible for the safe unloading of hazardous materials at the site, and operators must follow specific procedures during unloading to minimize the potential for an accidental release of hazardous materials.

Transportation by rail is regulated per 49 CFR Part 174. Subpart C covers the requirements for marking and placarding of rail cars and the segregation of hazardous materials. Subpart D covers the requirements for handling of placarded rail cars, including position in the train and maximum allowable speed (50 miles per hour for most hazards substances). Subparts E, F, G, J, and K include requirements for transportation of explosives, gases, flammable liquids, poisonous materials, and radioactive materials, respectively. Safety requirements include inspections at every stop, specific training, and train crew knowledge of the rail car contents and location.

c. Comprehensive Environmental Response, Compensation, and Liability Act

The 1980 Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as Superfund, provides federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. CERCLA established 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 clean up when no responsible party could be identified. CERCLA also enabled the revision of the National Contingency Plan (NCP). The NCP provided the guidelines and procedures needed to respond to releases and threatened releases of hazardous substances, pollutants, or contaminants. The NCP also established the National Priorities List, which is a list of contaminated sites warranting further investigation by the USEPA. CERCLA was amended by the Superfund Amendments and Reauthorization Act (SARA) on October 17, 1986.

Under 40 Code of Federal Regulations (CFR) Part 112, specific facilities must prepare, amend and implement Spill Prevention Control and Countermeasure (SPCC) plans. The SPCC rule is part of the Oil Pollution Prevention regulation, the purpose of which is to prevent oil discharges to navigable waters and adjoining shorelines. The SPCC rule applies to facilities that are engaged in drilling, producing, gathering, storing, processing, refining, transferring, distributing, using or consuming of oil and store oil above or below ground in volumes greater than 1,320 gallons and 42,000 gallons respectively. The CalEPA has published a fact sheet, dated December 2007, outlining the requirements for preparing and implementing SPCC plans in the state of California.

d. Superfund Amendments and Reauthorization Act

SARA is primarily intended to address the emergency management of accidental releases, and to establish state and local emergency planning committees responsible for collecting hazardous material inventory, handling and transportation data. Specifically, under Title III of SARA, a nationwide emergency planning and response program established reporting requirements for businesses that store, handle or produce significant quantities of hazardous or acutely toxic substances as defined under federal laws. Title III of SARA also requires each state to implement a comprehensive system to inform federal authorities, local agencies and the public when significant quantities of hazardous or acutely toxic substances are stored or handled at a facility. These data are made available to the community at large under the "right-to-know" provision, with SARA also requiring annual reporting of continuous emissions and accidental releases of specified compounds.

e. Federal Aviation Administration

The Federal Aviation Administration (FAA) oversees airport safety and rules associated with development that may present a safety concern near existing airports. Specific related requirements include submittal of Form 7460-1, Notice of Proposed Construction or Alteration, prior to applicable construction, including structures that are 200 feet or higher above the graded terrain or that extend within identified (theoretical) slopes projecting from airport runways (or other applicable locations, per FCR Title 14, Part 77). Based on agency review, individual projects may be required to implement appropriate measures to maintain compatibility with airport operations and ensure that potential hazards are avoided, potentially including efforts such as reducing building heights or marking/lighting structures.

2. State

a. California Code of Regulations

Most state and federal regulations and requirements that apply to generators of hazardous waste are codified in CCR Title 22, Division 4.5. Title 22 contains detailed compliance requirements for hazardous waste generation, transport, treatment, storage, and disposal facilities/activities. Because California is a fully authorized state under RCRA, most RCRA regulations are integrated into Title 22. The CalEPA/Department of Toxic Substance Control (DTSC) regulates hazardous waste more stringently than the USEPA, however, with Title 22; therefore, not including as many exemptions or exclusions as the equivalent federal regulations. Similar to the California Health and Safety Code (as outlined below), Title 22 also regulates a wider range of waste types and waste management activities than RCRA. The state has compiled a number of additional regulations from various CCR titles related to hazardous materials, wastes and toxics into CCR Title 26 (Toxics), and provides additional related guidance in Titles 23 (Waters) and 27 (Environmental Protection), although California hazardous waste regulations are still commonly referred to as Title 22.

Title 24 of the CCR provides a number of requirements related to fire safety, including applicable elements of Part 2, the California Building Code (CBC); Part 2.5, the California Residential Code (CRC); and Part 9, the California Fire Code (CFC). Specifically, CBC Chapter 7 (Fire and Smoke

Protection Features) includes standards related to building materials, systems, and assembly methods to provide fire resistance and prevent the internal and external spreading of fire and smoke (such as the use of non-combustible materials and fire/ember/smoke barriers). CBC Chapter 9 (Fire Protection Systems) provides standards regarding when fire protection systems (such as alarms and automatic sprinklers) are required, as well as criteria for their design, installation, and operation. Section R327 of the CRC includes measures to identify Fire Hazard Severity Zones and assign agency responsibility (i.e., Federal, State and Local Responsibility Areas; refer to the discussion below under California Department of Forestry and Fire Protection), and provides fire-related standards for building design, materials, and treatments. The CFC establishes minimum standards to safeguard public health and safety from hazards including fire in new and existing structures. Specifically, this includes requirements related to fire hazards from building use/occupancy (e.g., access for fire-fighting equipment/personnel and provision of water supplies), the installation or alteration/removal of fire suppression or alarm systems, and the management of vegetative fuels and provision of defensible space.

Title 5, Division 1, Chapter 13, Subchapter 1 of the CCR establishes minimum standards for the siting of schools and school construction to provide safety for students and staff. These regulations designate minimum distances that schools can be located from potential hazards such as power line easements, and sets screening distances for other hazards that would require a safety study, such as a railroad track easement. Section 14010(h) states that schools shall not be located near an above ground water or fuel storage tank or within 1,500 feet of the easement of an above ground or underground pipeline that can pose a safety hazard as determined by a risk analysis study. Section 14010(t) states that if a proposed site is on or within 2,000 feet of a significant disposal of hazardous waste, the school district shall contact the DTSC for a determination of whether the property should be considered a hazardous waste or border zone property and is, therefore, unsuitable for school development.

b. California Health and Safety Code

The CalEPA/DTSC has established rules governing the use of hazardous materials and the management of hazardous wastes. California Health and Safety Code Section 25531, et seq., incorporates the requirements of SARA and the Clean Air Act as they pertain to hazardous materials. Under the California Accidental Release Prevention Program (CalARP, California Health and Safety Code Section 25531 to 25545.3), certain businesses that store or handle more than 500 pounds, 55 gallons or 200 cubic feet (for gases) of acutely hazardous materials at their facilities are required to develop and submit a Risk Management Plan (RMP) to the appropriate local authorities, the designated local administering agency and the USEPA for review and approval. The RMP is intended to satisfy federal "right-to-know" requirements and provide basic information to regulators and first responders, including identification/quantification of regulated substances used or stored on site, operational and safety mechanisms in place (including employee training), potential on- and off-site consequences of a release and emergency response provisions.

Under California Health and Safety Code Section 25500-25543.2, businesses handling or storing certain amounts of hazardous materials are required to prepare a Hazardous Materials Business Emergency Plan (HMBEP), which includes an inventory of hazardous materials stored on site (above specified quantities), an emergency response plan, and an employee training program. HMBEPs are also required to include a written set of procedures and information created to help

minimize the effects and extent of a release or threatened release of a hazardous material, and must be prepared prior to facility operation (with updates and amendments required for appropriate circumstances such as changes in business location, ownership, or operations).

Pursuant to California Health and Safety Code Chapter 6.11, CalEPA established the Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (Unified Program), which consolidated a number of existing state programs related to hazards and hazardous materials. The Unified Program also allows the designation of Certified Unified Program Agencies (CUPAs) to implement associated state regulations within their jurisdiction. For businesses within the City, applicable hazardous materials plans (such as RMPs and HMBEPs) are submitted to and approved by the San Diego County Department of Environmental Health/Hazardous Materials Division (DEH/HMD), which is the local CUPA as outlined below under local requirements.

Division 12 (Fires and Fire Protection) of the California Health and Safety Code provides a number of standards related to fire protection methods, including requirements for management of vegetation comprising a potential fire hazard under Part 5, Chapters 1 through 3.

c. Hazardous Materials Transportation

Under Federal Standards, CHP and Caltrans are the state enforcement agencies for hazardous materials transportation regulations. In California, transportation of hazardous waste is regulated under Chapter 6.5 of the California Health and Safety Code. Under Section 21560, hazardous waste generators must complete a manifest for the waste before it is transported or offered for transportation. A manifest is a shipping document that is signed by the hazardous waste generator and contains the necessary information to be in compliance with all state and federal regulations. The purpose of the manifest is to allow for the waste to be tracked from point of origin through point of disposal and for the generator or regulatory agency to verify that the waste is properly delivered without incurring any loss along the way.

d. California Department of Forestry and Fire Protection - State Responsibility Areas System

Legislative mandates passed in 1981 (Senate Bill [SB] 81) and 1982 (SB 1916) require the California Department of Forestry and Fire Protection (Cal Fire) to develop and implement a system to rank fire hazards in California. Areas are rated as moderate, high or very high based primarily on the assessment of different fuel types. Cal Fire also identifies responsibility areas for fire protection, including Federal Responsibility Areas (FRAs), State Responsibility Areas (SRAs) and Local Responsibility Areas (LRAs). The project site is within the municipal boundaries of the City of Chula Vista, and is designated as an LRA with the City responsible for fire suppression (Cal Fire 2016).

e. California Disaster and Civil Defense Master Mutual Aid Agreement

This agreement was developed in 1950 and adopted by all 58 California counties. This statewide mutual aid system is designed to ensure that adequate resources, facilities, and other support is provided to jurisdictions whenever their own resources prove to be inadequate to cope with a given situation. San Diego County is located in Mutual Aid Region 6 of the State system, which also includes Imperial, Riverside, San Bernardino, Inyo, and Mono counties.

f. Senate Bill 1241

Senate Bill 1241 1241 requires cities and counties to address fire risk in state responsibility areas (SRAs) and very high fire hazard severity zones in the safety element of their general plans upon the next revision of the housing element. This bill also requires cities and counties to make certain findings regarding available fire protection and suppression services before approving a tentative map or parcel map.

3. Regional

a. Regional Water Quality Control Board

The SWRCB protects water quality in California by setting statewide policy. The SWRCB supports the nine RWQCBs, which, within their areas of jurisdiction, protect surface and groundwater from pollutants discharged or threatened to be discharged to the waters of the state. For the project area, the SDRWQCB maintains jurisdiction within the subject basin. This protection is carried out by the SDRWQCB through the issuance and enforcement of National Pollutant Discharge Elimination System (NPDES) permits, called Waste Discharge Requirements (WDRs), regulation of leaking underground storage tanks and contaminated properties through the Leaking Underground Storage Tank (LUST) and Spills, Leaks, Investigation, and Cleanup (SLIC) programs respectively. Underground Storage Tanks (USTs) are regulated under Chapter 6.7 of the California Health and Safety Code and 23 CCR Chapter 16. The RWQCBs issue WDRs for operating and closed landfills under 27 CCR Chapters 3, Section 20950, et seq.

4. Local

a. San Diego County

<u>Department of Environmental Health/Hazardous Materials Division</u>

As noted above under State guidelines, the County DEH/HMD is the local CUPA, and has jurisdiction over hazardous materials plans in the City. The County DEH/HMD also requires businesses that handle reportable quantities of hazardous materials, hazardous wastes, or extremely hazardous substances to submit a Hazardous Materials Business Plan (HMBP), which includes detailed information on the storage of regulated substances. The County DEH/HMD provides guidelines for the preparation and implementation of HMBPs, including direction on submittal requirements, covered materials, inspections, and compliance.

The DEH/HMD is also the administering agency for the San Diego County Operational Area Hazardous Materials Area Plan (County of San Diego 2011b). This plan identifies the system and procedures used within the Country to address hazardous materials emergencies, and provides guidelines for topics such as transportation, industry/agency coordination, planning, training, public safety, and emergency response/evacuation.

<u>Office of Emergency Services</u>

The County Office of Emergency Services (OES) and Unified Disaster Council administer the San Diego County Multi-Jurisdictional Hazard Mitigation Plan (MHMP), a countywide plan to identify

risks and minimize damage from natural and man-made disasters (County of San Diego 2010). The primary goals of the plan include efforts to promote and provide compliance with applicable regulatory requirements (including through the promulgation/enhancement of local requirements for participating agencies including the City), increase public awareness and understanding of hazard-related issues, and foster inter-jurisdictional coordination.

The OES also administers the County Unified San Diego County Emergency Services Organization and County of San Diego Operational Area Emergency Operations Plan (EOP, County of San Diego 2014), which addresses emergency issues including evacuation and provides guidance for responding to major emergencies and disasters. Specifically, Annex Q (Evacuation) of the plan notes that: "Primary evacuation routes consist of major interstates, highways, and prime arterials within San Diego County…," with identified primary evacuation routes in the project site vicinity including Interstate (I-) 5, I-805, State Route (SR-) 125, SR-905, and SR-54.

Unified County Emergency Response Team Program

The City has comprehensive agreements with the U.S. Bureau of Land Management, California Department of Forestry, California Conservation Corps, Urban Search and Rescue Corps, San Diego County Fire Mutual Aid, and other agencies in conjunction with the California Disaster and Civil Defense Master Mutual Aid Agreement. The proposed project is incorporated into existing City emergency disaster programs, including all fire and emergency services and mutual aid agreements.

b. San Diego Airport Land Use Commission

The San Diego Airport Land Use Commission (ALUC) establishes review requirements for new development or redevelopment within applicable airport influence areas (AIAs), as identified in Airport Land Use Compatibility Plans (ALUCPs). AIAs are generally defined as areas where airport-related noise, safety, airspace protection, and overflight factors may significantly affect land use compatibility or necessitate restrictions on certain land uses as determined by the ALUC. The AIAs include two general areas, Review Areas 1 and 2, as defined by mapped boundaries in the associated ALUCPs.

For the proposed project, Brown Field Municipal Airport is the only facility with AIAs applicable to the project site, and is limited to Review Area 2 (see Figure 5.1-1). Review Area 1 for Brown Field is located adjacent to the ends of the primary runway surfaces and does not apply to the proposed project. Review Area 2 for Brown Field involves height restrictions for applicable structures, and encompasses the southwestern corner of the Project site (SDRAA 2010). In addition, the project site is within the FAA Noticing Area for Brown Field, as previously described under FAA Requirements.

c. City of Chula Vista

Community Emergency Response Team Program

The City provides a Community Emergency Response Team (CERT) program that offers training to citizens for effective and efficient response to emergency situations without placing themselves or others in unnecessary danger. Specifically, CERT training includes guidance on managing

utilities, putting out small fires, providing basic emergency medical aid, search and rescue operations, volunteer organization, and collection of disaster information to support first responders.

General Plan

The Chula Vista General Plan Environmental Element addresses wildfire hazards and hazardous materials/waste. Specifically, the Environmental Element includes the following applicable related objectives and policies: (1) Objective E 16, Minimize the risk of injury and property damage associated with wildland fire hazards, with a related policy to implement appropriate brush management programs; and (2) Objective E 17, Ensure the adequate remediation of contaminated sites as redevelopment occurs to protect public health and safety, with related policies to remediate contaminated sites and ensure that associated future uses and public health and safety are not compromised, and conduct the remediation of contaminated sites in accordance with applicable regulatory standards and environmental assessments prior to development.

Hazardous Materials Technical Study

The primary purpose of the project Hazardous Materials Technical Study (HMTS) was to document the presence of properties that have been potentially impacted by hazardous materials or wastes. Specific efforts involved in this investigation included a records review, documentation of site history, field reconnaissance, and soil testing. In addition, a prior hazardous materials investigation covering approximately 690 acres in Otay Ranch Villages 3, 8 and 10 was reviewed, with the Village 10 site adjacent to or overlapping the western portion of the Main Campus Property. These efforts, along with related design measure recommendations, are outlined below for the project area, with additional detail provided in the project HMTS (Appendix J).

B. Hazardous Site Database Records Review

A review of regulatory database records related to hazardous materials/wastes was conducted for the project site area, including a search zone extending one mile from the site boundaries. Applicable data base files included: (1) NPL, CERCLIS, RCRA and other applicable federal sites; (2) DTSC EnviroStor and SWRCB GeoTracker sites; (3) registered above ground (ASTs) and underground storage tank (USTs) sites; (4) leaking underground storage tank (LUST) sites; (5) Solid Waste Information System (SWIS) sites; (6) Formerly Used Defense Sites (FUDS); and (7) other applicable federal, State, and local databases (as outlined in the project HMTS). Five applicable property/facility listings were identified in the noted data base searches, with none of these listings considered environmental concerns for the project site as summarized below.

1. Otay Ranch Village 11 S-1 School Site, 1650 Exploration Drive. This site, located approximately 0.4 mile north of the proposed project, was investigated due to former agricultural use, with the DTSC concluding that "no further action" was required. Accordingly, this location is not considered an environmental concern for the project site.

2. Middle School No. 12/High School No. 14, Eastlake Parkway/Hunte Parkway. This site, located adjacent to the northern project site boundary, was investigated due to former agricultural use, with the DTSC concluding that "no further action" was required. Accordingly, this location is not considered an environmental concern for the project site.

3. Lower Otay Lake Filtration Plant, 2200 Wueste Road. This site, located approximately 0.2 mile south of the Lake Property portion of the project site, had a documented unauthorized (LUST) release of gasoline that impacted adjacent soil. Based on the SWRCB GeoTracker listing, soil contamination did not extend below 40 inches in depth, the LUST and associated soil were removed, and it was estimated that less than one cubic foot of contaminated soil remains. Due to the noted conditions, the project HMTS concluded that this location is not considered an environmental concern for the project site.

4. Brown Field Bombing Range FUDS. The former Brown Field Bombing Range is located approximately 0.2 to 0.5 mile south of the project site, and is known or suspected to contain military munitions and explosives of concern (e.g., unexploded ordnance). Based on the intervening distance, the Brown Field FUDS property is not considered an environmental concern for the project site.

5. High Tech K-12 School. This property, located within the project site along Hunte Parkway, is identified as an "orphan property" in HMTS (i.e., properties for which specific address information was not provided in the regulatory listings). The listing for High Tech K-12 School is associated with a NPDES permit issued in August 2010, likely in association with construction of the school. As a result, the project HMTS concludes that this site has a "low likelihood" of representing an environmental concern to the project area.

C. Other Hazards Information

1. Site History

A summary of historical uses in the project site and vicinity is provided below, based on review of historic aerial photos, topographic maps and City street directories (Sanborn® fire insurance maps were unavailable for the project area).

The project site was undeveloped in the early part of the 20th Century, with the northern and western portions of the Main Campus Property, as well as adjacent properties to the north, exhibiting evidence of agricultural activity (plowing) at least as early as 1953. These uses continued until sometime between 1974 and 1980, when agricultural operations appeared to cease. Subsequent land uses on the Main Campus Property and adjacent areas included recovering native habitat between approximately 1980 and 1996 and minor development of roads. These conditions were similar for the Main Campus Property and vicinity after 1996, with the exception of additional development to the north including High Tech K-12 School (first observed in 2009), Hunte Parkway (first observed in 2005), and additional urban sites north of Hunte Parkway.

The Lake Property was observed to be generally undeveloped throughout the above noted timeframe, with no agricultural activity and minor development limited to unpaved roads and power line facilities. Development in adjacent areas include Wueste Road adjacent to the east (first observed in 1992/1993), the Otay filtration plant and related facilities (e.g., roads/parking areas) approximately 0.2 mile to the south (reportedly in service since 1914, City of San Diego 2016), and the U.S. Olympic Training Facility approximately 0.1 mile to the north (first observed in 1996).

2. Field Reconnaissance

A field reconnaissance visit was conducted within the project area by Ninyo & Moore technical staff on April 12, 2013. The primary intent of this reconnaissance was to identify the presence and nature of potential sites of environmental concern. Based on this reconnaissance, the following observations were provided:

(1) aerially-deposited lead is not anticipated to be an environmental concern at the project site, due to the current and historical absence of major roadways (i.e., the principal source of aerially-deposited lead);

(2) while electrical transformers were observed just north of the site along Hunte Parkway, they are not anticipated to represent environmental concerns for the project site, due to their recent age (and associated low potential for inclusion of PCBs);

(3) railroads and associated potential environmental concerns are not present in the site vicinity;

(4) asbestos-containing materials (e.g., insulation) and materials designated under Universal Waste Rule requirements (e.g., mercury-containing switches and fluorescent light tubes) were not observed or expected to occur on-site;

(5) while lead-based paint was not observed or expected to occur in the site vicinity, some potential exists for lead-based paint to be present along adjacent portions of Hunte Parkway (i.e., in association with roadway striping);

(6) wooden facilities treated with chemical preservatives (e.g., creosote or copper compounds) may potentially be present on-site in association with facilities such as utility poles, guardrails, and fences; and

(7) residual chemical pesticides may potentially be present on-site in association with former agricultural activities, with the results of related soil testing outlined below under Item 3.

3. Soil Testing

Based on the historical use of the project site for agriculture as previously described, on-site soils were tested for organochlorine pesticides (OCPs, including dichlorodiphenyltrichloroethane [DDT], dichlorodiphenyldichloroethylene [DDE], and chlorodane). This effort involved the collection of nine shallow soil samples from the Main Campus Property and one sample form the Lake Property for laboratory testing, with specific sampling/testing locations and methodologies described in the project HMTS (Appendix J). OCPs were detected in 8 of the 10 samples collected, with the range of concentrations for tested OCPs as follows: (1) 4,4-DDE, from below the detection limit to 25.2 micrograms per kilogram (µg/kg); (2) 4,4-DDT, from below the detection limit to 5.15 µg/kg; and (3) total chlordane, from below the detection limit to 4.18 µg/kg. These levels were compared to the California Human Health Hazard Screening Levels (CHHSLs), which are thresholds for human health concerns identified by CalEPA. The noted on-site concentrations of OCPs were at least two orders of magnitude below the CHHSLs for residential use, with the project

HMTS; therefore, concluding that residual OCP levels do not represent an environmental concern to the project area.

4. Previous Hazardous Materials Investigation Review

Based on review of the previous hazardous materials investigation (Coast 2 Coast Environmental [C2C] 2011), the project HMTS concluded that this investigation identified similar regulatory listings and history as noted for the proposed project site. This investigation also included soil testing, and documented OCP levels above residential thresholds in "some" (unidentified) areas, with additional soil testing recommended prior to grading. As previously noted, however, observed OCPs levels at the project site (including the western portion of the Main Campus Property) did not exceed (or approach) the CHHSLs for residential use, with no associated environmental concerns identified.

5. Other Potential Environmental Hazards

The 1993 Otay Ranch GDP Program EIR identified three off-site properties that could potentially represent environmental concerns for the proposed project site, including the Otay Landfill, Brown Field, and Rock Mountain Quarry. Based on analysis provided in the 2009 EIR prepared for the Millenia site, the Otay Landfill is located approximately three miles west of the Main Campus Property, includes a former hazardous waste reprocessing operation, and continues to provide disposal waste services (Chula Vista 2009). The Rock Mountain Quarry, located approximately two miles southwest of the Main Campus Property, represents a potential source of contamination from waste oil, fuel spills, residual blasting chemicals, and air emissions. Based on the intervening distances to these two properties, no associated environmental concerns are anticipated at the project site, with the Otay Landfill and Rock Mountain Quarry also not identified as potential environmental concerns in the project HMTS.

Brown Field Municipal Airport is located approximately 1.9 miles southwest of the Main Campus Property at its closest point. The Brown Field Airport is operated by the City of San Diego under the associated ALUCP, and may present associated hazards due to flights occurring over the project site. Specifically, as noted above under the discussion of Regulatory Framework, while the project site is not within Review Area 1 for Brown Field (noise and safety concerns), Review Area 2 for Brown Field (height restrictions for applicable structures) includes the project site. In addition, the project site is within the FAA Noticing Area for Brown Field, as outlined above under FAA Requirements.

It should also be noted that a public comment letter received for the Village 9 EIR indicated that the Village 9 site would be subject to overflight operations associated with Brown Field. Specifically, there is an instrument approach procedure for aircraft approaching Brown Field from the north, which terminates approximately 0.5 mile west of the proposed project site. Once at this location, pilots must be able to see the airport visually and then circle to land. Because aircraft using this approach may fly in any weather condition and 24 hours a day, the southwestern portion of the Main Campus Property may be subject to overflights as described. Accordingly, applicable on-site areas would be subject to an Overflight Notification, which does not include any development restrictions, but provides notification to potential buyers that the property is within an overflight area as described (SDRRA 2010). In addition, as described in the Village 9 EIR

(Chula Vista 2014a), portions of the project site may be subject to overflights from the Tijuana International Airport, located approximately 2.2 miles to the south-southwest at its closest point. Accordingly, while this facility is outside the purview of the ALUC (and therefore does not have an adopted ALUCP), applicable portions of the project site may be subject to Overflight Notification for operations at the Tijuana Airport, similar to those described above for Brown Field.

5.13.2 Thresholds of Significance

Based on Appendix G of the CEQA Guidelines and related City criteria, impacts regarding hazards and hazardous materials would be significant if the Project would:

- **Threshold 1:** Create a significant hazard to the public or environment through the routine transport, use, or disposal of hazardous materials.

- **Threshold 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.

- **Threshold 3:** Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.

- **Threshold 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, a significant hazard to the public or the environment is created.

- **Threshold 5:** Be located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport, public use airport, or private airstrip, and result in a safety hazard for people residing or working in the project area.

- **Threshold 6:** Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

- **Threshold 7:** Expose people or structures to a significant risk or loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

5.13.3 Impact Analysis

A. Threshold 1: Create a significant hazard to the public or environment through the routine transport, use, or disposal of hazardous materials.

As described in Section 5.11, *Hydrology and Water Quality*, Project-related construction and operational activities would involve the routine use, transport, storage, or disposal of potentially hazardous materials such as vehicle/equipment fuels and lubricants, concrete and paint, portable septic system wastes, cleaning detergents/solvents, and chemical pesticides/fertilizers. The Project WQTR/Hydromodification Plan (HMP) (Appendix H) identifies a number of measures and BMPs to address associated potential issues, in conformance with applicable regulatory requirements

including standards related to City storm water, NPDES, and hazardous materials handling/ disposal guidelines.

In addition, all such uses would be subject to applicable and required regulatory controls as described above under *Regulatory Framework* in Section 5.13.1. Specifically, this would include conformance with applicable federal, state, and local standards related to hazardous materials and wastes, such as controls on use, handling, storage, transportation, and disposal. Detailed requirements would be identified in associated plans such as RMPs, HMBEPs, and HMBPs, with specific requirements to include standard measures such as appropriate inventory documentation, storage controls (e.g., secondary containment), operational and safety mechanisms (e.g., employee training), and emergency response provisions (e.g., agency notification and spill contingency plans).

Based on the described regulations, impacts related to the routine transport, use, and/or disposal of hazardous materials during Project construction and operation would be less than significant.

B. Threshold 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.

The Project SPA Plan notes that long-term site operation would potentially entail the use, storage, and disposal of hazardous materials such as chemical pesticides associated with proposed agricultural research, as well as hazardous materials related to medical facilities and other research efforts. While the presence of such materials could potentially result in impacts related to accidental releases, all such uses would be subject to applicable and required regulatory controls as described above under *Regulatory Framework* in Section 5.13.1. Specifically, this would include conformance with applicable federal, state, and local standards related to hazardous materials and wastes, such as controls on use, handling, storage, transportation, and disposal. Detailed requirements would be identified in associated plans such as RMPs, HMBEPs, and HMBPs, with specific requirements to include standard measures such as appropriate inventory documentation, storage controls (e.g., secondary containment), operational and safety mechanisms (e.g., employee training), and emergency response provisions (e.g., agency notification and spill contingency plans).

A testing program for residual concentrations of OCPs in on-site soils was conducted under the HMTS, as described above in Section 5.13.1. Observed OCP concentrations were concluded to be at least two orders of magnitude below the CHHSLs for residential use, with the Project HMTS concluding that residual OCP levels do not represent an environmental concern to the Project area. Based on the described conditions, impacts are considered to be potentially significant (Impact 5.13-1a).

C. Threshold 3: Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.

The Project site encompasses the existing High Tech K-12 School campus along Hunte Parkway, and other areas of the site include proposed school-related uses associated with university

development. As outlined above under the discussion of Thresholds 1 and 2, the Project would entail the routine use, handling, storage, transportation, and disposal of hazardous materials and wastes. As such, impacts related to the potential emissions of hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school are considered to be potentially significant (Impact 5.13-1b).

D. Threshold 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, a significant hazard to the public or the environment is created.

Based on the results of the Project-specific HMTS described above in Section 5.13.1, the Project site is not located within any locations included on database listings associated with Government Code Section 65962.5 (or other applicable regulatory lists). The five listed sites identified within the Project vicinity as part of the Project HMTS investigation were concluded not to be environmental concerns for the Project site, as described in Section 5.13.1. In addition, the potential occurrence of residual OCPs in on-site soils was determined not to represent environmental concerns, based on related soil sampling/testing conducted as part of the HMTS (as noted above under Thresholds 1 and 2 and in Section 5.13.1). The HMTS also identifies a number of measures that are recommended to "…be added as notes on future grading plans to the satisfaction of the City Engineer…" as summarized in Section 5.13.1. Specifically, these measures are related to: (1) development/implementation of a Site Safety Plan prior to construction to ensure adequate protection of construction works and the public; (2) provision of notices in project construction specifications regarding the potential to encounter previously unknown contamination, as well as related efforts regarding agency notifications and remedial efforts (including preparation of an associated contingency plan); and (3) direction for categorizing excavated soil and imported fill, as applicable, to determine appropriate options for on-site use/reuse or off-site disposal.

While the Project site is not a listed site as a whole, potential impacts related to listed and potential hazardous material sites and related hazards as described are considered to be potentially significant (Impact 5.13-1c).

E. Threshold 5: Be located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport, public use airport, or private airstrip, and result in a safety hazard for people residing or working in the project area.

As described in Section 5.13.1, Brown Field Municipal Airport is located approximately 1.9 miles from the Project site and has an adopted ALUCP, while the Tijuana International Airport is located approximately 2.2 miles to the south and does not have an adopted ALUCP. In addition, the closest known private airstrip, John Nichols Field, is located approximately 2.5 miles to the northeast.

Based on the adopted ALUCP for Brown Field, the Project site is not located within any Review Area 1 hazard zones associated with potential noise and safety concerns (e.g., runway approach and protection zones), with no associated impacts to result from Project implementation. The Project site is, however, located within the Review Area 2 for Brown Field, as well as the FAA noticing area for proposed construction or alteration projects, as outlined in Section 5.13.1. While

the proposed signature tower structure would likely exceed the noted 200-foot height limit (i.e., the "signature tower" in the Gateway District, which is proposed to be 200 to 250 feet; refer to Figure 3-3); it would not be located within Review Area 2 and it is not anticipated that a conflict would occur. All other development would not be allowed to exceed 92 feet and would similarly not exceed the 200-foot height limit. Based on the described conditions, applicable future development under the Project (including the signature tower) would not be subject to review under FAA Noticing Area requirements.

Portions of the Project site are also within the Overflight Notification Area for both Brown Field and the Tijuana International Airport, as previously described. This designation, however, does not include any development restrictions, but requires notification to potential buyers that the property is within an overflight area (SDRAA 2010, refer also to the related discussion under *Regulatory Framework* in Section 5.13.1). As a result, impacts would be potentially significant (Impact 5.13-2).

Based on the intervening distances between the Project site and the Tijuana International Airport (2.2 miles) and John Nichols Field (2.5 miles), no other associated impacts from airport-related safety hazards would result from implementation of the Project.

F. Threshold 6: Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

The Otay Ranch GDP/Subregional Plan requires that all SPA plans include an "Emergency Disaster Plan" to address the various hazards with potential to disrupt communities, cause damage, and create casualties within the area. As described in Section 9.8.5, *Emergency Disaster Plan*, of the UID SPA Plan (and above in Section 5.13.1, under R*egulatory Framework*), Chula Vista is a participating agency in a number of related local and State plans, including in the California Disaster and Civil Defense Mutual Aid Agreement, MHMP, EOP, and CERT. The City also has comprehensive agreements with the Bureau of Land Management, California Department of Forestry, California Conservation Corps, Urban Search and Rescue Corps, San Diego County Fire Mutual Aid and other agencies in conjunction with the California Disaster and Civil Defense Master Mutual Aid Agreement. The Project is incorporated into the existing City emergency disaster programs, including all described fire and emergency services and mutual aid agreements. In April 2011, the Chula Vista City Council approved Resolution 2011-067, which adopted the 2010 San Diego County MHMP as the official Multi-Jurisdictional Hazard Mitigation Plan for Chula Vista. The Project would support the intent of local and regional emergency response and evacuation plans as described through accessibility to emergency services, including existing Fire Station No. 7 (approximately two miles to the northwest in Village 2), and proposed fire stations within approximately one mile to the west (Village 8 West) and northwest (Millenia Development).

The Project would not interfere with City emergency response plans, as it would not obstruct any existing roadways or designated evacuation routes. In addition, the Project circulation system would provide regional connectivity to designated evacuation routes including I-805 and SR-125, and would reduce the potential for gridlock on these and other roadways during major disasters. The Project circulation system would also facilitate local evacuation and emergency response by providing multiple access points both within the site and to the surrounding regional circulation

system (refer to Figure 3-5). Additionally, as discussed in Section 5.9, *Public Services*, the implementation of a Project Public Facilities Financing Plan, payment of the Public Facilities Development Impact Fee, and implementation of the Growth Management Ordinance threshold standards would ensure that project implementation would not adversely impact fire protection and emergency services.

Based on the above conditions and considerations, potential project-related impacts to the implementation of, or interference with, adopted emergency response and evacuation plans/ facilities would be less than significant.

G. Threshold 7: Expose people or structures to a significant risk or loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

Based on Figure 9-9 of the City's General Plan, *Wildland Fire Hazards Map, of the Chula Vista General Plan Environmental Element*, the Project site is designated as a high wildfire hazard area. The site has been used historically for agriculture and is currently undeveloped, with large areas of grassland and scrubland vegetation. A number of adjacent areas also exhibit similar conditions and fire hazards, including designated open space within portions of the Otay River, Salt Creek, and adjacent uplands along the southern and eastern site boundaries. Implementation of the Project would result in development adjacent (or in proximity) to the noted off-site open space areas, as well as on-site areas proposed for habitat preservation (refer to Figure 3-3). In addition, during the interim phases of Project construction, initially developed areas may be adjacent to vacant areas scheduled for subsequent development.

Based on Chula Vista Fire Department requirements, and in accordance with related standards in the CFC, CBC, and CRC (as outlined under *Regulatory Framework* in Section 5.13.1), a Fire Protection Plan (FPP) has been prepared for the Project and is included as Appendix F of the UID SPA Plan. The primary intent of the FPP is to identify appropriate measures to reduce the risk of fire and protect life, safety, and property adjacent to wildland areas that are susceptible to fire. The FPP requires that all Project development conform to applicable requirements identified in the FPP, including applicable elements of the CFC, CBC, and CRC. Specific measures identified in the Project FPP include brush management in pertinent areas, as well as potential architectural efforts such as boxed eaves, interior/exterior sprinkler systems, and solid block wall barriers (potentially including landscaped and irrigated retaining walls). Proposed brush management would include two designated zones (Zone 1 and Zone 2), as outlined below, with additional information provided in the Project FPP (refer also to Figures 3-11a and 3-11b).

- Brush Management Zone 1. This zone would be implemented on applicable public and private areas located within 50 feet of structure edges, and would generally include the following elements: (1) permanent irrigation (including for landscaped retaining walls if proposed); (2) use of approved plant species, with local plant/seed sources to be used if available; (3) restriction of tree limbs within 10 feet of structures or chimneys (including outdoor barbeques and fireplaces); (4) provision of a minimum 10-foot spacing between tree canopies; and (5) use of appropriate height limits, spacing, and varieties for shrub and groundcover vegetation.

- Brush Management Zone 2. This zone would be implemented on applicable public and private areas located between the outside edge of Zone 1 and 100 feet outward, and would generally include the following elements: (1) temporary irrigation for vegetation establishment (and permanent irrigation of landscaped retaining walls if proposed); (2) use of approved plant species, with local plant/seed sources to be used if available; (3) limitations on tree planting densities (clusters of no more than three) and spacing (minimum 20-foot separation between cluster canopies); (4) use of appropriate height limits, spacing, and varieties for shrub and groundcover vegetation (including understory shrubs to avoid any "fire laddering" effects); (5) provision of appropriately spaced "shrub-free avenues" to provide slope access; and (6) prohibition of shrub hedging.

The described brush management and (if applicable) architectural measures would be implemented as appropriate during Project site development to ensure adequate fire protection. With implementation of the Project FPP and related measures, as part of and in conformance with associated regulatory requirements (including applicable elements of the CFC, CBC, and CRC, as well as SB 1241), potential Project-related impacts from wildfire hazards would be less than significant.

5.13.4 Level of Significance Prior to Mitigation

A. Routine Transport of Hazardous Materials

Based on the federal, state, and local regulations, impacts related to the routine transport, use, and/or disposal of hazardous materials during Project construction and operation would be less than significant.

B. Routine Use and Accidental Release of Hazardous Materials

Impact 5.13-1a: Impacts related to the routine use and accidental release of hazardous materials have been identified for the Project and are considered to be potentially significant.

C. Hazards to Schools

Impact 5.13-1b: Impacts related to hazards to schools have been identified for the Project and are considered to be potentially significant.

D. Existing Hazardous Materials Sites

Impact 5.13-1c: Impacts related to listed hazardous sites have been identified for the Project and are considered to be potentially significant.

E. Airport Hazards

Impact 5.13-2: Potentially significant impacts could result due to the Project's location within the Overflight Notification Area for both Brown Field and Tijuana International Airport.

F. Emergency Response and Evacuation Plans

No significant impacts related to emergency evacuation plans have been identified for the Project.

G. Wildland Fires

No significant impacts related to wildland fire hazards have been identified for the Project.

5.13.5 Mitigation Measures

Development of the UID site would occur as future applicants apply for various permits. The measures below identify that a future applicant would be responsible for the implementation of the mitigation measures.

A. Routine Transport of Hazardous Materials

No mitigation measures are required.

B. Routine Use and Accidental Release of Hazardous Materials

Impacts related to the routine use and accidental release of hazardous materials are considered to be potentially significant (Impact 5.13-1a). Implementation of Mitigation Measure 5.13-1 would reduce impacts to less than significant levels:

5.13-1 **Hazardous Risk Reduction Measures**. Prior to the issuance of any grading permit for the UID, the applicant shall verify that the applicable recommendations in the Hazardous Materials Technical Study prepared by Ninyo & Moore, dated September 4, 2014, have been incorporated into the final project design and construction documents to the satisfaction of the City of Chula Vista Engineer. These requirements include the following:

- A Site Safety Plan shall be prepared and implemented prior to initiation of construction activities within the boundaries of the project area to reduce potential health and safety hazards to construction workers and the public.

- Appropriate references regarding the potential to encounter contaminated soil, illegal dumping, burn sites, and USTs shall be included in construction specifications. In the event that USTs or undocumented areas of contamination (including lead-based painted [LBP] and treated wood) are encountered during construction activities, work shall be ceased 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, including a determination of whether regulatory notification is required. The associated remediation and removal activities shall be conducted by trained, licensed/certified personnel, and in accordance with pertinent local, state, and federal regulatory guidelines, under the oversight of the appropriate regulatory agency.

- If any USTs are encountered during construction, construction activities in the immediate area of the UST shall cease until the UST can be removed under permit by the DEH and other regulatory agency, as appropriate. The soil and groundwater within the vicinity of the USTs should 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.

- During construction activities, it may be necessary to excavate existing soil, or to bring fill soils to the project area from off-site locations. If soil contamination is suspected during construction, sampling shall be performed in those areas. Prior to any excavation or removal of contaminated soil not suitable for on-site reuse, it shall be properly characterized for disposal at an off-site facility. Fill soils also shall be evaluated or sampled to document that imported soil does not contain unacceptable concentrations of contamination. If potentially hazardous waste is observed in the project area (e.g., from illegal dumping), the waste should be appropriately disposed of prior to initiating construction activities.

C. Hazards to Schools

Potential Project impacts related to hazards to schools are considered to be potentially significant (Impact 5.13-1b). Implementation of Mitigation Measure 5.13-1 would reduce impacts to less than significant levels.

D. Existing Hazardous Materials Sites

Potential impacts related to listed hazardous sites are considered to be potentially significant (Impact 5.13-1c). Implementation of Mitigation Measure 5.13-1 would reduce impacts to less than significant levels.

E. Airport Hazards

Potentially significant impacts could result due to the Project's location within the Overflight Notification Area for both Brown Field and Tijuana International Airport (Impact 5.13-2). Implementation of Mitigation Measures 5.13-2a and 5.13-2b would reduce impacts to less than significant levels:

5.13-2a **Airport Overflight Agreement**. Prior to approval of the first Final Map for those areas within the Overflight Notification Area for Brown Field, the applicant shall record the Airport Overflight Agreement with the County Recorder's office, and provide a signed copy of the recorded Airport Overflight Agreement to the City's Development Service Director (or their designee).

5.13-2b **Notice to Potential Buyers**. The Project applicant will provide notification to potential buyers of properties within the Overflight Notification Area for Brown Field and/or the Tijuana International Airport.

F. Emergency Response and Evacuation Plans

No mitigation measures are required.

G. Wildland Fires

No mitigation measures are required.

5.13.6 Level of Significance After Mitigation

A. Routine Transport of Hazardous Materials

Impacts associated with routine transport, use, and/or disposal of hazardous materials would be less than significant without mitigation.

B. Routine Use and Accidental Release of Hazardous Materials

Potentially significant impacts related to the routine use and accidental release of hazardous materials (Impact 5.13-1a) would be reduced to less than significant levels with implementation of Mitigation Measure 5.13-1 because the mitigation would require implementation of hazardous risk reduction measures to ensure safe handling and transport of hazardous materials during construction of the Project.

C. Hazards to Schools

Potentially significant impacts related to hazards to schools (Impact 5.13-1b) would be reduced to less than significant levels with implementation of Mitigation Measure 5.13-1 because the mitigation would require safe handling and transport of hazardous materials near schools during construction of the Project.

D. Existing Hazardous Materials Sites

Potentially significant impacts related to listed hazardous sites (Impact 5.13-1c) would be reduced to less than significant levels with implementation of Mitigation Measure 5.13-1 because the mitigation would require implementation of hazardous risk reduction measures to ensure safety during construction of the Project.

E. Airport Hazards

Potentially significant impacts related to airport hazards (Impact 5.13-2) would be reduced to less than significant with implementation of Mitigation Measures 5.13-2a and 5.13-2b, which would require noticing of airport hazards as required by law.

F. Emergency Response and Evacuation Plans

Impacts associated with emergency response and evacuation plans would be less than significant without mitigation.

G. Wildland Fires

Impacts associated with wildland fires would be less than significant without mitigation.

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5.14 HOUSING AND POPULATION

This section describes the existing conditions in the Project vicinity, and growth projections for the UID and the surrounding area, and evaluates the potential for impacts to housing and population due to implementation of the Project.

This EIR tiers from the Previous Environmental Review Documents, as described in Chapter 2.0, *Introduction*. The 2013 SEIR addressed the GPA/GDPA development's effect on population, housing, and employment opportunities, and determined that implementation of the land uses proposed in the GPA/GDPA would not result in significant growth inducement, and no mitigation measures were required. The 2001 SEIR (01-01) did not evaluate impacts on population, housing, and employment opportunities. The analysis and discussion of population and housing issues contained in the 2013 GPA/GDPA SEIR is incorporated by reference.

5.14.1 Existing Conditions

A. Regulatory Framework

1. State

a. General Plan Law (Gov. Code, § 65000 et seq.)

Housing element law requires local governments to adequately plan to meet their existing and projected housing needs. Pursuant to Government Code Section 65580, a Housing Element of a General Plan must contain local commitments to:

- provide sites with appropriate zoning and development standards, and with services and facilities to accommodate the jurisdiction's RHNA for each income level; the RHNA is the only population and/or housing requirement that applies to the General Plan;
- assist in the development of adequate housing to meet the needs of lower and moderate-income households;
- address and, where appropriate and legally possible, remove governmental constraints to the maintenance, improvement, and development of housing, including housing for all income levels and housing for persons with disabilities;
- conserve and improve the condition of the existing affordable housing stock;
- promote housing opportunities for all persons regardless of race, religion, sex, marital status, ancestry, national origin, color, familial status, or disability; and
- preserve assisted housing developments for lower income households.

State Housing Element law mandates specific topics and issues that must be addressed in the Housing Element. These include:

- an analysis of population and employment trends, documentation of projections, and quantification of existing and projected housing needs for all income levels;

- an analysis and documentation of household characteristics, such as the age of housing stock, tenancy type, overcrowded conditions, and the level of payment compared to ability to pay;

- an analysis and documentation of special needs, such as female-headed households, homeless individuals, persons with disabilities, large households, farmworkers, and the elderly;

- a regional share of the total regional housing need for all income categories;

- an inventory of land suitable for residential development, including vacant land and infill/ redevelopment opportunities; this analysis also looks at potential residential sites and their accessibility to adequate infrastructure and services;

- identifying actual and potential governmental and nongovernmental constraints that could potentially impede the maintenance, improvement, and development of housing for all income groups;

- identifying and analyzing opportunities for energy conservation in residential developments;

- an inventory of at-risk affordable units that have the possibility of converting to market rate; and

- a statement of goals, policies, quantified objectives, financial resources, and scheduled programs for the improvement, maintenance, and development of housing.

Senate Bill 2 (SB 2), effective as of January 1, 2008, amended State housing element law regarding shelter for homeless persons. The legislation requires that every jurisdiction identify potential zones where emergency shelters are allowed as a permitted use without discretionary review. It also added new requirements for local governments to treat emergency shelter facilities and transitional housing or supportive housing developments the same as other residential uses of the same type in the same zone.

2. Regional

a. San Diego Forward – The Regional Plan

San Diego Forward – The Regional Plan was adopted by SANDAG on October 9, 2015. The Regional Plan combines and updates two regional planning documents, the 2004 Regional Comprehensive Plan and the 2011 Regional Transportation Plan/Sustainable Communities Strategy into a unified document to guide regional growth between 2015 – 2050. While the Regional Plan was under preparation, the City of Chula Vista provided SANDAG with the number of anticipated dwelling units based on the amount of current development applications received.

As such, the growth forecasts in the San Diego Forward would accommodate population growth and trip generation resulting from the proposed project.

b. 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 region according to various income categories. In its final Regional Housing Needs Assessment (RHNA) figures, SANDAG allocated 12,861 housing units to the Chula Vista area for the 2010-2020 Housing Element Cycle, including 5,648 housing units for very low and low-income households (City of Chula Vista 2011). Since January 1, 2010, Chula Vista has produced more than 1,546 new units, including more than 155 low and very low-income housing units. The City anticipated that its remaining development capacity would exceed the RHNA for Chula Vista. The City of Chula Vista 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.

3. Local

a. City of Chula Vista General Plan

The City of Chula Vista General Plan divides the City into four planning areas: (1) the Southwest Planning Area, (2) the Northwest Planning Area, (3) the East Planning Area, and (4) the Bayfront Planning Area. Within the East Planning Area, the UID project is located within the Eastern University District. The vision for the district in the General Plan is an urban center for the East Planning Area that would also serve much of the inland south San Diego County region. The district would provide needed, higher value employment opportunities along business and commercial services; cultural and entertainment services; and a multi-institutional university center or traditional university and related support uses. As a regional-serving center, residential development would be at a greater scale, intensity, and density than the surrounding villages and Town Centers located throughout Otay Ranch.

The intent of the General Plan is to meet housing demand, instead of "exporting" housing demand to neighboring regions. Therefore, the efforts of the Chula Vista General Plan to add mixed use and higher densities is consistent with the intent of the SANDAG Regional Plan, which encourages local jurisdictions to add housing capacity to their general plans. The Chula Vista General Plan also incorporates a Housing Element (adopted April 23, 2013) that identifies strategies for expanding housing opportunities for the city's various economic segments. Under the Housing Element, the provision of new housing opportunities within mixed-use areas and at higher density levels, particularly transit focus areas, is encouraged. A primary issue of the Housing Element is the shortfall of housing, particularly affordable housing, in Chula Vista and the region. To address this issue, the Housing Element requires that residential developments with 50 or more dwelling units provide a minimum of five percent of total units for low-income households.

The General Plan Housing Element includes objectives and policies to minimize impacts on housing choices that result from conversion or demolition of rental housing units (Objective H4); encourage the provision of a wide range of housing choices (Objective H5 and H6); facilitate

affordable housing for lower and moderate-income households (Objective H7); and 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 (Objective H8).

b. Otay Ranch General Development Plan

The Otay Ranch GDP established a 5-year objective that requires each village to proportionately assist the City to meet or exceed its 5-year regional allocation as described in the Chula Vista Housing Element. The Otay Ranch GDP requires that prior to or concurrent with the approval of a SPA plan, a housing plan shall be approved that addresses the type and location of housing to be provided pursuant to the regional share allocation. Relevant policies associated with this objective include the following:

- **Objective:** Each Otay Ranch Village will proportionately assist the appropriate land use jurisdiction to meet or exceed Otay Ranch's share of the 5-year regional share allocation as provided by each jurisdiction's Housing Element.

- Policies:

    - Encourage each "Urban Village" to offer a variety of housing types, densities, and prices which will enable affordability within each income group under the regional share.

    - Encourage housing opportunities for very low, low, and moderate-income households, and the dispersal of such housing among Otay Ranch villages to promote a balanced community.

    - Support the exploration and use of innovative and alternate building technologies and materials which reduce costs, increase affordability, and address environmental issues such as energy and water conservation, air quality improvements and recycling.

B. Existing Population and Housing

The project site has been used in the past for agricultural purposes, though no current agricultural operations exist on the site. The site has not been formerly, nor is currently, occupied with residential uses; however, the High Tech High K-12 school exists in the northern-central portion of the Main Campus Property. The following discussion focuses on projected population and housing growth in the San Diego region, the city of Chula Vista, and Otay Ranch.

1. Regional Setting

Trends important to determining future population growth in the San Diego region include birth and death rates, domestic and international migration, and major economic indicators such as proposed major new employment centers or a closure or expansion of a military base. In October 2013, the SANDAG Board of Directors adopted the Series 13 Regional Growth Forecast, which incorporates data from the 2010 U.S. Census and the SANDAG Demographic and

Economic Forecasting Model. The purpose of the Series 13 Regional Growth Forecast is to provide a starting point for regional planning, specifically San Diego Forward: The Regional Plan. Table 5.14-1, *2050 Regional Population Forecast*, provides the change in population for both the incorporated cities and the unincorporated areas of San Diego County from 2008 to 2050 based on the Series 13 Regional Growth Forecast.

a. Population

Although the region's population will grow by nearly a million people over the forecast period, the rate of growth is slowing compared to the previous 40 years. The updated growth forecasts take into account the recent economic recession and reflect more current market conditions than the previous growth forecasts. The San Diego region is anticipated to grow by 29 percent over the 38-year period. Table 5.14-1 indicates that the growth rates are similar between the unincorporated and incorporated areas of the county. The incorporated cities, including Chula Vista, would accommodate the largest amount of population growth over the forecast period; however, the unincorporated area would experience a slightly higher growth rate compared to the region due to its relatively low existing population.

Table 5.14-1 2050 REGIONAL POPULATION FORECAST

Location	2012	2020	2035	2050	Growth 2012 - 2050	
					Numeric	Percentage
Incorporated Cities	2,648,162	2,892,287	3,236,128	3,421,526	773,364	29%
Unincorporated Area	495,267	543,426	617,570	647,233	151,966	31%
San Diego Region	3,143,429	3,435,713	3,853,698	4,068,759	925,330	29%

Source: SANDAG 2013

b. Employment and Housing

The forecast of total jobs for the region is shown in Table 5.14-2, *2050 Regional Employment and Housing Forecast*. The region is expected to add 460,492 jobs over the forecast period, a 32 percent increase. Similar to population forecasts, the incorporated cities account for the majority of employment growth volume compared to unincorporated areas, accounting for approximately 84 percent of the total increase in jobs (412,827 out of 460,492 jobs).

The projected distribution of new housing units from 2012 to 2050 is shown in Table 5.14-2. Similar to population and job forecasts, the incorporated cities account for the largest share of housing growth (275,048 out of 326,117 homes). Comparing the housing forecast to the job forecast as a ratio, also shown in Table 5.14-2, the increase in jobs is greater than the increase in housing in the incorporated cities and the region as a whole. The job-to-housing ratio in the incorporated cities and the region as a whole are both at about 1.3, while the ratio in the unincorporated areas is about 0.9.

SANDAG's Series 13: 2050 Regional Growth Forecast, anticipates that approximately 50 percent of regional future job and housing growth would be in the "smart growth" opportunity areas, such as Otay Ranch. In addition, this forecast projects that more than 70 percent of future job and housing growth will likely occur within transit investment areas, defined as the areas with highest priority for future transit investments. The Otay Ranch area is identified as a transit priority area in the 2050 Regional Growth Forecast Update. Therefore, regional forecasts anticipate intensified development in the smart growth areas, such as the UID, compared to the region as a whole.

Table 5.14-2 2050 REGIONAL EMPLOYMENT AND HOUSING FORECAST

Location	2012	2020	2035	2050	Growth 2012 - 2050	
					Numeric	Percentage
Jobs						
Incorporated Cities	1,290,351	1,448,340	1,581,326	1,703,178	412,827	32%
Unincorporated Area	160,562	175,784	188,612	208,227	47,665	30%
San Diego Region	1,450,913	1,624,124	1,769,938	1,911,405	460,492	32%
Housing						
Incorporated Cities	*993,955*	*1,064,431*	*1,185,277*	*1,269,003*	275,048	28%
Unincorporated Area	171,863	185,253	209,506	222,932	51,069	30%
San Diego Region	1,165,818	1,249,684	1,394,783	1,491,935	326,117	28%
Jobs-to-Housing Ratio						
Incorporated Cities	1.3	1.4	1.3	1.3	N/A	N/A
Unincorporated Area	0.9	0.9	0.9	0.9	N/A	N/A
San Diego Region	1.2	1.3	1.3	1.3	N/A	N/A

Source: SANDAG 2013
Note: Includes Civilian and Military Employment
N/A = Not Available

2. City of Chula Vista

a. Population

Table 5.14-3, *Total Population by Jurisdiction*, compares population growth in Chula Vista to other surrounding south bay cities of Imperial Beach and National City, and the San Diego region based on the Series 13: 2050 Regional Growth Forecast. Between 2010 – 2050, Chula Vista is anticipated to grow at a faster pace (41 percent) than the region (31 percent), a faster pace than Imperial Beach (10 percent), and a slower pace than National City (46 percent).

Table 5.14-3 TOTAL POPULATION BY JURISDICTION

Jurisdiction	2010	2020	2035	2050	Growth 2010 - 2050	
					Numeric	Percentage
Chula Vista	243,916	286,744	320,297	343,752	99,836	41%
Imperial Beach	26,324	27,510	30,354	31,579	5,255	10%
National City	58,582	62,265	74,343	85,424	26,842	46%
San Diego Region	3,095,313	3,435,713	3,853,698	4,068,759	973,446	31%

Source: SANDAG 2013
http://www.sandag.org/uploads/projectid/projectid_503_19238.pdf. Accessed May 12, 2016.

b. Employment and Housing

The forecast of total employment for the region and south bay cities is shown in Table 5.14-4, *Total Employment and Housing by Jurisdiction*. The region is expected to add about 489,464 jobs over the forecast period, increasing by 34 percent. Chula Vista is projected to absorb the largest amount of this growth, with an increase of 20,762 jobs. Imperial Beach and National City would accommodate a combined total of 14,197 jobs. Future job and housing growth would occur in smart growth target areas.

Table 5.14-4 also shows the housing forecast for the region and south bay cities from 2010 to 2050. Chula Vista would experience more housing growth than the region as a whole; however, National City shows the largest projected increase in housing units with 53% increase, and a faster growth rate compared to the rest of the south bay region. The jobs-to-housing ratio in Chula Vista is expected to be lower than the region. Imperial Beach would have a lower jobs-to-housing ratio than the region, and National City would have a higher jobs-to-housing ratio compared to the region.

Table 5.14-4 TOTAL EMPLOYMENT AND HOUSING BY JURISDICTION

Location	2010	2020	2035	2050	Growth 2012 - 2050	
					Numeric	Percentage
Jobs						
Chula Vista	64,035	82,966	100,096	114,435	20,762	42%
Imperial Beach	3,592	4,556	4,805	4,830	1,238	35%
National City	26,826	30,293	32,660	39,785	12,959	48%
San Diego Region	1,421,941	1,624,124	1,769,938	1,911,405	489,464	34%
Housing						
Chula Vista	78,384	89,063	98,924	107,471	29,087	37%
Imperial Beach	9,860	10,014	10,928	11,520	1,660	17%
National City	16,200	17,423	21,090	24,812	8,612	53%
San Diego Region	1,158,076	1,249,654	1,394,688	1,491,804	333,728	29%

Table 5.14-4 (cont.) TOTAL EMPLOYMENT AND HOUSING BY JURISDICTION

Location	2010	2020	2035	2050	Growth 2012 - 2050	
					Numeric	Percentage
Jobs-to-Housing Ratio						
Chula Vista	0.8	0.9	1.0	1.1	N/A	N/A
Imperial Beach	0.4	0.5	0.4	0.4	N/A	N/A
National City	1.7	1.7	1.6	1.6	N/A	N/A
San Diego Region	1.2	1.3	1.3	1.3	N/A	N/A

Source: SANDAG 2013
Note: includes Civilian and Military Employment
N/A = Not Available
http://www.sandag.org/uploads/projectid/projectid_503_19238.pdf. Accessed May 12, 2016.

3. Otay Ranch

a. Population

Buildout of the entire Otay Ranch GDP will result in an additional estimated population of 86,245 persons (Otay Ranch Joint Planning Project 2005). The projected resident population of the UID is 11,400 persons, based on an assumption that there would be 27 percent of 20,000 full-time students living on campus (or 5,400 students) and up to 6,000 non-student residents living within the 2,000 market-rate units in the UID.

b. Employment

The Otay Ranch GDP includes several major regional employment areas, including the Millenia development (formerly EUC) and the UID site. Additionally, the town centers would provide local employment centers that would provide a balance between jobs and housing in the Otay Ranch area. Resident-serving commercial and retail uses permitted throughout the Otay Ranch area would provide additional employment opportunities near homes.

c. Housing

There are a variety of single- and multi-family residences proposed throughout the Otay Ranch GDP. The 2013 GDP/GDPA included an additional 880 housing units beyond the amount included in the 2005 General Plan Update. The Otay Ranch GDP, as amended, does not include a specific amount of homes to be located in the UID.

Pursuant to state law, the Chula Vista General Plan Housing Element addresses the housing needs of the community. Consistent with those needs, the Housing Element identifies objectives, policies and related action programs pertaining to the provision of affordable housing. The UID SPA would not be subject to the requirements of the Chula Vista Affordable Housing Program, which requires the SPA Plan to provide a minimum of ten percent of the total residential units as low and moderate-income housing.

5.14.2 Threshold of Significance

According to Appendix G of the CEQA Guidelines, impacts to housing and population would be significant if the Project would:

- **Threshold 1**: Displace substantial numbers of existing housing or people, necessitating the construction of replacement housing elsewhere.

Appendix G of the CEQA Guidelines also states that impacts to housing and population would be significant if the project induced substantial population growth in an area, either directly or indirectly. Growth inducement is discussed in Chapter 7, *Growth Inducement*.

5.14.3 Impact Analysis

A. Threshold 1: Displace substantial numbers of existing households or people, necessitating the construction of replacement housing elsewhere.

The Project site is currently undeveloped with the exception of the existing High Tech K-12 school; however, the school site does not include boarding for students and no existing or former residential uses occupy the site. As such, the Project would not displace any existing households or people, or necessitate the construction of replacement housing elsewhere. Therefore, the Project would have no impact associated with displacement of households or people.

5.14.4 Level of Significance Prior to Mitigation

No significant impacts related to population and housing have been identified for implementation of the UID SPA Plan.

5.14.5 Mitigation Measures

No mitigation measures are required.

5.14.6 Level of Significance After Mitigation

No impacts related to population and housing were identified for the Project.

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5.15 PUBLIC UTILITIES

This section describes the public utilities that would serve the UID and evaluates the potential for impacts to water, wastewater, solid waste, recycled water, and energy services due to implementation of the project. Water services is addressed in subsection 5.15.1, including existing conditions, regulatory framework, and impact analysis. Wastewater is addressed in subsection 5.15.2, solid waste in subsection 5.15.3, recycled water in subsection 5.15.4, and energy in subsection 5.15.5.

This EIR tiers from the Previous Environmental Review Documents, as described in Chapter 2.0, *Introduction*. The 2013 GPA/GDPA SEIR and 2005 GPU EIR concluded that impacts related to water and energy would be significant and unavoidable because there is no assurance that water supply or energy would be available to adequately serve the projected increase in population resulting from development under the GPA/GDPA. The 2013 GPA/GDPA SEIR and 2005 GPU EIR concluded that impacts to wastewater would be less than significant because the City could withhold discretionary approvals and subsequent building permits from development that would cause the City to exceed its wastewater capacity. The 2013 GPA/GDPA SEIR and 2005 GPU EIR concluded that impacts related to solid waste would be less than significant. The 2001 SEIR (01-01) concluded that potential impacts on all public utilities would be less than significant with mitigation in the form of subsequent plans and approvals demonstrating sufficient availability of water and wastewater services for the Lake Property. These analyses are herein incorporated by reference.

Information contained in this section is based on site-specific technical reports related to water and sewer services, including a Water Supply Assessment and Verification Report (WSAV; Appendix K), prepared by Otay Water District in August 2016, and a Sewer Study (Appendix L), prepared by Rick Engineering in April 2017. Information contained in the Air Quality and Greenhouse Gas Emissions Technical Report (Appendix C), prepared by HELIX in April 2016, is also included as it relates to energy use. The technical reports update the applicable information contained in the SEIRs and satisfy the requirements of mitigation measures identified in the SEIRs and/or incorporate new measures that are equivalent to or more efficient than measures previously identified, based on current conditions on the Project site and its vicinity.

5.15.1 Water

The following discussion of water impacts is based on the WSAV prepared for the Project.

5.15.1.1 Existing Conditions

A. Regulatory Framework

1. Federal

a. Federal Water Pollution Control Act

The Federal Water Pollution Control Act (33 U.S.C. 1251 et seq.), otherwise known as the Clean Water Act (CWA), sets forth national goals that waters shall be "fishable, swimmable" waters (CWA Section 101 (a)(2)). To enforce the goals of the CWA, the U.S. Environmental Protection

Agency (USEPA) established the National Pollutant Discharge Elimination System (NPDES) program. NPDES is a national program for regulating and administering permits for discharges to receiving waters, including non-point sources. Under Section 1251 (b) of the CWA, Congress and the USEPA must recognize and preserve the primary responsibilities and rights of states concerning the reduction of pollution in water resources.

b. Safe Drinking Water Act

The Safe Drinking Water Act of 1974 gave the USEPA the authority to set standards for contaminants in drinking water supplies. The USEPA was required to establish primary regulations for the control of contaminants that affected public health and secondary regulations for compounds that affect the taste, odor, and aesthetics of drinking water. Under the provisions of SDWA, the California Department of Health Services (DHS) has the primary enforcement responsibility. Title 22 of the California Administrative Code establishes DHS authority, and stipulates drinking water quality and monitoring standards.

2. State

a. Porter-Cologne Water Quality Control Act

The Porter–Cologne Water Quality Control Act (Porter–Cologne) gives the ultimate authority over California water rights and water quality policy to the California SWRCB. Porter–Cologne also established nine RWQCBs to ensure that water quality on local/regional levels is maintained. The subject property is under the jurisdiction of the SDRWQCB.

b. Drinking Water Quality

It is the responsibility of the California DHS to implement the Federal Safe Drinking Water Act, as well as California statutes and regulations related to drinking water. The DHS inspects and provides regulatory oversight to public water systems within California, to ensure their compliance. The SDRWQCB protects the beneficial uses, including municipal drinking water supply, of state waters in the Chula Vista area.

In accordance with Title 22 of the California Code of Regulations, public water system operators regularly monitor their drinking water sources for microbiological, chemical, radiological, and aesthetic contaminants to ensure that they do not exceed the primary maximum contaminant levels. The amount of contaminants in drinking water needs to be disclosed to the public annually, by the water supplier, in a consumer confidence report. It is the responsibility of the water supplier to produce and distribute the report and the responsibility of the USEPA to prepare annual summary reports of water system compliance.

c. Senate Bills 610 and 221

In 2003, Senate Bill (SB) 610 and SB 221 were signed into law by Governor Gray Davis. SB 610 requires public water agencies, parties, or purveyors that may supply water to certain proposed development projects to prepare a water supply assessment for use by the planning agency in compliance with CEQA. The water supply assessment is required for any project that is subject to the CEQA Guidelines and proposes to construct 500 or more residential units or the equivalent.

SB 221 requires proof of a sufficient water supply, while placing the initial burden of proof on the public water system. SB 221 requires a city, county, or local agency to include as a condition in any TM that includes a subdivision requirement that a sufficient water supply shall be available to serve the subdivision.

The availability of a sufficient water supply is based on written verification from a water supplier with more than 3,000 service connections (prior to or as a result of serving a subdivision) that may provide water to the project. "Sufficient water supply" is defined as the total water supplies available during normal, single-dry and multiple-dry water years within a 20-year projection that would meet the projected demand of a proposed subdivision. Moreover, and likely as an attempt to arrest reliance on "paper water" entitlements from the State Water Project (SWP), SB 221 further requires any verification of "projected" water supplies to be based on entitlement contracts, capital outlay programs, and regulatory permits and approvals regarding the right to and capability of delivering the projected supply. These statutes basically require that the water supplies be sufficient and meet projected demand, but do not specify a particular number of gallons that must be provided.

d. Urban Water Management Planning Act

In 1983, the California Legislature enacted the Urban Water Management Planning Act (California Water Code Sections 10610 through 10657). The Act requires that any urban water supplier that provides for municipal purposes, either directly or indirectly to more than 3,000 customers or supplies more than 3,000 acre-feet of water, prepare and annually update an Urban Water Management Plan (UWMP) at least once every five years.

The Act requires a description of specific water supply projects and implementation schedules to meet projected demands over the planning horizon; a description of the opportunities for the development of desalinated water; information on groundwater (where groundwater is identified as an existing or planned water source); description of water quality over the planning horizon; and description of water management tools that maximize local resources and minimize imported water supplies. Additionally, the Act requires evaluation of the reliability of a water supply as part of a development plan. This includes a water supply reliability assessment, a water shortage contingency plan, and development of a plan in case of an interruption of water supplies.

The Metropolitan Water District of Southern California (MWD), San Diego County Water Authority (SDCWA), and Otay Water District (OWD) all play a role in supplying water to the proposed UID. All of these agencies have prepared and updated UWMPs in accordance with this statutory requirement.

e. Memorandum of Understanding Regarding Urban Water Conservation in California

The OWD is signatory to the Memorandum of Understanding (MOU) 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. Water conservation programs are developed and implemented on the premise that water conservation increases the water supply by reducing the demand on available supply, which is vital to the optimal utilization of a region's water supply resources.

As one of the first signatories to the MOU Regarding Urban Water Conservation in California, OWD has made Best Management Practice (BMP) implementation for water conservation the cornerstone of its conservation programs and a key element in its water resource management strategy. As a member of the SDCWA, OWD also benefits from regional programs performed on behalf of its member agencies. The BMP programs implemented by OWD and regional BMP programs implemented by the SDCWA that benefit all their member agencies are addressed in the OWD 2005 UWMP.

As a signatory to the MOU Regarding Urban Water Conservation in California, OWD is required to submit biannual reports that detail the implementation of current water conservation practices. The OWD voluntarily agreed to implement the 14 water conservation BMPs beginning in 1992. The OWD submits its report to the California Urban Water Conservation Council every two years. The OWD BMP reports for 2001 to 2004, as well as the BMP Coverage Report for 2003-04, are included in the OWD 2005 UWMP.

3. Local

a. City of Chula Vista General Plan

The Chula Vista General Plan recognizes that, in order to ensure adequate water service, water supplies and facilities need to be maintained and expanded as the city's population grows. The Chula Vista General Plan includes objectives and policies in the Public Facilities and Services Element that require development to plan for careful use of natural and man-made resources and services, and maximize opportunities for conservation while minimizing waste (Objective LUT 62); and increase efficiencies in water use through use of alternative technologies (Objective PFS 2). Additionally, the Housing Element includes Objective H 2 to promote efficient use of water through adopted standards and incentive-based policies to conserve limited resources and reduce long-term operational costs of housing. Growth Management Objective GM 1 and Policy GM 1.11 encourage withholding discretionary approvals and subsequent building permits from projects demonstrated to be out of compliance with applicable threshold standards for water service.

b. Chula Vista Landscape Water Conservation Ordinance

In response to the new State Water Conservation in Landscaping Act (AB 1881), which required cities and counties to adopt landscape water conservation ordinances by January 1, 2010, the City of Chula Vista adopted the Chula Vista Landscape Water Conservation Ordinance (Chapter 20.12 of the Municipal Code). This ordinance calls for greater efforts at water conservation and more efficient use of water in landscaping.

c. Otay Water District Growth Management Oversight Commission Questionnaire

The Growth Management Oversight Commission (GMOC) annually distributes questionnaires to relevant City departments and public facility and service agencies to monitor the status of compliance with the threshold standards. When the questionnaires are completed, the GMOC reviews the information for compliance with the identified threshold standards and deliberates issues of concern and possible recommendations. They also evaluate the appropriateness of the threshold standards, whether they should be amended, and whether any new threshold standards

should be considered. The Chula Vista Growth Management Ordinance (CVMC Section 19.09.050C) requires a WCP to be submitted with all SPA Plans. In accordance with the Growth Management Program, WCPs must provide an analysis of water usage requirements of the project.

The growth management threshold standard for water supply and distribution states:

1. The applicant will request and deliver to the City a service availability letter from the water district for each project.

2. The City shall provide annually to the SDCWA, the Sweetwater Authority and the Otay Municipal Water District a 12- to 18-month development forecast and request an evaluation of their ability to accommodate the forecast and continuing growth. The districts' replies should address the following:

    a. Water availability to the city and planning area, considering both short-term and long-term perspectives;

    b. Amount of current capacity, including storage capacity, now used or committed;

    c. Ability of affected facilities to absorb forecast growth;

    d. Evaluation of funding and site availability for projected new facilities; and

    e. Other relevant information the district(s) desire(s) to communicate to the City and the GMOC. The growth forecast and water district response letters shall be provided to the GMOC for inclusion in its review.

B. Existing Water Services

1. Water Service Providers and Planning

Water service to the UID would be provided by OWD. OWD purchases water from the SDCWA, which in turn imports water from the MWD. The projected supply and demand and planning documents for each of these agencies is described below.

a. Metropolitan Water District

MWD supplies water to approximately 19 million people in a 5,200-square mile service area that includes portions of Ventura, Los Angeles, Orange, San Bernardino, Riverside, and San Diego counties. SDCWA is one of MWD's 27 member agencies. Supply and demand projection information for MWD is included in its 2015 UWMP. MWD gets its water from two sources. The first source is the Colorado River, which is connected to MWD's six-county service area through the 242-mile Colorado River Aqueduct. The second source is water from northern California, which supplies water through a series of dams, aqueducts, pipelines, and other facilities known as the SWP. The SWP is operated by the California Department of Water Resources.

MWD's 2015 UWMP Findings state that MWD has supply capabilities that would be sufficient to meet expected demands from 2020 through 2040. MWD has plans for supply implementation and continued development of a diversified resource mix including programs in the Colorado River Aqueduct, State Water Project, Central Valley Transfers, local resource projects, and in-region storage that enables the region to meet its water supply needs. MWD's 2015 UWMP identifies potential reserve supplies in the supply capability analysis, which could be available to meet the unanticipated demands such as those related to the UID SPA Plan.

An important planning document utilized by MWD is the Integrated Resources Plan (IRP), which describes an agency's long-term water plan. MWD's 2015 IRP offers an adaptive management strategy to protect the region from future supply shortages. This adaptive management strategy has five components: achieve additional conservation savings, develop additional local water supplies, maintain Colorado River Aqueduct supplies, stabilize State Water Project supplies, and maximize the effectiveness of storage and transfer. MWD's 2015 IRP has a plan for identifying and implementing additional resources that expand the ability for MWD to meet future changes and challenges as necessary to ensure future reliability of supplies. The proper management of these resources help to ensure that the southern California region, including San Diego County, will have adequate water supplies to meet long-term future demands.

b. San Diego County Water Authority

The SDCWA service area covers approximately 922,000 acres and encompasses the western third of San Diego County. SDCWA has 24 member agencies, including OWD. The County Water Authority Act, Section 5 subdivision 11, states that SDCWA "as far as practicable, shall provide each of its member agencies with adequate supplies of water to meet their expanding and increasing needs." SDCWA is responsible for ensuring a safe and reliable water supply to support the region and the quality of life for three million residents. Because of the County's semi-arid climate and limited local water supplies, SDCWA imports between 70 and 95 percent of the water used in the San Diego region from MWD.

As part of preparation of a written water supply assessment report, an agency's shortage contingency analysis should be considered in determining sufficiency of supply. Section 11 of SDCWA's 2015 UWMP Update contain a detailed shortage contingency analysis that addresses a regional catastrophic shortage situation and drought management. The analysis demonstrates that SDCWA and its member agencies, through the Integrated Contingency Plan, Emergency Storage Project, and Water Shortage and Drought Response Plan are taking actions to prepare for and appropriately handle an interruption of water supplies. The Water Shortage and Drought Response Plan provides SDCWA and its member agencies with a series of potential actions to take when faced with a shortage of imported water supplies from MWD due to prolonged drought or other supply shortfall conditions. The actions will help the region avoid or minimize the impacts of shortages and ensure an equitable allocation of supplies.

c. Otay Water District

Potable water would be supplied to the UID by OWD, which currently relies on the SDCWA for its water supply. In San Diego County, OWD provides water services to southern El Cajon,

La Mesa, Rancho San Diego, Jamul, Spring Valley, Bonita, eastern Chula Vista, the Eastlake community, Otay Ranch, and Otay Mesa along the U.S./Mexico international border.

In accordance with the California Urban Water Management Planning Act and recent legislation, the OWD Board of Directors adopted the 2015 UWMP in June 2016. As required by law, the OWD 2015 UWMP includes projected water supplies required to meet future demands through 2040.

2. Water Supply Challenges

Since adoption of the 2005 UWMPs, multiple events occurred that affected southern California's water supply. The Colorado River has experienced drought conditions for eight of the last nine years. Additionally, the SWP in northern California experienced three years (2006-2008) of drought conditions, which substantially depleted storage in reservoirs throughout the SWP system, including San Diego County. After a record dry spring that dramatically curtailed snow runoff from the Sierra Nevada Mountains, Governor Schwarzenegger declared an official statewide drought on June 4, 2008. In March 2011, Governor Jerry Brown proclaimed an end to the statewide drought. However, a subsequent drought was declared by Governor Brown in January 2014, which ended in May 2016.

In addition to extreme drought conditions, in August 2007, a U.S. District Court decision was issued to protect the endangered fish species Delta smelt This federal court ruling set operational limits on pumping in the Sacramento-San Joaquin Bay Delta from December 2007 to June 2008 to protect the Delta smelt. Since the SDCWA and its member agencies import water from MWD, their water supply was impacted by this Court ruling. Additionally, climate change due to global warming also creates uncertainties that may significantly affect California's water resources over the long term.

3. Historical and Future Water Supply Demands

The projected demands for OWD are based on land use planning documents within the jurisdictional boundaries of OWD's service area. This land use information was utilized for the preparation of the OWD 2008 Water Resources Master Plan updated November 2010 (WRMP Update) and OWD 2015 UWMP to develop the forecasted demands and supply requirements.

OWD and MWD update their water demand and supply projections within their jurisdictions utilizing SANDAG's most recent growth forecast to project future water demands. This provides for the important link between demand and supply projections to the land use plans of the governments in the County. Existing land use plans, any revisions to land use plans, and annexations are captured in the SANDAG updated forecasts. OWD and MWD update their demand forecasts approximately every five years to coincide with preparation of their UWMPs.

The historical and projected potable water demands for OWD are shown in Table 5.15-1, *Historical and Projected Potable Water Demands*.

Table 5.15-1 HISTORICAL AND PROJECTED POTABLE WATER DEMANDS (ACRE-FEET PER YEAR)

Water Use Sectors	2010	2015	2020	2025	2030	2035	2040
Single Family Residential	17,165	16,228	17,072	19,806	20,752	20,649	23,224
Multi-Family Residential	3,605	3,460	5,557	6,732	7,342	7,585	8,837
Commercial, Industrial & Institutional	4,110	4,953	6,577	7,949	8,653	8,923	10,378
Landscape	3,732	4,079	4,400	4,600	4,700	4,900	5,200
AFG* – University I. D.			11.7	11.7	11.7	11.7	11.7
AFG – PA 12			46	46	46	46	46
AFG – Otay 250			836	836	836	836	836
Near-term Annexations			2,973	2,973	2,973	2,973	2,973
Other	2,563	1,578	470	470	470	470	470
Totals	**31,175**	**30,298**	**37,943**	**43,424**	**45,784**	**46,394**	**51,976**

Source: Otay Water District 2015 UWMP.
*Accelerated Forecasted Growth Increment

5.15.1.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, the project would result in a significant impact to water services if it would:

- **Threshold 1:**
    - Require or result in the construction of new water treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects,
    - Have insufficient water supplies available to serve the project from existing entitlements and resources, or require new or expanded entitlements, or
    - Exceed City threshold standards which seek to ensure that adequate supplies of quality water, appropriate for intended uses, are available.

The standards require the applicant must request and deliver to the City service availability letters from the appropriate water district for each project; the applicant is required to submit a Water Conservation Plan along with the SPA Plan application; and the project plans shall ensure an adequate supply of water on a long-term basis prior to the development of each Otay Ranch SPA.

5.15.1.3 Impact Analysis

A. Threshold 1: Require or result in the construction of new water treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects or have insufficient water supplies available to serve the project from existing entitlements and resources, or require new or expanded entitlements, and Exceed City threshold standard which seeks to ensure that adequate supplies of quality water, appropriate for intended uses, are available.

The projected potable water demand for the Project is shown in Table 5.15-2, *Projected Potable Water Annual Average Demands for the Project*. As shown in the table, the Project is projected to require 840,688 gpd (about 941.7 AFY) of potable water (OWD 2016).

Table 5.15-2 PROJECTED POTABLE WATER ANNUAL AVERAGE DEMANDS FOR THE PROJECT

Description	Gross Acreage	Potable Water Factor	Net Potable Acreage/ Capita	Unit Rate	Average Demand
T-1: Future Development	99.8	80%	79.84	1,785 gpd/ac	142,514
T-2: Campus Vista	26.4	80%	21.12	1,785 gpd/ac	37,699
T-3: Campus Commons	29.0	80%	23.20	1,785 gpd/ac	41,412
T-4: Town Center	33.6	80%	26.88	1,785 gpd/ac	47,981
T-5: Urban Core	25.3	80%	20.24	1,785 gpd/ac	36,128
T-6: District Gateway	20.0	80%	16.00	1,785 gpd/ac	28,560
SD: Lake Blocks	5.2	100%	5.20	1,785 gpd/ac	9,282
O-1: Habitat Conservation	41.1	0%	0.00	0	0
O-2: Common Space	39.5	80%	31.60	1,785 gpd/ac	56,406
O-3: Pedestrian Walk	14.5	80%	11.60	1,785 gpd/ac	20,706
ROW: Right-of-Way	49.3	0%	0.00	0	0
Students in Housing	---	100%	6,000	50 gpd/stdnt	300,000
Faculty in Housing	---	100%	1,200	100 gpd/fclty	120,000
Total	**383.8**				**840,688 gpd**

gpd=gallons per day; ac=acre; stdnt=student; fclty=faculty

The Project's potable water demand would be 11.7 AFY more than was projected for the Project parcels by the OWD WRMP. However, the 11.7 AFY increase in demand is accounted for through the Accelerated Forecasted Growth demand increment of SDCWA's 2015 UWMP. As documented in SDCWA's 2015 UWMP, SDCWA is planning to meet future and existing demands, which include the demand increment associated with the accelerated forecasted growth. SDCWA will assist its member agencies in tracking the environmental documents provided by the agencies that include water supply assessments and verifications reports that utilize the accelerated forecasted growth demand increment to demonstrate supplies for the development. In addition, the next update of the demand forecast for SDCWA's 2020 UWMP will be based on SANDAG's most recently updated forecast, which will include the Project as currently proposed. Therefore, based on the findings from OWD's 2015 UWMP and SDCWA's 2015 UWMP, the Project would not result in unanticipated demands for potable water. Impacts related to potable water supply would be less than significant.

5.15.1.4 Level of Significance Prior to Mitigation

Impacts related to potable water supply would be less than significant.

5.15.1.5 Mitigation Measures

No mitigation measures would be required.

5.15.1.6 Level of Significance After Mitigation

Impacts related to potable water supply would be less than significant without mitigation.

5.15.2 Wastewater

5.15.2.1 Existing Conditions

A. Regulatory Framework

1. Federal

a. National Pollution Discharge Elimination System Permit

Discharge of treated wastewater to surface water(s) of the United States, including wetlands, requires a NPDES permit. In California, the Regional Water Quality Control Boards (RWQCB) administer the issuance of these federal permits. Obtaining an NPDES permit requires preparation of detailed information, including characterization of wastewater sources, treatment processes, and effluent quality. Whether or not a permit may be issued, the conditions of a permit are subject to many factors such as basin plan water quality objectives, impaired water body status of the receiving water, historical flow rates of the receiving water, effluent quality and flow, the air quality State Implementation Plan (SIP), the California Toxics Rule, and established total maximum daily loading rates for various pollutants. These factors are highly specific to the potential discharge point. Obtaining an NPDES permit is generally considered difficult in inland areas and may not be possible in sensitive areas.

2. State

See discussion of Porter–Cologne Water Quality Control Act above.

3. Local

a. City of Chula Vista General Plan

The Chula Vista General Plan recognizes that to ensure adequate and reliable sewer service and facilities, services need to be maintained and expanded as the city population grows. The Chula Vista General Plan includes objectives and policies in the Public Facilities and Services Element that increase efficiencies in wastewater generation and its reuse through use of alternative technologies (Objective PFS 2). Additionally, Growth Management Objective GM 1, and Policy GM 1.11 encourage withholding discretionary approvals and subsequent building permits from projects demonstrated to be out of compliance with applicable threshold standards for wastewater service.

b. Wastewater Master Plan

The Chula Vista Wastewater Master Plan was adopted in May 2005 and updated in May 2014 to re-evaluate the capacity of the sewerage system through 2050, assess the condition of existing lift stations, evaluate the treatment capacity alternatives, develop a CIP for rehabilitation and

expansion of the collection system, and recommend a revised capacity fee for new development within the City. The CIP includes recommended system improvements to address existing and projected demand at five-year intervals starting in 2012 through 2050. Future city flow estimates, based on growth projections contained within the City's 2005 General Plan, including General Plan Amendments in 2013, the 2013 Otay Ranch General Development Plan projections, and San Diego Association of Governments (SANDAG) population projections, indicate that the city would exceed the existing 20.864 mgd share in the City of San Diego ~~Metropolitan Wastewater~~Public Utilities Department Sewerage System (Metro system) within the next 10 to 15 years (by the year 2024 to 2029). As such, the wastewater generation analysis presented in the Wastewater Master Plan is intended to be used by the City to establish a basis for future sewage capacity acquisitions to allow for the implementation of the Chula Vista General Plan, as amended in 2013. The 2015 GMOC Annual Report concluded the city would not exceed its sewage capacity in the next 10 years (by the year 2025).

The Wastewater Master Plan also presents the methodology and findings of the sewer capacity evaluation, including summaries of hydraulic computer model analyses used to present findings of existing pump station assessments and recommended facility improvements. Sewer system design standards provided in the Wastewater Master Plan are based on the Chula Vista Subdivision Manual Section 3-300. Recommended wastewater unit generation rates are based on discussions with the City of Chula Vista and the City of Chula Vista Subdivision Manual (Section 3-301.1), and are estimated at 1,401 gallons per day (gpd) for the UID.

c. Chula Vista Municipal Code Growth Ordinance

Chula Vista Municipal Code (CVMC) Section 19.80.030 (Controlled Residential Development) is intended to ensure that new development would not degrade existing public services and facilities below acceptable standards for sewer and other public services. The preparation of the Public Facilities Finance Plan (PFFP) is required in conjunction with the SPA Plan to ensure that the development of the project is consistent with the overall goals and policies of the General Plan and would not degrade public services. Similarly, CVMC Section 19.09 (Growth Management) provides policies and programs that tie the pace of development to the provision of public facilities and improvements. Section 19.09.040G specifically requires that "that sewage flows and volumes shall not exceed City engineering standards as set forth in the subdivision manual." In addition, the City must 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 an evaluation of their ability to accommodate the forecast and continuing growth, or the City Engineering Department staff shall gather the necessary data. The information provided to the GMO must include the following:

- Amount of current capacity now used or committed;
- Ability of affected facilities to absorb forecast growth;
- Evaluation of funding and site availability for projected new facilities; and
- Other relevant information.

The development (growth) forecast and authority response letters are to be provided to the GMOC for inclusion in its review. Section 19.09 also requires a PFFP and the demonstration that utilities,

such as sewer services, meet the GMOC quality of life threshold standards. The analysis of sewer services provided in this section, along with the PFFP are intended to ensure funding for any needed expansion of sewers and to confirm that wastewater services would be provided commensurate with development and demand.

d. City of Chula Vista Municipal Code Ordinance 2974

To reimburse the City for the cost of constructing the Salt Creek Interceptor, all developments that propose connections to this line are required to pay a development impact fee. Ordinance 2974 provides that the fees are to be collected by the City for properties to be served by the Salt Creek Interceptor.

B. Existing Sewer Service

The City of Chula Vista operates and maintains a sanitary collection system that connects to the Metro sewerage system for treatment and disposal. The Metro sewerage system treats wastewater from the city of San Diego and 15 other cities and districts, including Chula Vista. The San Diego Metropolitan Sewer Authority regulates the three wastewater treatment plants: (1) the Point Loma Wastewater Treatment Plant; (2) the South Bay Water Reclamation Plant, and (3) the North City Water Reclamation Plant. As of 2014, the three combined treatment plants have a maximum permitted treatment capacity of 285 mgd of wastewater for the City of San Diego and 15 other participating agencies (City of San Diego Public Utilities, 2014). All wastewater within the Otay Ranch area will eventually be conveyed to the Salt Creek Sewer Interceptor that discharges into the Metro system. The wastewater would ultimately be treated by the City of San Diego at the Point Loma Wastewater Treatment Plant. The Point Loma Wastewater Treatment Plant currently treats approximately 139.2 mgd of wastewater for the City of San Diego and 15 other cities and districts in the region, and has a maximum daily treatment capacity of 240 mgd.

Chula Vista has wastewater treatment capacity right to 20.864 mgd in the Metro System. According to the GMOC 2015 Annual Report, Chula Vista generated an average flow of 15.466 mgd in fiscal year 2013/2014; therefore, the most recent information available indicates there is a remaining capacity of 5.398 mgd. According to the Chula Vista Wastewater Master Plan Annual Report in 2015, buildout of the General Plan, as amended in 2013, would require 29.89 mgd, which is 9.026 mgd beyond existing capacity. The City may acquire rights for this additional capacity in the Metro system through negotiations with the City of San Diego, but the City of Chula Vista is also evaluating the construction of a new wastewater treatment plant to meet its future treatment capacity and disposal requirements.

Existing sewer infrastructure in the vicinity of the Main Campus Property and the Lake Property is depicted in Figures 3-9a and 3-9b, respectively, and sewer service in the area generally relies upon the existing Salt Creek Sewer Interceptor. The Salt Creek Sewer Interceptor starts as a 15-inch line in Hunte Parkway within the Rolling Hills Ranch project, about three miles north of the Main Campus Property, near the intersection of Proctor Valley Road and Hunte Parkway. From there, the line increases in size as it heads south within and along Salt Creek. The line then turns westerly and follows the Otay River to a point of connection with the City of San Diego Metropolitan Sewer System.

As shown in Figure 3-9a, the nearest existing sewer line to the project site is located within Hunte Parkway, along the northern project boundary of the Main Campus Property, and spans between Eastlake Parkway and Exploration Falls Drive. This existing sewer line connects to the High Tech K-12 School within the Main Campus Property and flows eastward within Hunte Parkway where it connects with the Salt Creek Sewer Interceptor. As shown on Figure 3-9b for the Lake Property, the nearest existing sewer line is located just north of the property, and is associated with the Olympic Training Center. This sewer line travels northward before turning southwest where it meets with the existing Salt Creek Sewer Interceptor.

5.15.2.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, the project would result in a significant impact to wastewater services if it would:

- **Threshold 1:** Result in a determination by the wastewater treatment provider, which serves or may serve the project, that it has inadequate capacity to serve the project's projected demand in addition to the providers existing commitments.

- **Threshold 2:** Require the construction of new wastewater treatment facilities or expansion of existing facilities, the construction of would cause significant environmental effects.

- **Threshold 3:** Generate sewage flows and volumes that exceed City Engineering Standards as set forth in the Subdivision Manual.

5.15.2.3 Impact Analysis

A. Threshold 1: Result in a determination by the wastewater treatment provider which serves or may serve the project that it has inadequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

Sewer service for the Project would be provided by the City of Chula Vista and the Project site is located within the Salt Creek sewer basin. Sewer improvements would be implemented for the Main Campus Property and Lake Property as part of the Project to accommodate the anticipated growth within the Project site. Proposed sewer improvements for the Project are illustrated in Figures 3-9a and 3-9b.

The design and sizing criteria for the analysis of the proposed sewer system is based on the City of Chula Vista Subdivision Manual (Section 3-301.1 - sewage production) and is summarized in the Sewer Study prepared for the Project (see Appendix L). Per the Chula Vista Subdivision Manual and in coordination with the City of Chula Vista, a commercial land use generation rate of 1,401 gpd per acre was applied to conservatively estimate sewer demand within the Main Campus Property and the Lake Property with a maximum population of 1,000 persons for peak usage. As a result, sewer rates for the Main Campus Property are estimated to be about 1.056 mgd and the Lake Property is estimated at about 0.018 mgd for a total demand of approximately 1.074 mgd for the Project.

Chula Vista has wastewater treatment capacity rights of 20.864 mgd in the Metro system. According to the Sewer Study prepared for the Project, current flows in the City average about

16.2 mgd, resulting in a remaining capacity of about 4.664 mgd in the Metro system. Therefore, Chula Vista currently has adequate capacity to serve the Project's direct impact on wastewater demand. According to the 2015 GMOC, buildout of the General Plan, as amended in 2013, would require an additional 9.026 mgd beyond of capacity above current capacity rights. Future wastewater projections for the UID from 2010 (documented in the Salt Creek Interceptor Technical Sewer Study) were estimated at 1.125 mgd, which is about 0.051 mgd more than what is currently estimated for the UID. However, the 2010 Salt Creek Interceptor Technical Sewer Study also stated that increased flow projections from the UID, along with Village 10, are assumed to drain into an identified deficiency located within Salt Creek, south of the Otay Lake, and that future projects should be conditioned at the tentative map stage related to required improvements to the Salt Creek Interceptor. The 2010 study also stated that as development in the UID proceeds, it is recommended that the Salt Creek Sewer System be further investigated to ensure that UID flows would be accommodated. Therefore, the development included in the UID SPA Plan has the potential to exceed the capacity of the Salt Creek Interceptor and result in an increased demand in addition to the provider's existing commitments.

The approximately 1.074 mgd generated by the Project is within the City's remaining capacity of 4.664 mgd; however, the capacity of the Salt Creek Interceptor has been identified as deficient and the City's sewer system may reach capacity prior to buildout of the proposed Project. If adequate sewer facilities are not provided concurrently with demand, a significant impact would occur. Impacts are considered to be significant (Impact 5.15.2-1).

B. Threshold 2: Require the construction of new wastewater treatment facilities or expansion of existing facilities, the construction of would cause significant environmental effects.

Installation of new on-site and off-site wastewater conveyance lines that would contribute to or expand existing facilities would be required as part of the development of the UID. The on-site sewer system would consist of 8-inch to 12-inch diameter pipes. At the time this document was prepared, Village 9 and Village 10 and their planned sewer facilities were not constructed; however, they are anticipated to be completed before construction and operation of the UID. As shown in Figure 3-9a, most of the Main Campus Property would include a gravity-fed sewer system that would connect to the anticipated Village 9 sewer system. On-site sewer mains would be constructed along Discovery Falls Drive and Eastlake Parkway. This would require the 8-inch sewer mains along Orion Avenue, south of proposed Street I, to be upsized 12-inch main lines (as shown in Figure 3-9a, and labeled "Village 9 Upsized Sewer"). If the UID is developed before Villages 9 and 10, then an additional 2,200 linear feet of 12-inch and 15-inch sewer mainline would be needed to connect into the Salt Creek Interceptor. Sewer infrastructure for areas shown in blue on Figure 3-9a within the Main Campus Property would flow through a separate gravity sewer line that would flow south and also connect to the Salt Creek Interceptor, and would traverse an existing utility maintenance trail. Lastly, sewer facilities to serve the Lake Property, as shown on Figure 3-9b, would be gravity-fed along an approximately 4,100-linear-foot sewer line within an existing unpaved access road before connecting with the Salt Creek Sewer Interceptor. This sewer alignment for the Lake Property would cross a County Water Authority pipeline and property.

All sewer infrastructure associated with the UID Project would be installed using conventional construction practices, either open trench excavation or a boring and jacking method. Installation

of on- and off-site site sewer lines has the potential to generate vehicle and equipment emissions and dust, increase noise levels, impact undiscovered cultural resources, affect biologically sensitive habitats, contaminate groundwater, and cause erosion. These issues have been addressed as part of the construction analysis presented in Sections 5.4, *Air Quality*, 5.5, *Noise,* 5.6, *Biological Resources*, 5.7, *Cultural Resources*, and 5.11, *Hydrology and Water Quality*. Mitigation measures are proposed in these sections to reduce construction impacts to a less than significant level.

The Project could require sewage treatment capacity beyond the City's existing wastewater treatment capacity rights and allocated additional treatment capacity. Implementation of respective General Plan policies would ensure that treatment capacity would be provided by the City; however, the means by which additional treatment capacity would be acquired is unknown. The City's options include the acquisition of treatment capacity from a San Diego Metropolitan Sewer Authority member agency, including the City of San Diego, or construction of a Chula Vista treatment facility. Final determination on the means by which additional treatment capacity would be acquired has not yet been made. As the location and scope of construction for any newly developed treatment facilities are unknown, and the development of treatment capacity beyond the City's existing and allocated capacity may result in impacts on the environment, it is conservatively concluded that a potentially significant environmental impact associated with construction of new or expanded treatment facilities may occur (Impact 5.15.2-2).

C. Threshold 3: Generate sewage flows and volumes that exceed City Engineering Standards as set forth in the Subdivision Manual.

The proposed sewer facility improvements that would be required to serve the UID were developed by Rick Engineering (see Appendix L). Sewer facility improvements required to serve the UID include on-site gravity sewer lines, connections to sewer facilities anticipated to be built in Village 9, and off-site connections to the Salt Creek Interceptor. Figures 3-9a and 3-9b show the conceptual sewer facilities.

The design of the proposed on-site system would be required to comply with the existing Subdivision Manual, Section 3 (*General Design Criteria*) and would be subject to review and approval by the City's Engineering Department. Compliance with regulatory design criteria would ensure that on-site lines would not exceed 75 percent of pipe capacity for pipes greater than 12 inches in diameter or 50 percent for pipes 12 inches or less in diameter, including projected flows for the off-site developments that would be served by Village 9 infrastructure. Therefore, the Project's impacts would be less than significant with respect to this threshold.

5.15.2.4 Level of Significance Prior to Mitigation

A. Adequate Wastewater Facilities

Impact 5.15.2-1: A significant impact would occur if adequate wastewater facilities are not provided concurrently with new demand.

B. New Wastewater Treatment Facilities

Impact 5.15.2-2: The Project would require sewage treatment beyond the City's existing wastewater treatment capacity rights and allocated additional treatment capacity. Therefore, additional capacity would need to be acquired from San Diego Metropolitan Sewer Authority or other sources. The means by which additional treatment capacity would be acquired is unknown and the development of additional capacity may require construction of new treatment facilities. As the location and scope of construction for any newly developed treatment facilities is unknown, the development of treatment capacity beyond the City's existing and allocated capacity may result in a potentially significant environmental impact, even understanding that such projects would likely be subject to additional project-level environmental review.

C. Consistency with City Engineering Standards

No significant impacts related to the City's engineering standards have been identified for implementation of the UID SPA Plan.

5.15.2.5 Mitigation Measures

A. Adequate Wastewater Facilities

Significant impacts could occur if adequate wastewater facilities are not provided concurrently with new demand (Impact 5.15.2-1). The Project would implement Mitigation Measure 5.15.2-1 to reduce impacts:

5.15.2-1 **Sewer System Improvements.** Prior to the issuance of any building permits for the UID, the City Engineer shall verify that adequate on-site and off-site sewer facilities required to serve development in the UID are in place in accordance with the UID Public Facilities Finance Plan. Occupancy of buildings shall not be permitted unless it is demonstrated that on-site and off-site sewer facilities are adequate in capacity to serve the Project.

If the Project will contribute to a deficiency in the capacity of the sewer system, the Project applicant shall pay its fair share of fees to increase the capacity to an adequate size.

B. New Wastewater Treatment Facilities

The Project would require sewage treatment beyond the City's existing wastewater treatment capacity rights and allocated additional treatment capacity (Impact 5.15.2-2). However, no mitigation measures are required because any new wastewater conveyance facilities would be built in accordance with standard laws, ordinance, and policies (e.g., the GMOC and General Plan). For instance, General Plan Policy GM 1.11, states that discretionary approvals and subsequent building permits would be withheld if a project does not comply with the GMOC threshold standards for utility services, including wastewater treatment facilities. Additional capacity would need to be acquired from San Diego Metropolitan Sewer Authority or other sources. The means by which additional capacity is obtained from the San Diego Metropolitan Sewer Authority or other sources to support treatment city-wide is unknown at this time. As the location and scope of construction

for any newly developed treatment facilities is unknown, the development of treatment capacity beyond the City's existing and allocated capacity may result in a potentially significant environmental impact, even understanding that such projects would likely be subject to additional project-level environmental review.

C. Consistency with City Engineering Standards

No mitigation measures are required.

5.15.2.6 Level of Significance After Mitigation

A. Adequate Wastewater Facilities

Significant impacts could occur if adequate wastewater facilities are not provided concurrently with new demand (Impact 5.15.2-1). Impacts would be reduced to less than significant levels with implementation of Mitigation Measure 5.15.2-1 because it would require review of available wastewater capacity by the City Engineer prior to approval of building permits, and a demonstration that facilities are adequate prior to occupancy of buildings, or payment of fair share fees to increase capacity to an adequate size.

B. New Wastewater Treatment Facilities

The Project would require sewage treatment beyond the City's existing wastewater treatment capacity rights and allocated additional treatment capacity (Impact 5.15.2-2). However, no mitigation measures are required because any new wastewater conveyance facilities would be built in accordance with standard laws, ordinance, and policies (e.g., GMOC and CEQA). Additional capacity would need to be acquired from San Diego Metropolitan Sewer Authority or other sources to support treatment needs through the year 2050. The means by which additional treatment capacity would be acquired is unknown and could include the acquisition of available sewerage treatment capacity from another participating agency, including the City of San Diego, or the construction of new treatment facilities. As the location and scope of construction of future expanded or newly developed treatment facilities is unknown, the development treatment capacity beyond the City's existing and allocated capacity may result in significant and unavoidable impacts.

C. Consistency with City Engineering Standards

Impacts would be less than significant without mitigation.

5.15.3 Solid Waste

5.15.3.1 Existing Conditions

A. Regulatory Framework

1. State

a. California Integrated Waste Management Act of 1989 (Assembly Bill 939)

The Integrated Waste Management Act of 1989 (PRC Section 4000, et. seq.) requires each city and county in California to recycle or divert 50 percent (or as much as feasible) of its current waste stream from landfills by 2000. In 2008, California diverted 60 percent of its solid waste stream in accordance with the Integrated Waste Management Act (CIWMB 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.

2. Local

a. City of Chula Vista General Plan

Objective PFS 25 of the Public Facilities and Services Element of the Chula Vista General Plan encourages the City to "efficiently handle solid waste disposal throughout the city." The General Plan policies related to solid waste address city-wide methods to manage waste generation, permit transfer stations, promote recycled materials, and participate in interjurisdictional efforts to maintain available landfill capacity. As such, the policies are regional in nature and do not specifically address individual developments.

B. Existing Solid Waste Service

The Chula Vista Public Works Department, Environmental Services Division provides guidance in the disposal of solid waste for residences and businesses, recycling, and household hazardous materials disposal. Currently, Allied Waste Management Services is the exclusive solid waste and recycling services provider for Chula Vista's residential, commercial, and industrial waste. The City of Chula Vista Public Works Department, Environmental Services Division also enforces a Special Event Recycling and Solid Waste Management Plan in which a permit for special events requires a plan for litter control before, during, and after a special event (Chula Vista 2009b).

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 has a mandatory construction and demolition recycling program mandating that 90 percent of all inert materials (rock, dirt, concrete, brick, etc.) and 50 percent of all other debris be diverted from disposal (Municipal Code 15.12). Allied Waste provides a construction and demolition debris processing facility to

ensure that these materials are separated from trash and recycled material (Chula Vista 2009b). 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 2010).

Per the City's franchise agreement with Allied Waste, both the Otay Landfill and the Sycamore Canyon Landfill are City-authorized landfills, in accordance with all applicable laws. The Otay Landfill, located in Chula Vista, is a private landfill operated by San Diego Landfill Systems that receives the majority of solid waste from the City. Based on permitted daily maximum disposal rates, the Otay Landfill is expected to be in operation until 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 material 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 would reduce future waste transfer costs. When the Otay Landfill closes, it is expected that Allied Waste would build a transfer station at the Otay Landfill site to enable trash hauling to Sycamore Canyon or a more distant landfill.

5.15.3.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, the project would result in a significant impact to solid waste services if it would:

- **Threshold 1:** Be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs.

- **Threshold 2:** Be non-compliant with federal, state, and local statutes and regulations relating to solid waste.

5.15.3.3 Impact Analysis

A. Threshold 1: Be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs.

The Otay Landfill has a total permitted capacity of 62.4 million cubic yards and has a permitted remaining capacity of 33.1 million cubic yards (53 percent capacity). According to the 2013 GPA/GDPA SEIR, which included development of the Main Campus Property, buildout of Chula Vista under the General Plan would generate a solid waste disposal quantity of 274,063 tons, after which there would be 26.2 million tons of remaining landfill capacity. Based on the city's generation rate of 4.0 pounds per person per day, the UID SPA Plan population estimate of 34,000 people (consisting of 20,000 full time students, 8,000 jobs, and 6,000 university faculty and staff) would produce a total of 136,000 pounds (68 tons) per day, most of which was included in the 2013 GPA/GDPA projections for solid waste. Additional solid waste associated with the Lake Property was not included in the analysis of the 2013 GPA/GDPA; however, most of the Lake Property would include low or infrequent use and any additional solid waste demand would be minimal. Consistent with the assumptions used in the Sewer Study (Appendix L), a maximum

population of 1,000 people were assumed for peak usage at the Lake Property. At a rate of 4.0 pounds per person per day, an additional 4,000 pounds of solid waste could be generated at the Lake Property with Project approval that was not contemplated in the 2013 GPA/GDPA. The Otay Landfill has sufficient capacity to accommodate the increased waste disposal. The Otay Landfill is scheduled to close in 2028. However, an existing agreement would permit waste from the City to be transferred to the Sycamore Canyon Landfill upon the closing of the Otay Landfill. There would be no interruption of service (Chula Vista 2013).

Since there is sufficient existing and future landfill capacity to accommodate projected development of the GPA/GDPA, and additional waste associated with the Lake Property would be minimal, impacts associated with insufficient permitted capacity to accommodate solid waste disposal from the UID would be less than significant, consistent with the conclusion of the 2013 GPA/GDPA SEIR.

B. Threshold 2: Be non-compliant with federal, state, and local statutes and regulations relating to solid waste.

The Chula Vista's Office of City Manager is responsible for complying with state and federal requirements through the development and the implementation of goals and policies in the Public Facilities and Services and the Environmental Elements of the General Plan. General Plan policies support and provide for city-wide recycling programs, including educational programs; source reduction programs; the control of litter and solid waste associated with special events; and collection of household hazards materials.

Landfills used for the disposal of Chula Vista's solid waste are legally permitted and consistent with the California Integrated Waste Management Board requirements and other state and federal requirements. Waste collection for UID SPA Plan land uses would be provided by the City of Chula Vista under its contract agreement with Allied Waste. The UID waste collection procedures and programs would be required to comply with the municipal requirements for recycling and collection of solid waste, including provision for litter control for public events. Therefore, the project would be consistent with all applicable statutes and regulations, and would have a less than significant impact with respect to solid waste collection and management.

5.15.3.4 Level of Significance Prior to Mitigation

No significant impacts related to solid waste have been identified with implementation of the Project.

5.15.3.5 Mitigation Measures

No mitigation measures are required.

5.15.3.6 Level of Significance After Mitigation

No significant impacts related to solid waste were identified with implementation of the Project without mitigation.

5.15.4 Recycled Water

5.15.4.1 Existing Conditions

A. Regulatory Framework

1. Federal

There are no federal regulations regarding the provision of recycled water.

2. State

There are no state regulations regarding the provision of recycled water.

3. Local

a. Chula Vista Landscape Water Conservation Ordinance

Section 20.12.200 of the Landscape Water Conservation Ordinance (Chapter 20.12 of the City Municipal Code), requires that all newly constructed and rehabilitated landscapes for public agencies and private development projects with a landscape area equal to or greater than 2,500 square feet including, but are not limited to, industrial, commercial, cemetery, public, quasi-public, institutional and multi-family residential development shall use recycled water for irrigation purposes where it is available.

B. Existing Recycled Water Service

Historically, the only source of recycled water for the OWD has been the Ralph W. Chapman Water Recycling Facility. This facility currently has a rated capacity of 1.3 mgd with a maximum production of approximately 1.1 mgd and could be expanded to an ultimate capacity of 2.50 mgd. Typically, summer demands exceed the 1.1 mgd plant capacity. OWD has the capability to supplement the recycled water supply with the potable 980 Zone water system which has facilities in the area. The South Bay Water Treatment Plant has an ultimate rated capacity of 15 mgd and the OWD obtained capacity rights to 6.0 mgd of recycled water. This additional source of recycled water would allow OWD to meet existing and future recycled water demands. OWD has planned and begun constructing a series of pump stations, reservoirs, and transmission lines to integrate this source of water into the existing recycled water system. A 12-inch 680 Zone pipeline has been constructed in Hunte Parkway along the southern boundary of Village 11 and an 8-inch 927 Zone pipeline has been constructed in Eastlake Parkway at the northeast corner of Village 9.

5.15.4.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, the project would result in a significant impact to recycled water services if it would:

- **Threshold 1:** Require or result in the construction of new recycled water treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

5.15.4.3 Impact Analysis

A. Threshold 1: Require or result in the construction of new recycled water treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.

OWD would also be the purveyor of recycled water to the Project. The Project would use recycled water for landscape irrigation, including medians, parks, open space, and common landscaped areas. The primary benefit of using recycled water is that it would offset potable water demand. The projected recycled water use for the Project is 159,255 gpd (178 AFY; refer to Table 5.15-3, *Projected Recycled Water Annual Average Demands for the Project*). Recycled water facilities would be provided concurrently with demand. The environmental effects of the Project's necessary recycled water facilities (i.e., pipelines) are included in the analysis sections of this EIR. Therefore, impacts associated with Project recycled water facilities have been considered; no additional impact would occur.

Table 5.15-3 PROJECTED RECYCLED WATER ANNUAL AVERAGE DEMANDS FOR THE PROJECT

Description	Gross Acreage	Recycled Water Factor	Net Recycled Acreage/ Capita	Unit Rate	Average Demand
T-1: Future Development	99.8	20%	20.0	2,155 gpd/ac	43,100
T-2: Campus Vista	26.4	20%	5.3	2,155 gpd/ac	11,422
T-3: Campus Commons	29.0	20%	5.8	2,155 gpd/ac	12,499
T-4: Town Center	33.6	20%	6.7	2,155 gpd/ac	14,439
T-5: Urban Core	25.3	20%	5.1	2,155 gpd/ac	10,990
T-6: District Gateway	20.0	20%	4.0	2,155 gpd/ac	8,620
SD: Lake Blocks	5.2	0%	0	2,155 gpd/ac	0
O-1: Habitat Conservation	41.1	0%	0	0	0
O-2: Common Space	39.5	20%	19.75	2,155 gpd/ac	42,561
O-3: Pedestrian Walk	14.5	20%	7.25	2,155 gpd/ac	15,624
ROW: Right of Way	49.3	0%	0	0	0
Total	**383.8**				**159,255 gpd**

Source: OWD 2016
gpd-gallons per day; ac=acre

5.15.4.4 Level of Significance Prior to Mitigation

The environmental effects of the Project's necessary recycled water facilities (i.e., pipelines) are included in the analysis sections of this EIR and there are no specific impacts related solely to new wastewater facilities. Therefore, impacts associated with Project recycled water facilities have been considered, and no additional impacts would occur.

5.15.4.5 Mitigation Measures

No mitigation measures are required.

5.15.4.6 Level of Significance After Mitigation

The environmental effects of the Project's necessary recycled water facilities (i.e., pipelines) are included in the analysis sections of this EIR. Therefore, impacts associated with Project recycled water facilities have been considered; no additional impact would occur, and no mitigation is required.

5.15.5 Energy

5.15.5.1 Existing Conditions

A. Regulatory Framework

1. Federal

There are no federal regulations regarding the provision of energy.

2. State

a. California Energy Commission

The California Energy Commission (CEC) is the state's primary energy policy and planning agency. Created by the Legislature in 1974, the CEC has five major responsibilities: forecasting future energy needs and keeping historical energy data; licensing thermal power plants 50 MW or larger; promoting energy efficiency through appliance and building standards; developing energy technologies and supporting renewable energy; and planning for and directing state response to energy emergencies. With the signing of the Electric Industry Deregulation Law in 1998 (AB 1890), the CEC's role includes overseeing funding programs that support public interest energy research; advancing energy science and technology through research, development, and demonstration; and providing market support to existing, new, and emerging renewable technologies.

b. California Public Utilities Commission

The California Public Utilities Commission (CPUC) regulates privately owned electric, telecommunications, natural gas, water, and transportation companies, in addition to household goods movers and rail safety. The CPUC is responsible for ensuring that customers have safe, reliable utility service at reasonable rates, protecting against fraud and promoting the health of California's economy.

c. Leadership in Energy and Environmental Design

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

d. California Code of Regulations Title 24, Parts 6 and 11

New buildings and major renovations constructed in California are required to comply with the standards contained in Title 24, Building Energy Efficiency Standards. The standards are updated approximately every three years to allow consideration and possible incorporation of new energy-efficiency technologies and methods. The latest update to the Title 24 standards occurred in 2013 and went into effect July 2014. This update increases energy efficiency requirements by 25 to 30 percent compared to the 2008 Title 24 standards. The next scheduled update in 2016 will continue to improve upon the current 2013 Standards for new construction of, and additions and alterations to, residential and nonresidential buildings. The 2016 Standards will go into effect on January 1, 2017 (CEC 2015).

Title 24, Part 6 was first established in 1978 in response to a legislative mandate to reduce California's energy consumption. Energy-efficient buildings require less electricity, natural gas, and other fuels. Electricity production from fossil fuels and on-site fuel combustion (typically for water heating) results in GHG emissions.

Title 24, Part 11 is a code with mandatory requirements for new residential and nonresidential buildings (including buildings for retail, office, public schools, and hospitals) throughout California. The current version of the code went into effect on July 1, 2014, and includes energy efficiency updates resulting in energy usage reductions of 25 percent for residential buildings and 30 percent for nonresidential building (CEC 2012). The code is Part 11 of the California Building Standards Code in Title 24 of the California Code of Regulations and is also known as the CALGreen Building Standards Code (CBSC 2014a). The next update of the CALGreen Building Code (2016) is scheduled to go into effect on January 1, 2017 (CBSC 2014b).

The development of the CALGreen Code is intended to (1) cause a reduction in GHG emissions from buildings; (2) promote environmentally responsible, cost-effective, healthier places to live and work; (3) reduce energy and water consumption; and (4) respond to the directives by the Governor. In short, the code is established to reduce construction waste; make buildings more efficient in the use of materials and energy; and reduce environmental impact during and after construction.

The CALGreen Code contains requirements for storm water control during construction; construction waste reduction; indoor water use reduction; material selection; natural resource conservation; site irrigation conservation; and more. The code provides for design options allowing the designer to determine how best to achieve compliance for a given site or building condition. The code also requires building commissioning, which is a process for the verification that all building systems, like heating and cooling equipment and lighting systems, are functioning at their maximum efficiency.

2. Local

a. Chula Vista Green Building Standards

The Green Building Standards (GBS) ordinance includes standards for energy efficiency. Building permit applications are required to indicate on project construction plans and specifications the GBS measures that comply with the ordinance. Prior to final building approval or issuance of a

certificate of occupancy the Building Official reviews the information submitted by the applicant and determines whether the applicant has constructed the project in accordance with the permitted plans and documents, and whether the plans are in compliance with the GBS.

b. City of Chula Vista Municipal Code Section 15.26, Energy Code

The City's Energy Code, Municipal Code sections 15.26, et seq. into effect on July 1, 2014. The Energy Code incorporates the requirements of the state's 2013 energy code (i.e., Title 24), discussed above, with an additional requirement for increased energy efficiency standards to be applied to most new development within the City (Section 15.26.030).

c. San Diego Regional Energy Efficiency Plan/City of Chula Vista Energy Strategy and Action Plan

The San Diego Regional Energy Plan provided policy and program recommendations to achieve energy sustainability and security (SANDAG 1994). The San Diego Regional Energy Office worked with SANDAG to update the plan with Energy 2030, the San Diego Regional Energy Strategy. The Regional Energy Strategy is intended to create a vision of how energy would be produced and consumed in the San Diego region in 2030. It also provides an integrated approach to meeting energy needs and ensures that an adequate supply and distribution of electricity, natural gas and transportation fuels is available.

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

d. City of Chula Vista Solar Ready Ordinances

CVMC Section 15.28.015, Solar water heater pre-plumbing, and Section 15.24.065, Photovoltaic pre-wiring requirements, are referred to as the Solar Ready ordinances. 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. 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.

e. City of Chula Vista General Plan

The Chula Vista General Plan recognizes that to ensure adequate and reliable energy service, efficient energy efforts throughout the city and transitioning to non-fossil fuel alternatives would help to extend limited supplies; reduce the need for expensive new regional power generators and transmission lines, and contribute to Chula Vista's economic sustainability and regional competitiveness. The General Plan includes objectives in the Public Facilities and Services Element to ensure adequate energy supplies throughout Chula Vista (Objective PFS 22) and integrate sensible and efficient electrical and natural gas facilities into the natural and developed environment (Objective PFS 23).

f. Otay Ranch General Development Plan

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

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

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

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

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

B. Existing Energy Demand

As discussed in the 2013 GPA/GDPA SEIR, existing energy use in Chula Vista consists of fixed uses, such as homes and businesses, and mobile uses, primarily cars and trucks. The discussion of energy demand from each of these uses is provided below.

1. Fixed Uses

a. Electricity

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

Electricity consumption in the San Diego region varies greatly by type of use. In 2010, the city consumed approximately 872 million kilowatt-hours (kWh) (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 were based on CARB's CalEEMod obtained from the CEC end-use surveys for residential and non-residential uses. For ease of comparison, all rates have been calculated into annual rates. Table 5.15-4, *Average Existing Energy Consumption Rates*, shows average existing annual consumption rates.

Table 5.15-4 AVERAGE EXISTING ENERGY CONSUMPTION RATES

Land Use Type	Electricity	Natural Gas
Residential	7,090.56.0 kWh/single-family unit 4,324.68 kWh/multi-family unit	62,384.4 cubic feet/single-family unit 37,547.64 cubic feet/ multi-family unit
Schools	6.35 kWh/square feet	15.50 cubic feet/square feet
Commercial	14.10 kWh/square feet	34.8 cubic feet/square feet
Industrial	17.6 kWh/square feet	2,899,332 cubic feet/ consumer/year
Community Purpose Facility	9.38 kWh/square feet	33.20 cubic feet/square feet
Parks	9.38 kWh/square feet	3.0 cubic feet/square feet

Source: City of Chula Vista 2013.

b. Natural Gas

Natural gas imported into southern California originates from any of a series of major supply basins located from Canada to Texas. Although the San Diego region has access to all of these basins by interstate pipeline, the final delivery into the SDG&E system is dependent on just one gas pipeline. Several liquefied natural gas plants are proposed in Mexico, which would provide an additional source of natural gas to Southern California. In 2010, Chula Vista consumed approximately 48 million therms of natural gas (Chula Vista 2012e).

Natural gas consumption for this analysis is likewise calculated using rates used in SEIR 09-01. Table 5.15-1 shows average existing annual consumption rates for natural gas.

2. Mobile Uses

Roughly half of the energy Californians consume is for transportation. In 2010, Californians consumed an estimated 18 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 (CEC 2010).

5.15.5.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, the project would result in a significant impact to energy resources if it would:

- **Threshold 1:** Increase the demand of energy resources to exceed the available supply or cause a need for new and expanded facilities.

- **Threshold 2:** Result in the wasteful, inefficient, or unnecessary use of energy.

5.15.5.3 Impact Analysis

A. Threshold 1: Increase the demand of energy resources to exceed the available supply or cause a need for new and expanded facilities.

A significant impact to energy resources would occur if implementation of the UID SPA Plan would result in a demand for energy that would exceed the city's available supply or cause a need for new and expanded facilities. The project would be constructed as a zero net energy facility, incorporating sustainable design and energy reduction measures (such as photovoltaic panels) to completely offset the UID's annual electricity use. Energy sources also include the on-site burning of natural gas for space and water heating.

The Chula Vista City Council adopted the California Energy Code 2013 Edition effective July 1, 2014. The 2013 Building Energy Efficiency Standards are 25 percent more efficient than previous standards for residential construction and 30 percent better for nonresidential construction. These new energy efficiency standards are designed toward the Zero Net Energy (ZNE) goal for new homes by 2020 and commercial buildings by 2030. The ZNE goal means that new buildings must use a combination of improved efficiency and distributed renewable generation to meet 100 percent of the annual energy need.

Per CVMC Section 15.24.045, each store in a store building, each flat in a building, and each building used as a dwelling shall be so wired that each store, apartment, flat or dwelling shall have separate lighting and/or power distribution panels. Such panels shall not serve other portions of the building. Hotels, motels, hotel apartments and similar types of buildings may be wired from one or more distribution panels.

Per CVMC Section 15.24.065, all new residential units shall include electrical conduit specifically designed to allow the later installation of a photovoltaic (PV) system which utilizes solar energy as a means to provide electricity. No building permit shall be issued unless the requirements of this section and the Chula Vista Photovoltaic Pre-Wiring Installation Requirements are incorporated into the approved building plans. Additionally, per CVMC Section 15.28.015, all new residential units shall 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.

Additional energy efficiency measures are provided in Section 5.10, *Global Climate Change*, and are included as Mitigation Measures 5.10-1 through 5.10-4. These measures require implementation of features to reduce VMT, incorporation of ZNE facilities, use of reclaimed water, and installation of natural gas fireplaces.

A new substation would be located immediately adjacent to the Main Campus Property, adjacent to Hunte Parkway and the SDCWA Aqueduct easement. The substation would provide infrastructure necessary to provide power to buildout of Otay Ranch, but would not generate electricity or guarantee that adequate supply would be available. While the conclusion of the 2013 GPA/GDPA SEIR indicated that impacts were potentially significant and unavoidable because there was no assurance of a long-term supply of energy in the future, due to the UID SPA Plan's implementation goal as a zero net energy facility, the increase in demand for energy resources associated with the Project would not exceed the available supply or cause a need for new and

expanded facilities. Specifically, the SPA Plan includes the requirement that prior to the issuance of building permits, a zero net energy confirmation report would be prepared by a qualified building energy efficiency and design consultant that would describe how development has been designed and constructed to achieve zero net energy. In the event that zero net energy is not achievable, an equivalent level of energy efficiency, renewable energy generation, or greenhouse gas emissions savings must be included. The report would evaluate multiple buildings and/or land use types, rely upon community-wide strategies to support its determination that the buildings are designed to achieve zero net energy (which may include offsets from one or more other buildings, or off-site renewable energy generation), and make reasonable assumptions about estimated electricity and natural gas loads and energy efficiencies of the proposed buildings. In sum, the zero net energy goal means that on-site renewable energy resources would need to be equal to the value of the energy consumed by the Project. Impacts would be less than significant.

B. Threshold 2: Result in the wasteful, inefficient, or unnecessary use of energy.

As discussed above, future development in the UID would be required to meet the mandatory energy standards of the Chula Vista Energy Code, current CCR Titles 24, Part 6 California Energy Code, Part 11 California Green Building Standards, and the Chula Vista Energy Code. Additionally, the SPA Plan includes a Non-renewable Energy Conservation Plan, as listed in Chapter 3, *Project Description*, addressing preservation of energy resources. Compliance with these policies and the Non-renewable Energy Conservation Plan would ensure that average energy consumed by future occupants of the UID would not be wasteful, inefficient, or unnecessary, and would in fact be less than the regional average. Therefore, this impact would be less than significant.

5.15.5.4 Level of Significance Prior to Mitigation

A. Energy Resources

No significant impacts related to energy resources have been identified for the Project.

B. Wasteful Use of Energy

No significant impacts related to wasteful use of energy have been identified for the Project.

5.15.5.5 Mitigation Measures

A. Energy Resources

No mitigation measures are required.

B. Wasteful Use of Energy

No mitigation measures are required.

5.15.5.6 Level of Significance After Mitigation

A. Energy Resources

Impacts would be less than significant without mitigation.

B. Wasteful Use of Energy

Impacts would be less than significant without mitigation.

6.0 CUMULATIVE IMPACTS

The CEQA Guidelines (Section 15355) define a cumulative impact as "an impact which is created as a result of the combination of the project evaluated in the environmental impact report together with other projects causing related impacts." Section 15130(a) of the CEQA Guidelines requires a discussion of cumulative impacts of a project "when the project's incremental effect is cumulatively considerable." Cumulatively considerable, as defined in CEQA Section 15065(c), "means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects."

The evaluation of cumulative impacts as required by CEQA Section 15130(b)(1), is to be based on either (a) "a list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those impacts outside the control of the agency," or (b) "a summary of projections contained in an adopted plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or area wide conditions contributing to the cumulative impact." Section 6.1 of this EIR describes the cumulative projects that are considered in the cumulative analysis. Section 6.2 includes the cumulative analysis for each of the environmental topics covered in Chapter 5.0, *Environmental Impact Analysis*.

6.1 PROBABLE FUTURE PROJECTS

This section provides a cumulative analysis based on the probable future (foreseeable) land use development as well as plans that were identified in the cumulative analysis of the 2013 GPA/GDPA SEIR (SEIR 09-01) and 2001 EastLake II SEIR (01-01). Cumulative projects include several other adopted SPA Plans for development within the vicinity of the Project site, including development associated with Villages 8 West and East, Village 9, Village 10, the Millenia development, and portions of Village 11, including the planned circulation network (Table 6-1, *Cumulative Projects*). These projects are either approved or under construction and are included as part of existing adopted plans for the Otay Ranch area, and are part of the adopted General Plan and GDP. These projects are considered in the cumulative impact analysis below as current projects and are not listed as foreseeable future projects. Due to the fact that most of the remaining areas to be developed within the cumulative study area would be guided by already adopted SPA Plans, a list of probable future cumulative projects is not included.

Table 6-1 CUMULATIVE PROJECTS

Project Name	Site Acreage	Proposed Land Uses
Village 3 North/Portion of Village 4	436.0	1,597 residential units (comprised of single- and multi-family units), 20,000 s.f. of commercial space, 5.2 acres for office space, 28.6 acres for industrial use, 8.3 acres for schools, 4.2 acres for community purpose facilities, 25.7 acres of parks, 37.8 acres of open space (including 2.4 acres of private open space), and 158.1 acres of preserve lands
Village 8 West	300.3	2,050 residential units (comprised of single- and multi-family units), 50,000 s.f. of office space, 250,000 s.f. of commercial space, 31.6 acres for schools, 5.8 acres for community purpose facility, 27.9 acres of parks, and 39.1 acres of open space
Village 8 East	575.3	3,560 residential units (comprised of single- and multi-family units), 20,000 s.f. of commercial space, 10.8 acres for schools, 4.2 acres for community purpose facilities, 58.8 acres of parks, 33.8 acres of open space, and 253.6 acres of preserve lands
Village 9	323.1	4,000 residential units, 1,500,000 s.f. of commercial space, 19.8 acres for schools, 5.0 acres for community purpose facility, 27.5 acres of parks, and 9.6 acres of open space
Village 10	363.4	1,740 residential units (comprised of single- and multi-family units), 9.2 acres for schools, 4.3 acres for community purpose facilities, 7.6 acres of parks, 17.2 acres of open space (including 0.7 acre of private open space), and 212.7 acres of preserve lands
Millenia	237.0	A maximum of 2,983 multi-family residential units, a maximum of 3.487 million s.f. of non-residential floor area, 5.5 acres for an elementary school site, 1 acre for a fire station site, and 16 acres of parks
Village 11	489.0	2,104 residential units (comprised of single- and multi-family units), 10.0 acres for commercial use, 36.6 acres for schools, 5.5 acres for community purpose facilities, 16.7 acres of parks, and 49.2 acres of open space

6.1.1 Adopted Plans

From a regional approach, the cumulative analysis relies on the San Diego Forward: The Regional Plan, the GDP, and the Chula Vista General Plan, along with other regional planning documents, including the MSCP Subarea Plan, and RAQS in accordance with CEQA Section 15130(b)(1)(B).

6.2 CUMULATIVE IMPACT ANALYSIS

The approach to a comprehensive cumulative impact analysis includes a three-step process, including: (1) establishing a cumulative impact area scope for each issue area; (2) summarizing past, present, and reasonably foreseeable future projects and determining whether their combination has resulted in a significant cumulative impact; and (3) evaluating whether the Project's incremental contribution to a significant cumulative impact would be cumulatively considerable. The geographic scope of the cumulative impact analysis varies depending upon the specific environmental topic being analyzed. In accordance with CEQA Guidelines Section

15130(b)(3), Table 6-2, *Geographic Scope of Cumulative Impact Analyses*, summarizes the geographic area for each environmental issue evaluated in this EIR. The following discusses past, present, and reasonably foreseeable future projects and their cumulative impact without the Project, followed by a discussion of the Project's incremental contribution, if any, and a determination regarding whether such contribution would or would not be cumulatively considerable.

Table 6-2 GEOGRAPHIC SCOPE OF CUMULATIVE IMPACT ANALYSES

Environmental Issue	Geographic Scope of Cumulative Impact Analyses
Land Use and Planning	Incompatibilities with adjacent land uses are generally site specific; therefore, the geographic context for the analysis of cumulative impacts relative to adjacent land use incompatibilities includes the area surrounding the Project site. The geographic context for the analysis of cumulative impacts relative to physical division of an established community is generally site specific and limited to the area directly adjacent to the UID.
Landform Alteration/Aesthetics	The cumulative study area associated with aesthetics impacts is the viewshed of the UID, which is the geographic area from which a proposed project is likely to be seen, based on topography and land use patterns. The cumulative study area for light and glare is the city of Chula Vista. The cumulative study area for steep slopes is Otay Ranch.
Transportation/Traffic	The cumulative study area associated with traffic and level of service standards, traffic hazards, alternative transportation, and emergency access is the study area for the Project-specific traffic impact analysis (Appendix B). This includes intersections and roadways where the project would contribute 800 or more daily trips or 50 or more peak hour trips in either direction. Freeway segments where the project would add 2,400 or more daily trips of 150 or more peak hour trips in either direction were also included. Impacts related to aircraft traffic are generally specific and limited to the area within two miles of a specific airport.
Air Quality	The geographic scope of cumulative impact analysis for criteria air pollutants, sensitive receptors, and air quality plans is the San Diego Air Basin. Impacts relative to objectionable odors are limited to the area immediately surrounding the odor source and are not cumulative in nature because the air emissions that cause odors disperse beyond the sources of the odor.
Noise	The area of cumulative impact that would be considered for the noise and vibration cumulative analysis would be only those cumulative projects within the immediate vicinity of the UID. Exposure to aircraft noise is also a localized impact and the area of cumulative impact that would be considered for aircraft impacts would be only those projects located within two miles of Brown Field.
Biological Resources	The geographic scope of cumulative impact analysis for biological resources includes the Chula Vista MSCP Subarea Plan area.
Cultural Resources	The geographic context for the analysis of cumulative impacts to archaeological resources, historic resources, paleontological resources, and human remains includes the San Diego region, which has a similar archaeological, ethnohistoric, historic, and prehistoric setting as the Project site.

Table 6-2 (cont.) GEOGRAPHIC SCOPE OF CUMULATIVE IMPACT ANALYSES

Environmental Issue	Geographic Scope of Cumulative Impact Analyses
Geology and Soils	The geographic context for the analysis of cumulative impacts relative to soil erosion encompasses the Otay River watersheds directly downstream from the project site. Impacts relative to seismic hazards and other geologic/soil conditions (i.e., fault rupture, ground-shaking, ground failure, liquefaction/collapse, landslides, lateral spreading, subsidence, and expansive soils) and septic systems are generally site specific.
Public Services	The City of Chula Vista is the geographic scope of cumulative impacts for public services.
Global Climate Change	Due to the nature of assessment of greenhouse gas emissions and the effects of climate change, impacts are analyzed from a cumulative context; therefore, the geographic scope for the cumulative analysis of greenhouse gas emissions and their effect on climate change is the global atmosphere.
Hydrology and Water Quality	The geographic context for the analysis of cumulative impacts relative to water quality standards and alteration of drainage patters encompasses the portions of the Otay River watershed directly downstream from the project site. Impacts relative to mudflows, dam inundation, tsunamis, seiches, and flood hazard areas are generally specific to a project site.
Agricultural Resources	The City of Chula Vista is the geographic scope of cumulative impacts to agricultural resources.
Hazards and Hazardous Materials	The geographic context for the analysis of cumulative impacts relative to the transport, use and disposal of hazardous materials, and associated accidental releases, encompasses the roadways and freeways used by vehicles transporting hazardous materials to and from the project sites. The geographic context for the analysis of cumulative impacts relative to wildland fires and emergency response and evacuation plans is the City of Chula Vista. Impacts relative to listed hazardous materials sites and airport hazards are generally specific to the Project site.
Housing and Population	The City of Chula Vista is the geographic scope of cumulative impacts to housing and population.
Public Utilities	The City of Chula Vista is the geographic scope of cumulative impacts to public utilities.

6.2.1 Land Use

A. Physical Division of an Established Community and Conflicts with Land Use Plans, Policies, and Regulations, and HCP or NCCPs

Cumulative impacts related to the physical division of an established community and land use conflicts were considered at the programmatic level in the SEIR for the GPA/GDPA and included anticipated development associated with the Project site, which was referred to then as the "University" site, which includes the Main Campus Property. The SEIR concluded that the GPA/GDPA, including the UID, would result in increased density and intensity of land uses within the GPA/GDPA area compared to the development analyzed in the 2005 GPU EIR. The SEIR concluded that this intensification is consistent with the goals and objectives of the RCP, General Plan and Otay Ranch General Development Plan. Through conformance with the General Plan, the cumulative projects analyzed in the SEIR, including the UID, would promote mobility,

increase jobs/housing balance, and encourage transit-oriented development and the cumulative projects would realize SANDAG's vision for the region. The SEIR further concluded that because adherence to the smart growth principles and objectives of the Chula Vista General Plan, cumulative land use impacts would be less than significant. As such, cumulative impacts related to dividing an established community and conflicting with land use plans, policies, and regulations are considered to be less than significant. Similarly, cumulative impacts previously contemplated for the Lake Property with the 2001 EastLake III SEIR concluded that cumulative land use impacts resulting from redesignation of the Lake Property from Park and Recreation to Public/Quasi Public would be less than cumulatively considerable. As a result, cumulative impacts related to land use are considered less than cumulatively significant for the study area.

The Project would be consistent with adopted land use plans, including the General Plan, and would continue to implement the planned development in Otay Ranch. The Project would result in the development of mixed-use residential and commercial areas, along with educational and open space uses in conformance with City policies and ordinances. Because the cumulative study area is not considered to have resulted in a cumulatively significant land use impact and the Project was determined to be in compliance with all applicable land use policies and conservation plans, cumulative land use impacts would remain less than significant.

6.2.2 Aesthetics/Landform Modification

A. Scenic Vistas and Scenic Resources

Cumulative impacts on the Main Campus Property relative to scenic vistas and scenic resources were not addressed at the programmatic level in the SEIR for the GPA/GDPA because scenic vistas and scenic resources are project-specific issues and are limited to individual viewpoints. However, for the Lake Property, the 2001 EastLake III SEIR concluded that aesthetics impacts as a result of redesignation of the Lake Property from Park and Recreation to Public/Quasi Public would be cumulatively considerable and unavoidable. Within the aesthetics cumulative study area for the UID, which includes areas near the project where the site is visible, past, present, and reasonably foreseeable future projects have and would continue to result in the development of vacant areas with a variety of mixed use residential, retail/commercial, and park space. As a result of the aesthetic change in the area from vacant to developed, cumulative projects have resulted in a cumulatively significant impact on scenic vistas and scenic resources.

As discussed in Section 5.2, *Aesthetic/Landform Modification*, implementation of the UID would contribute to a cumulative loss of scenic vistas and views of natural open space when combined with the existing cumulatively significant impact on scenic vistas and resources. Therefore, the Project's incremental contribution to a cumulative impact would be cumulatively considerable and the impact would be significant and unavoidable.

B. Visual Character or Quality

Cumulative impacts on visual character or quality were considered to be significant and unavoidable in the 2013 GPA and 2001 SEIR. Similar to the discussion above for scenic vistas and scenic resources, cumulative projects have transformed the Otay Mesa area from an undeveloped and rolling hillside area to a largely developed and suburban part of the City of Chula

Vista. As a result, cumulative projects have resulted in a cumulatively significant impact on the visual character and quality of Otay Mesa. The Project would continue to replace vacant rolling hills with suburban development and the Project's incremental contribution to a cumulatively significant impact on visual character and quality would be cumulatively considerable and the impact would be significant and unavoidable.

C. Lighting and Glare

Development in the vicinity of the project area include sources of nighttime lighting in the form of interior and exterior security lighting and parking, architectural highlighting, landscape lighting and illuminated signage. In addition, automobile headlights, streetlights, and stop lights along Eastlake Parkway, Discovery Falls Drive, and Hunte Parkway contribute to ambient nighttime lighting levels in the area. Previous development in the area has been subject to City and County lighting and glare requirements and impacts are not cumulatively significant. Development of the proposed Project would contribute new sources of light to the surrounding area. The SPA Plan includes lighting performance standards to minimize the proposed project's contribution to nighttime lighting and light sources. Lighting would be consistent with lighting standards prevalent in urbanized and rural areas of San Diego County and lighting would adhere to applicable City and County ordinances and standards. Also, compliance with the City and State energy conservation measures would limit the amount of unnecessary interior illumination during evening and nighttime hours. Therefore, in combination with cumulative projects, the proposed Project would not considerably contribute to lighting and glare impacts.

D. Landform Alteration

Implementation of the proposed project would impact steep slopes greater than 25 percent slope that are unique to Otay Ranch and are considered sensitive landforms in the Otay Ranch GDP. A ranch-wide steep slope standard requiring preservation of 83 percent of the natural steep slopes throughout Otay Ranch to protect these resources was established in the Phase 2 RMP. As discussed in Section 5.2, *Aesthetics and Landform Modification*, 255 acres, or about 3 percent of Otay Ranch's steep slopes has been impacted to-date by other projects in the area. The addition of the Project's impacts to 74.5 acres of steep slopes, which amounts to about 0.75 percent of steep slopes in the area, would not exceed the community-wide goal to preserve 83 percent of steep slopes. Therefore, cumulative development, including the proposed Project, would not result in cumulatively significant lighting and glare impacts.

6.2.3 Transportation/Traffic

A. Traffic and Level of Service Standards and Congestion Management

Cumulative impacts on the Main Campus Property relative to traffic were addressed at the programmatic level in the SEIR for the GPA/GDPA and determined to be cumulatively considerable and unavoidable. Similarly, cumulative impacts related to future development of the Lake Property, as addressed in the 2001 EastLake III SEIR, concluded that traffic impacts also would be cumulatively considerable. As a result, traffic impacts as a result of past projects are considered to be cumulatively significant. Section 5.3, *Traffic/Transportation,* of this EIR provides a detailed analysis of cumulative traffic impacts, which includes the cumulative projects defined

above; however, a brief summary of those conclusions is provided below for the year 2030, which is the estimated buildout year for the Project. As discussed in Section 5.3, cumulative impacts within the City of Chula Vista, Caltrans, the County of San Diego, and the City of San Diego would be reduced to a level below significance with implementation of mitigation measures.

For cumulative impacts within the City of Chula Vista, circulation facility improvements provided in the TDIF Ordinance would ensure that cumulative impacts would not occur for the following facilities:

- Intersections
    - Telegraph Canyon Road/Paseo Ranchero
    - Main Street/I-805 Ramps
- Roadway Segments
    - Telegraph Canyon Road from Paseo Ladera to Paseo Ranchero
    - Otay Lakes Road from East H Street to Telegraph Canyon Road
    - Main Street from Hilltop Drive to Melrose Avenue
    - Main Street from Melrose Avenue to I-805
    - Main Street from Brandywine Avenue to Heritage Road
    - Eastlake Parkway from Otay Lakes Road to Olympic Parkway

For cumulative impacts within the County of San Diego, circulation facility improvements provided in the San Diego County Traffic Impact Fee (TIF) program would ensure that cumulative impacts would not occur for the following facility:

- Bonita Road/San Miguel Road

For cumulative impacts within Caltrans/City of San Diego jurisdictions, circulation facility improvements provided in the Western TDIF and Facility Benefit Area (FBA) programs would ensure that cumulative impacts would not occur for the following facilities:

- Palm Avenue/I-805 SB Ramps
- Palm Avenue/I-805 NB Ramps

For cumulative impacts within the City of San Diego, circulation improvements are identified to reduce impacts to less than significant and would require coordination with the City of San Diego prior to issuance of the Project's 5,164th EDU.

- Avenida de las Vista/Heritage Road
- Heritage Road/Otay Mesa Road

With implementation of Mitigation Measures 5.3-1 through 5.3-24, all intersections and roadways that would be impacted under buildout conditions would be reduced to less than significant with

mitigation. These mitigation measures would reduce the Project's Year 2030 traffic impacts to a less than cumulatively considerable level by providing the necessary road improvements to accommodate project traffic. As a result, the Project's contribution to a significant cumulative impact would be less than cumulatively considerable.

B. Air Traffic Patterns, Road Safety, and Emergency Access

Impacts related to air traffic patterns, road safety and emergency access are project-specific issues and therefore cumulative impacts were not addressed at the programmatic level in the SEIR for the GPA/GDPA or in the 2001 SEIR for the EastLake III SPA. Impacts related to air traffic patterns, road safety, and emergency access are site specific and are not cumulative in nature. Construction of a project that would interfere with air traffic, result in a traffic hazard, or have inadequate emergency access would not affect these issues at another site because construction would only occur on the Project site. Similar to the project, cumulative development would be required to provide proper notification in compliance with Brown Field Airport Land Use Compatibility Plan when applicable and comply with all City requirements for parking, roadway design, and emergency access. Therefore, cumulative impacts would be less than significant.

6.2.4 Air Quality

The UID was included in the cumulative impact analysis in the 2013 GPA/GDPA SEIR, which concluded that implementation of the GPA/GDPA would result in cumulatively considerable and unavoidable impacts related to air quality violations for the Main Campus Property. Similarly, the 2001 EastLake III SEIR concluded that cumulative air quality impacts related to the Lake Property redesignation would be significant and unavoidable. As a result, air quality impacts are considered to be cumulatively significant.

The proposed land uses as part of the UID SPA Plan have been evaluated in the 2013 GPA/GDPA SEIR and 2001 SEIR and are included as part of the current Chula Vista General Plan. Based on the Project's conformance with applicable land use and zoning criteria, the Project would be in conformance with the General Plan and would therefore be consistent with the RAQS. No cumulatively considerable impacts would occur related to consistency with air quality plans or objectionable odors. Cumulative impacts related to sensitive receptors would require implementation of Mitigation Measure 5.4-4, to reduce potentially significant cumulative impacts to below significant.

Threshold 3 in Section 5.4, *Air Quality*, addresses whether the Project would result in a cumulatively considerable net increase of any criteria pollutant for which the region is in non-attainment under an applicable federal or state ambient air quality standard. The San Diego region is classified as a federal and/or state nonattainment area for PM_{10}, $PM_{2.5}$, and ozone. As discussed in Section 5.4, implementation of the Project would result in significant impacts due to the potential for development within the UID SPA Plan area. Long-term emissions, as shown below in Table 6-3, *Daily Operational Emissions*, would exceed regional thresholds, and, therefore, be cumulatively significant. The Project's incremental contribution to the long-term cumulative impact, as well as air quality violations, which would require implementation of Mitigation Measures 5.4-1a and 5.4-1b, would be considerable and these two cumulative air quality impacts would be significant and unavoidable, similar to Project-level impacts.

Table 6-3 DAILY OPERATIONAL EMISSIONS

Emission Source	Pollutant Emissions (pounds/day)					
	VOC	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
Area	180	2	167	<1	1	1
Energy	4	40	31	<1	3	3
Mobile	105	124	784	2	147	41
TOTAL	**290**	**166**	**983**	**2**	**151**	**45**
Thresholds	*55*	*55*	*550*	*150*	*150*	*55*
Significant Impact?	***Yes***	***Yes***	***Yes***	***No***	***Yes***	***No***

Source: CalEEMod (output data is provided in Air Quality Technical Report; HELIX 2016)

6.2.5 Noise

Cumulative impacts related to excessive noise levels at the Main Campus Property were not specifically addressed in the SEIR for the GPA/GDPA because the SEIR only included an analysis of environmental topics that resulted in new or additional impacts compared to the land use assumptions made for the project area in the 2005 GPU EIR. However, when considering the changes in the noise environment as a result of past, present, and reasonably foreseeable future projects, the Otay Mesa area was once undeveloped and consisted of much lower noise levels when compared to current conditions. As a result of past and present projects, the noise levels in the cumulative study area have increased related to additional cars and people living, working, and recreating in the area. The 2001 SEIR for the Lake Property concluded that cumulative impacts would be significant. As such, cumulative impacts from past and present projects are considered to be cumulatively significant.

A. Excessive Noise Levels

The noise study conducted for the UID (included as Appendix D of this EIR) included an analysis of cumulative impacts to excessive noise levels. The implementation of cumulative development projects would have the potential to increase ambient noise from new operational noise sources (such as HVAC equipment, parking lots, and truck deliveries) and by increasing traffic and human activity throughout the surrounding area. Development is proposed adjacent to the Project site to the west, south, and north.

Buildout of the Project, along with future regional growth and other projects to be developed within the Project vicinity, would result in increases in traffic that would cumulatively increase traffic noise to on-site uses. The potential noise impacts that would result from cumulative projects and regional growth are included in the Buildout (Year 2030) scenario. As shown in the noise contours on Figures 5.5-1a through 5.5-1c, noise levels at the proposed locations of residences, parks, schools, and offices would potentially exceed the Chula Vista noise compatibility standards along Main Street and Hunte Parkway. These NSLUs and roadways would only be developed with implementation of the Project; however, implementation of Mitigation Measures 5.5-1a through 5.5-1e would require future development to implement measures that would reduce noise levels to be compatible with the Chula Vista noise compatibility guidelines. Therefore, cumulative impacts from the Project would be reduced and the Project's contribution to a cumulative impact would be less than cumulatively considerable.

The University/RTP Planning Area within Village 9 includes the western area of the Project site (approximately the area between Orion Avenue and Center Walk). This area is part of the SD: Flex Overlay transect, which also includes the eastern area of Village 9 (approximately the easternmost blocks of the Millenia, Town Center, and Mixed-Use Planning Areas). Uses at this boundary are likely to include mixed-use and medium density residential uses. Therefore, noise from HVAC units within the SD: Flex Overlay transect would generate noises at land uses in Village 9. Likewise, HVAC units at Village 9 may generate significant noise at the flex overlay areas of UID; according to the Village 9 Final EIR, HVAC units at Village 9 may exceed 50 dBA within 275 feet of the equipment (City 2014). The Village 9 Final EIR included Mitigation Measure 5.5-7 that would require noise levels to not cumulatively exceed the noise level limits for a receiving land use. Further, for the Project, Mitigation Measure 5-5.4 would be required and would implement the same requirements. Therefore, cumulative impacts would be less than significant.

The Millenia is currently under construction directly north of the westernmost portions of the project and is an extension of the Urban Center Zone proposed for Village 9. Village 10 is located to the south of the Project. The Millenia consists of a high-density mixed-use development; Village 10 will include similar development. Similar to the UID, mixed-use development in the Millenia development and Village 10 will include HVAC systems and commercial uses that would have the potential to result in significant impacts to NSLUs at similar distances (45 dBA within 320 feet for the equipment, 50 dBA within approximately 180 feet of the equipment, 55 dBA within 100 feet of the equipment, and 60 dBA within 57 feet of the equipment). Therefore, future development of NSLUs along the northern and southern edges of the project would have the potential to be exposed to excessive noise levels from development of the Millenia development, Village 9, and Village 10. Likewise, development along the northern and southern edges of the project may result in noise increases to NSLUs along the southern edge of the Millenia development, the eastern edge of Village 9, and the northern edge of Village 10. Mitigation Measures 5.5-1a through 5.5-1e would reduce impacts related to exposure of NSLUs in the UID to noise from the Millenia development, Village 9, and Village 10 to a less than cumulatively considerable level. The Project's incremental contribution to a cumulatively significant noise impact would not be considerable.

B. Excessive Ground-borne Vibration

Cumulative impacts related to ground-borne vibration were not specifically addressed in the SEIR for the GPA/GDPA because the SEIR only included an analysis of environmental topics that resulted in new or additional impacts compared to the land use assumptions made for the Project area in the 2005 GPU EIR. The greatest source of vibration during construction would be a vibratory roller, which would create vibration levels of 0.098 in/sec PPV at a distance of 50 feet, which is less than half of the 0.2 in/sec PPV FTA threshold. Vibration impacts are localized in nature because they are generally limited to the area of the site where construction equipment is operating. It would be unlikely that construction involving a vibratory roller or other vibration-generating equipment from adjacent villages (Millenia development, Village 9, and Village 10) would occur simultaneously with UID construction activities involving a vibratory roller, especially within distances close enough to the same vibration-sensitive land use that would cause excessive ground-borne vibration. Also, Mitigation Measure 5.5-2 was included at the Project-level to ensure that construction within proximity to vibration-sensitive instruments and operations

would be noticed two weeks before, to ensure that proper planning can occur to avoid conflicts. Therefore, a cumulative ground-borne vibration impact would not occur.

C. Permanent Increase in Ambient Noise Levels

1. Exterior

The potential for a cumulative noise impact can occur when traffic from multiple projects combines to increase noise levels above thresholds. A significant cumulative exterior impact would occur if the buildout and Project results in the exposure of a NSLU to a combined exterior noise level of 65 CNEL or greater and if the increase is 3 CNEL or greater from the Existing scenario. As shown in Table 11 of Appendix D, 10 of 13 segments would exceed the 65 CNEL threshold with implementation of the Project; however, the Project's contribution would not exceed 3 dBA along any segments. Therefore, although significant cumulative traffic-related exterior noise impacts are present, the Project's contribution would not be considerable.

2. Interior

A significant cumulative interior impact would occur if the buildout and Project's noise increase yields interior noise levels in excess of 45 CNEL while also causing an increase of at least 3 CNEL over existing conditions. As typical architectural materials are expected to attenuate noise levels by 15 CNEL, interior noise levels would be 45 CNEL or greater if the noise levels at the building façades exceed 60 CNEL. As shown in Table 11 of Appendix D, all 13 segments would exceed the 60 CNEL interior impact threshold; however, the Project's contribution would not exceed 3 dBA along these segments. As no segments are identified as having a significant cumulative exterior impact according to this standard, cumulative traffic-related interior noise impacts would be less than significant.

D. Temporary Increase in Ambient Noise Levels

Cumulative impacts related to temporary noise increases were not specifically addressed in the SEIR for the GPA/GDPA because the SEIR only included an analysis of environmental topics that resulted in new or additional impacts compared to the land use assumptions made for the Project area in the 2005 GPU EIR. Construction noise impacts are localized in nature because they are limited to the area of the site where construction equipment is operating. Sound levels from Project construction would be up to 83 dBA L_{EQ} at 50 feet from the source. However, the cumulative projects and the UID would be subject to the Chula Vista Municipal Code, which limits construction hours to 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. Compliance with the Chula Vista Municipal Code would reduce impacts to a less than significant level. The UID would comply with these limits and, when combined with other projects, would not result in a cumulatively considerable impact from construction noise.

E. Excessive Noise Exposure from a Public of Private Airport

Exposure to airport noise is a project-specific issue and therefore cumulative impacts were not addressed at the programmatic level in the SEIR for the GPA/GDPA. No additional aviation uses are planned to be introduced in the vicinity of the UID. The Project is not within the 60 CNEL

airport noise contours for Brown Field Municipal Airport. Therefore, a cumulative impact related to aviation would not occur.

6.2.6 Biological Resources

As stated in Chapter 2.0, the SEIR for the GPA/GDPA did not address biological resources on the Main Campus Property but relied on analysis in the 2005 GPU EIR (EIR 05-01) and the 1993 Program EIR for the GDP (EIR 90-01), which concluded that cumulative impacts would be cumulatively considerable. Cumulative impacts for the Lake Property were evaluated in the EastLake III SEIR (01-01) and concluded to be less than cumulatively considerable. As a result of cumulative projects within the cumulative study area for biological resources, impacts are considered to be cumulatively significant.

A. Sensitive Plant and Wildlife Species, Riparian Habitat and Other Sensitive Natural Communities, Federally Protected Wetlands, and Wildlife Movement Corridors and Nursery Sites

Cumulative impacts consider the potential regional effects of a project and how a project may affect an ecosystem or one of its members beyond the project limits and on a regional scale. The PEIR prepared for the entire Otay Ranch development (EIR 90-01) analyzed the existing conditions, potential impacts, and mitigation measures related to biological resources for the entire Otay Ranch area, which consists of approximately 23,000 acres in the County of San Diego, and the cities of Chula Vista and San Diego. The 1993 Otay Ranch PEIR identified significant unavoidable impacts to biological resources in Otay Ranch due to loss of raptor foraging habitat. Subsequent to the certification of the PEIR and adoption of the Otay Ranch GDP, the City adopted the Chula Vista MSCP Subarea Plan. The MSCP planning program provided for mitigation of cumulative impacts from regional development on sensitive species and their habitats on a regional basis, including raptor forage habitat. As such, a cumulatively considerable impact would occur if a project would be inconsistent with the Chula Vista MSCP Subarea Plan.

Implementation of the UID would contribute to the loss of biological resources within the Otay Ranch and Chula Vista Subarea. However, with implementation of all mitigation measures identified in Section 5.6, *Biological Resources*, the Project would comply with the MSCP Subarea Plan conditions for coverage, the Otay Ranch RMP, the requirements for conveyance of compensatory mitigation lands to the Preserve Owner Manager, and compensatory wetland mitigation required by state and federal wetlands permitting agencies. Implementation of these measures would ensure long-term sustainability of sensitive species and their associated habitats, and would mitigate cumulative biological impacts to MSCP covered species and their associated habitats. Therefore, while cumulative impacts on biological resources are considered cumulatively significant as a result of past and present projects, the Project's incremental contribution would not be cumulatively considerable.

B. Local Policies, Ordinances, and HCPs/NCCPs

The Chula Vista MSCP Subarea Plan and the Otay Ranch RMP are the applicable natural resource plans for the Project and cumulative projects. Similar to the UID SPA Plan, the cumulative projects would be required to demonstrate compliance with the MSCP Subarea Plan and the RMP as part

of project approval. Pursuant to the City's MSCP Subarea Plan, no single facility may permanently impact more than two acres of covered habitat. In addition, permanent impacts to covered habitats in the Preserve resulting from future facilities may not exceed a cumulative total of 50 acres. Permanent impacts to covered habitats associated with the development of planned infrastructure facilities (future facilities) within the Preserve are discussed in Section 5.6. Temporary impacts associated with future facilities are not subject to the limitations for permanent impacts to covered habitat; however, all areas of temporary impacts must be revegetated. The temporary impact area associated with the UID would be revegetated pursuant to restoration plans for maritime succulent scrub and salt creek coastal sage scrub, reviewed and approved by the City (refer to Mitigation Measures 5.6-10b and 5.6-10c).

Future facilities associated with the Project include the off-site sewer and storm water conveyance facility. The total permanent impact from proposed future facilities within the preserve would be 4.30 acres. Because the permanent impact from the detention basin exceeds the 2-acre per facility limit, wildlife agency concurrence is expected to be required. The University Villages Project EIR (August 2014) identified 6.2 acres of cumulative impacts to covered habitat from Future Facilities within Otay Ranch. After adding the 4.30 acres proposed with this Project, the cumulative total would be 10.5 acres, still below the 50-acre cumulative limit. Therefore, the Project's incremental contribution to cumulative land use impacts associated with conflicts with HCPs or NCCPs would be less than cumulatively considerable.

6.2.7 Cultural and Paleontological Resources

The 2013 GPA/GDP SEIR did not address cumulative impacts cultural or paleontological resources but relied on analysis in the 2005 GPU EIR (EIR 05-01) and the 1993 Program EIR for the GDP (EIR 90-01) for cumulative impacts on the Main Campus Property. Cumulative cultural and paleontological impacts for the GDP were concluded to be significant. For the Lake Property, the 2001 EastLake III SEIR concluded that cumulative impacts would be reduced to a level below significance with monitoring mitigation measures. As a result of cumulative projects in the study area, impacts on cultural and paleontological resources are considered cumulatively significant.

A. Archaeological and Historic Resources and Human Remains

The 2005 GPU EIR evaluated impacts to cultural resources in its cumulative analysis. This cumulative assessment of impacts to archaeological and historic resources incorporates by reference the cumulative impact analysis in the 2005 GPU EIR. 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 land that is converted to developed uses, the greater the potential for impacts to cultural resources. While any individual project may avoid or mitigate the direct loss of a specific resource, the effect is considerable when considered at the cumulative level. As noted above, the 2005 GPU 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*, there are no historical resources on any portion of the project site, and; therefore, the Project would not have an incremental contribution to a

cumulative historic impact and would not be cumulatively considerable. Pending testing, potentially significant impacts were assessed to two known archaeological resources. The Project also could result in significant impacts to unknown archaeological resources or human remains that may be uncovered during project development. Mitigation Measures 5.7-1a, 5.7-1b, and 5.7-2 are included, which would reduce Project-related impacts to cultural resources to a less than significant level. However, because the extent of potential cultural resources is unknown at this time, the Project's contribution would be cumulatively considerable and unavoidable, consistent with the findings in the 2005 GPU EIR.

B. Paleontological Resources

As described in Section 5.7 of this EIR, implementation of the proposed development would result in significant, Project-specific impacts to paleontological resources. Specifically, these impacts would be associated with Project-related disturbance (e.g., through excavation and grading) of the Tertiary Otay Formation and Otay Formation-Fanglomerate Facies, as well as Quaternary alluvial terrace deposits. All of these Project-specific impacts would be reduced below a level of significance through implementation of identified Mitigation Measures 5.7-3a through 5.7-3d. Based on the high resource sensitivity of the noted formations and their generally widespread occurrence in the Project vicinity (refer to Figure 5.8-1), additional (cumulative) projects would likely also encounter these (or other sensitive) formations and result in significant potential impacts to paleontological resources. These additional projects, however, would also be subject to similar analyses and (if applicable) mitigation requirements for paleontological resources as described in Section 5.7 (and pursuant to CEQA).

The importance of individual paleontological resources is derived from the associated research value and information provided to the scientific community. The information gained from data recovery programs for projects with paleontological resource impacts (including the proposed Project) would be provided in reports and related materials, and filed with the City and/or a scientific institution with permanent paleontological collections (e.g., the San Diego Natural History Museum). Accordingly, the resulting fossil collections and related materials from all applicable projects would be retained (and available for further study), with no resulting loss of data or connection to similar potential issues or cumulative effects to or from other properties. While a cumulatively significant impact is identified for paleontological resources for the study area, the Project's incremental contribution would be less than cumulatively considerable.

6.2.8 Geology and Soils

Geologic hazards are generally site-specific and not cumulative in nature. The 1993 EIR (90-01) concluded that geology and soils impacts would be less than cumulatively significant on the Main Campus Property and the 2001 EIR (01-01) did not evaluate cumulative impacts on geology and soils. As a result, geology and soils impacts at the cumulative level are considered less than significant. Addressing potential geologic hazards for the proposed development would involve using standard geotechnical measures and/or site-specific design and construction efforts that have no relationship to, or impact on, off-site areas to comply with applicable regulatory requirements. As described in Section 5.8, *Geology and Soils,* all potential Project-specific geology and soils impacts would be avoided or reduced below identified significance guidelines through conformance with geotechnical recommendations and established regulatory/industry standards as

part of project design and/or construction efforts. Most potential geologic and soils effects are site-specific (i.e., inherently restricted to the areas proposed for development) and would not contribute to cumulative impacts associated with other planned or proposed development. That is, issues including seismic ground acceleration and liquefaction, landslides, and unstable/unsuitable soils, would involve effects to (and not from) the proposed development and/or are specific to on-site conditions.

Avoiding liquefaction impacts through efforts such as removing/replacing unsuitable materials, for example, would not affect or be affected by similar deposits/hazards in off-site areas. Similarly, while landslide/slope stability and erosion/sedimentation hazards could potentially affect off-site areas (e.g., sloughing of surficial material onto off-site roadways, or downstream sediment transport/deposition), these issues would be reduced to less than significant levels through identified design/construction measures and regulatory conformance, and would not affect or be affected by similar deposits/hazards in off-site areas (with all applicable cumulative projects also subject to similar requirements). Based on the described nature of potential geologic and soils hazards and the measures to address them, there would be no connection to similar potential issues or cumulative effects to or from other properties. Accordingly, potential cumulative impacts related to geologic and soil hazard from implementation of the Project and other cumulative projects would be less than significant.

6.2.9 Public Services

An analysis of cumulative impacts on public services was included in the 2013 GPA/GDPA SEIR for the Main Campus Property. The SEIR determined a significant cumulative impact would not occur to any public services because increased demands would be accommodated through the maintenance of the City GMO threshold standards prior to discretionary project approval. Similarly, the 2001 EastLake III SEIR concluded that public services impacts related to the Lake Property would be less than cumulatively considerable. Within the public services cumulative study area for the UID, which includes areas within the service boundaries for each public service, past, present, and reasonably foreseeable future projects have and would continue to be required to comply with the GMO. As a result of required compliance, cumulative projects have not resulted in a cumulatively significant impact on public services. Specifically, Objective GM 1 from the Chula Vista General Plan assures public facilities and services are available to residents and visitors of the City in a timely manner as development occurs. Compliance with this General Plan objective would allow individual development projects to avoid adding a cumulatively considerable drain on City resources. UID SPA Plan compliance with the GMO threshold standards and Objective GM 1 is discussed below for each public service.

A. Fire and Emergency Medical Services

As discussed in Section 5.9, *Public Services*, the UID SPA Plan would result in some increase in demand for fire and emergency medical services. If growth outpaces the CVFD's ability to expand and serve new development, a significant cumulative impact could occur. However, Section 19.09 (Growth Management) provides policies and programs that tie the pace of development to the provision of public facilities and improvements. Section 19.09.040B specifically requires that "properly equipped and staffed fire and medical shall respond to calls throughout the city within seven minutes in 80 percent of the cases." Section 19.09 also requires

a PFFP and the demonstration that public services such as fire services meet the GMO quality of life threshold standards. A project that is consistent with the City GMO quality of life threshold standards would not result in a cumulatively considerable impact.

Fire protection and emergency medical services are funded through development impact fees collected as part of the Chula Vista Public Facilities Development Impact Fee (PFDIF) Program. Implementation of the cumulative projects, including the proposed Project, requires the collection of the PFDIF. The PFDIF addresses each project's proportional impact on capital facilities, such as structures and equipment, associated with the fire protection. Because development within the City requires project applicants to pay the PFDIF, as well as all future taxes and fees adopted by the City to cover fire protection services, no significant cumulative impacts are present related to fire protection and emergency medical services. Accordingly, the Project would not contribute to a significant cumulatively considerable impact.

B. Police Services

As discussed in Section 5.9, the UID SPA Plan would result in some increase in demand for police services. If growth outpaces the Chula Vista Police Department's ability to expand and serve new development, a cumulative impact would occur. However, Section 19.09 (Growth Management) provides policies and programs that tie the pace of development to the provision of public facilities and improvements. Section 19.09.040A specifically requires that properly equipped and staffed police units shall respond to 81 percent of priority one emergency calls within seven minutes and maintain an average response time to all priority one emergency calls of 5.5 minutes or less. Section 19.09 also requires a PFFP and the demonstration that public services, such as police services, meet the GMO quality of life threshold standards. A project that is consistent with the City GMO quality of life threshold standards would not result in a cumulative impact.

Similar to fire protection and emergency medical services, police services are funded through development impact fees collected as part of the Chula Vista PFDIF Program. Implementation of the cumulative projects, including the proposed Project, requires the collection of the PFDIF, which is included as Mitigation Measure 5.9.2-1a. The PFDIF addresses each project's proportional impact on capital facilities, such as structures and equipment, associated with the police protection. Because payment of the PDIF applies to all areas within the cumulative study area, including adjacent developments in Villages 9 and 10, as well as payment of all future taxes and fees adopted by the City to cover police protection services, cumulative development, including the proposed Project, would not result in a cumulatively significant impact to police services.

C. Schools

Implementation of the SPA Plan and cumulative development in the city would result in an increased demand for elementary, middle, and high schools. If new growth in school-aged children exceeds the capacity of available schools, a cumulative impact would occur. However, Section 19.09 provides policies and programs that tie the pace of development to the provision of public facilities and improvements. Section 19.09.040.C requires that the City annually provide the two local school districts with a 12- to 18-month development forecast and requests an evaluation from the districts of their ability to accommodate the forecast and continuing growth.

The growth forecast and school district response letters are delivered to the GMOC for inclusion in its review. Section 19.09 also requires a PFFP and the demonstration that public services, including schools meet the GMO quality of life threshold standards. A Project that is consistent with the City GMO quality of life threshold standards would not result in a cumulatively considerable impact.

Schools are funded by development project through payment of statutory school fees as required under state law. Implementation of the cumulative projects, including the proposed Project, requires the collection of statutory school fees. The school fees address each project's proportional impact on school facilities, such as structures and equipment. Because payment of statutory school fees, as well as all future taxes and fees adopted by the City to cover schools is required within the cumulative study area, cumulative development, including the proposed Project, would not result in a cumulatively significant impact to schools.

D. Libraries

Implementation of the UID SPA Plan and cumulative development in the City would result in an increased demand for library services. According to the 2015 GMOC Annual Report, the service ratio for Fiscal Year 2014 was 364 square feet to every 1,000 residents (Chula Vista 2015). Therefore, the City currently does not meet the GMO threshold standard for libraries. Therefore, cumulative impacts to libraries are significant.

Similar to fire and police protection and emergency medical services, libraries are funded through development impact fees collected as part of the Chula Vista PFDIF Program. Implementation of the cumulative projects, including the proposed Project, requires the collection of the PFDIF. The PFDIF addresses each project's proportional impact on capital facilities, such as structures and equipment, associated with the libraries. Because development within the City requires project applicants to pay the PFDIF, as well as all future taxes and fees adopted by the City to cover libraries, significant cumulative impacts would be mitigable. In addition, library facilities would also be permitted throughout the Project site and would be available to residents in the area. Accordingly, the Project's contribution to cumulative library impacts would not be cumulatively considerable.

E. Parks, Recreation, Open Space, and Trails

Implementation of the UID SPA Plan and cumulative development in the City would result in an increased demand for park, recreation, open space, and trails. If growth outpaces the City's ability to provide additional facilities, a cumulative impact would occur. However, Section 19.09 provides policies and programs that tie the pace of development to the provision of public facilities and improvements. Section 19.09.040 E specifically requires a population coefficient of "three acres of neighborhood and community park land with appropriate facilities per 1,000 residents east of I-805." Section 19.09 also requires a PFFP and the demonstration that public services, such as parks, meet the GMO quality of life threshold standards. A project that is consistent with the City's GMO quality of life threshold standards would not result in a cumulatively considerable impact.

Similar to fire and police protection, parks, recreation, open space, and trails are funded through development impact fees collected as part of the Chula Vista PFDIF Program. Implementation of

the cumulative projects, including the proposed Project, requires the collection of the PFDIF. The PFDIF addresses each project's proportional impact on capital facilities, such as structures and equipment, associated with the parklands. Because development within the City requires project applicants to pay the PFDIF, as well as all future taxes and fees adopted by the City to cover parklands, no significant cumulative impacts would occur.

6.2.10 Global Climate Change

The 2013 GPA/GDPA SEIR included an analysis of cumulative impacts related to global climate change as a result of implementation of the GPA/GDPA land uses. The SEIR concluded that the annual GHG emissions generated by the cumulative projects including the UID would total 333,426 MT CO_2e per year, and cumulative global climate change impacts would be less than significant. The 2001 SEIR (01-01) did not analyze global climate change.

As discussed in Section 5.10, *Global Climate Change*, the UID SPA Plan would contribute approximately 35,954 MT CO_2e per year, or a 1.06 MT CO_2e/SP/yr. The 1.06 MT CO_2e/SP/yr efficiency threshold was developed by dividing the City's 2030 emissions goal per EO B-30-15 and deriving an efficiency threshold of 1.30 MT CO_2e/SP/yr. Therefore, cumulative climate change impacts would be less than significant.

6.2.11 Hydrology and Water Quality

As stated in Chapter 2.0, the 2013 SEIR did not address hydrology and water quality but relies on analysis in the 2005 GPU EIR (EIR 05-01) and the 1993 Program EIR for the GDP (EIR 90-01) for cumulative impacts on the Main Campus Property. Cumulative impacts for hydrology and water quality for the Lake Property were similarly concluded to be less than cumulatively considerable in the 2001 EastLake III SEIR. The 2005 GPU EIR concluded that with compliance of General Plan Objective E-2 and applicable policies, and applicable federal, state, and regional water quality regulations, cumulative impacts associated with water quality would not be cumulatively considerable. No cumulative impacts were identified related to water quality because these regulations, including the General Construction Permit and the Chula Vista Development Storm Water Manual, are intended to mitigate cumulative impacts from all new development and redevelopment. While previous environmental documentation on the Project site (associated with EIRs 90-01, 01-01, and 05-01) did not identify a cumulatively considerable impact for hydrology and water quality, past projects have degraded this resource and impacts are considered to be cumulatively significant.

As described in Section 5.11, *Hydrology and Water Quality*, implementation of the Project would require conformance with a number of regulatory requirements related to hydrology and water quality, including applicable elements of the CWA, NPDES, and related City storm water standards, as well as Project mitigation measures to reduce impacts. Based on such conformance and related project design measures and mitigation measures, all identified Project-level hydrology and water quality impacts from the Project would be avoided or reduced below a level of significance.

The described regulatory requirements constitute a regional effort to implement hydrology and water quality protections through a watershed-based program designed to meet applicable criteria

such as Basin Plan Beneficial Uses and Water Quality Objectives. To this end, these standards require the implementation of efforts to reduce runoff and contaminant discharges to the MEP, with the NPDES Municipal Permit identifying the goal of "…promoting attainment of water quality objectives necessary to support designated beneficial uses." The City has implemented all of these requirements in the form of the City BMP Design Manual; related Municipal Code, General Plan and zoning standards; and applicable education, planning, and enforcement procedures. Based on the described regional/watershed based approach required for hydrology and water quality issues in existing regulatory standards, as well as the fact that conformance with these requirements would be required for all projects within the City (including the proposed Project), the Project's incremental contribution to a cumulatively significant hydrology/water quality impact would not be cumulatively considerable.

6.2.12 Agricultural Resources

As stated in Section 2.2.3, the SEIR did not address agricultural resources, but relies on analysis in the 2005 GPU EIR (EIR 05-01) and the 1993 Program EIR for the GDP (EIR 90-01). This evaluation of cumulative impacts on agricultural resources incorporates the cumulative analysis in the 2005 GPU EIR by reference. The 2005 GPU EIR concluded that "there are no prime farmlands or farmlands of statewide importance in the city that would be converted as a result of land use changes." Therefore, it was determined that impacts on agricultural resources would be less than significant (City of Chula Vista 2005b). However, the GDP EIR (EIR 90-01) identified the incremental and cumulative loss of agricultural lands in the Otay Ranch as a significant impact. Cumulative impacts on agricultural resources were not evaluated in the 2001 EastLake III SEIR. The incremental loss of agriculture has occurred as development has progressed in the Otay Ranch area and impacts from cumulative projects are considered significant.

The SPA Plan is within the development scope of the General Plan. Prime farmlands or farmlands of statewide importance do not occur within the General Plan area; however, the UID is identified as containing Farmland of Local Importance and Grazing Land. As the Project would result in the loss of Farmland of Local Importance and Grazing Land, it would have a significant impact with respect to agricultural resources. The incremental loss of farmland as a result of the Project in combination with other projects in Otay Ranch would result in a cumulatively significant impact with respect to agricultural resources, consistent with the GDP PEIR (EIR 90-01). As discussed in Section 5.12, *Agricultural Resources*, agricultural uses would continue to be allowed in the UID in the interim until buildout of the UID. However, no mitigation measures are available to reduce long-term impacts to below a level of significance without restricting the development proposed in the SPA Plan to allow interim agricultural uses to continue in perpetuity. Therefore, the Project's incremental contribution to an existing cumulatively significant impact would be cumulatively considerable and unavoidable.

6.2.13 Hazards and Hazardous Materials

A. Hazardous Materials/Waste

As stated in Section 2.2.3, the SEIR did not address hazards or hazardous materials but relies on analysis in the 2005 GPU EIR (EIR 05-01) and the 1993 Program EIR for the GDP (EIR 90-01). The 2005 GPU EIR determined that compliance with Objective E 19 would assure that new

development would not be approved if there were a potential for the use or transport of hazardous materials to affect residents. Under this objective, Policy E 19.1 states that proposals for hazardous waste storage, collection, treatment, disposal, and transfer facilities shall be accepted for review, only if located on industrial-zoned land within a designated general area. According to the 2005 GPU EIR, implementation of this objective and policy is assured through compliance with Policy E 20.2, which states that the City shall ensure that significant and potentially significant adverse effects to existing and planned surrounding land uses from facilities that use, store, or handle hazardous materials and waste will be avoided through the environmental review of proposed developments, in accordance with CEQA. The 2005 GPU EIR concludes that hazards associated with the routine transport, use, disposal, or accidental release of hazardous materials would be less than significant. For the Lake Property, the 2001 EastLake III SEIR did not address cumulative impacts on hazards and hazardous materials. Cumulative impacts related to hazards are considered less than significant.

As described in Section 5.13, *Hazards and Hazardous Materials*, no significant Project-specific impacts were identified in association with the occurrence, use, handling, storage, transport, disposal or potential emission of hazardous materials or waste. Specifically, no hazardous material/ waste sites were observed or documented onsite (e.g., through records review and field reconnaissance), although some potential was identified for the presence of currently unknown materials such as lead-based paint (LBP), treated wood, or other contamination. Any such potential occurrences, however, would involve effects to (and not from) the proposed development and/or are specific to on-site conditions. That is, the occurrence of contaminates such as LBP, treated wood, or impacted soil would be addressed through associated recommendations in the HMTS, including measures such as: (1) implementation of the Site Safety Plan; (2) cessation of affected construction until appropriate health and safety procedures are implemented and agency notifications are made; (3) pertinent characterization and remediation of contaminated media by trained and licensed/certified personnel, in accordance with pertinent regulatory guidelines and under the oversight of the appropriate regulatory agency; and (4) characterization of contaminated soil and imported fill to determine appropriate on- and/or off-site use and disposal options. Accordingly, even if unknown contaminates are encountered during construction of a project, there would be no connection to similar potential issues or cumulative effects to or from other properties (which would also require appropriate investigation/remediation efforts and related conformance with regulatory standards). Therefore, cumulative development, including the proposed Project, would not result in a cumulatively significant impact associated with hazardous materials or waste.

B. Airport Hazards

Potential Project-specific impacts associated with airport-related hazards were also concluded to be less than significant in Section 5.13, based on Mitigation Measures 5.13-2a and 5.13-2b, which would ensure conformance with applicable regulatory requirements including ~~FAA and~~ San Diego ALUC standards. Similar to the above discussion of hazardous materials/wastes, potential airport-related hazards would also be site-specific, and would not affect or contribute to such hazards at other properties (which would also require conformance with applicable regulatory standards). Therefore, cumulative development, including the proposed Project, would not result in a cumulatively significant impact associated with airport hazards.

C. Wildfire Hazards

The evaluation of potential project-specific impacts related to wildfire hazards concluded that such effects would be less than significant, based on implementation of the Project FPP and conformance with associated regulatory standards (including applicable elements of the California Fire, Building and Residential codes). As noted above for hazardous materials/wastes and airport hazards, potential wildfire hazards are site-specific, and would not affect or contribute to such hazards at other properties (which would also require conformance with applicable regulatory standards). Therefore, cumulative development, including the proposed Project, would not result in a cumulatively significant impact associated with wildfires.

6.2.14 Housing and Population

Population growth in the Otay Mesa area has occurred pursuant to multiple Village SPA Plans and the overall GDP for Otay Ranch. The history of development in the area has replaced mostly vacant and former agricultural areas with suburban development, and has generally not displaced housing or people. As a result, cumulative projects have not resulted in a cumulatively significant housing and population impact. The 2013 GPA/GDPA SEIR, which included the Main Campus Property, concluded that cumulative impacts associated with housing and population growth would be less than significant. Cumulative impacts on housing and population were not addressed in the 2001 EastLake III SEIR. As discussed in Chapter 7.0, *Growth Inducement*, the UID SPA Plan would be consistent with the GP and GDP, as amended. The amended GDP would not induce substantial population and housing growth because it would implement planned development that would result in an inclusive community, maintain a balance between housing and employment, and allow population to grow adjacent to existing urban areas and in proximity to public transit. The planned development in the UID would provide neighborhood commercial services, increase pedestrian-friendly mobility choices, and some residential uses in a high-density, mixed use area. Therefore, because the increase in population associated with the cumulative projects, including the proposed Project, would be accommodated by the proposed homes and commercial services, cumulative impacts associated with housing and population growth would not be significant.

6.2.15 Public Utilities

A. Water

As discussed in Section 5.15, *Public Utilities*, the OWD Board of Directors adopted the 2015 UWMP in June 2016 in accordance with the California Urban Water Management Planning Act and recent legislation. OWD and MWD update their water demand and supply projections within their jurisdictions utilizing SANDAG's most recent growth forecast to project future water demands. This provides for the important link between demand and supply projections to the land use plans of the governments in the County. Existing land use plans, any revisions to land use plans, and annexations are captured in the SANDAG updated forecasts. OWD and MWD update their demand forecasts approximately every five years to coincide with preparation of their UWMPs. Therefore, since cumulative projects in Otay Ranch, including the proposed Project, are included in SANDAG's forecasts, OWD and MWD have accounted for their proposed water usage, no significant cumulative impacts associated with water supply are present.

B. Wastewater

The UID's contribution to the cumulative impacts on wastewater was included in the 2013 GPA/GDPA SEIR and the 2001 EastLake III SEIR for the Main Campus Property and the Lake Property, respectively. The 2013 SEIR concluded that cumulative impacts would be less than significant because future projects would include a PFFP that articulates needed facilities and identifies funding mechanisms, and the City has the authority to withhold discretionary approvals and subsequent building permits from projects that are out of compliance with threshold standards. The cumulative analysis in the 2001 EastLake III SEIR concluded that impacts to regional sewer services would be less than cumulatively significant related to development of the Lake Property because growth in this area has been anticipated by the City of Chula Vista and the increase in demand would be minor in comparison to the capacity available. The Sewer Study prepared for the Project (Appendix L) states for cumulative conditions, flows are presumed to drain into a deficient Salt Creek Interceptor Sewer system and that additional monitoring is necessary. Therefore, a significant cumulative impact associated with wastewater is present. However, implementation of Mitigation Measure 5.15.2-1 would require that adequate wastewater facilities are in place before the issuance of grading permits. As a result, the Project's contribution to the significant cumulative impact would not be cumulatively considerable related to adequate wastewater facilities. However as stated in Section 5.15, the location and scope of construction for any future expanded or newly developed treatment facilities is unknown and the development of additional treatment capacity may result in potentially significant and unavoidable cumulative impacts associated with construction of new or expanded treatment facilities even understanding that such projects would likely be subject to environmental review.

C. Solid Waste

The UID's contribution to the cumulative impacts on solid waste management was included in the 2013 GPA/GDPA SEIR for the Main Campus Property. A specific cumulative analysis for the Lake Property was not included in the 2001 EastLake III SEIR. The 2013 SEIR concluded that the Project, in combination with other cumulative projects, would not result in a significant cumulative solid waste impact. Implementation of the UID SPA Plan and cumulative development in the City would result in an increased generation of solid waste. The Otay Landfill has a total permitted capacity of 62.4 million cubic yards and has a permitted remaining capacity of 33.1 million cubic yards (53 percent capacity). Pursuant to the 2005 GPU EIR, build out of the City under the 2005 General Plan projections would generate a solid waste disposal quantity of 274,063 tons, after which there would be 26.2 million tons of remaining landfill capacity. Because there is existing capacity for solid waste, a cumulatively significant cumulative impact is not present.

The SEIR determined that the cumulative projects, including the proposed Project, would generate 35,447 tons per year, of which the proposed project would contribute 21,500 tons. The Otay Landfill has sufficient capacity to accommodate this increased waste disposal in combination with the City-wide cumulative increase in solid waste generation projected in the 2005 GPU EIR. The Otay Landfill is scheduled to close in 2028. However, an existing agreement will permit waste from the City to be transferred to the Sycamore Canyon Landfill upon the closing of the Otay Landfill. There would be no interruption of service (City of Chula Vista 2013). Additionally, the Public Facilities and Services Element and Environmental Element of the General Plan contain objectives intended to encourage the reduction of waste generation and ensure the efficient

handling of wastes. Cumulative development, including the proposed Project, would not result in a cumulatively significant impact to solid waste.

D. Energy

The UID's contribution to cumulative impacts on energy uses was included in the 2013 GPA/GDPA SEIR and no cumulative energy analysis was included in the 2001 EastLake III SEIR. The cumulative assessment of the impacts in the 2013 SEIR relies on the 2005 GPU EIR, which concluded that cumulative impacts associated with energy use were significant and unavoidable due to the lack of assurance that resources would be available to adequately serve the projected increase in population. As a result, cumulative impacts related to energy are considered to be significant. As discussed in Section 5.15, implementation of the UID SPA Plan would not result in an increased consumption of electricity and natural gas due to the incorporation of net zero efficiency standards. Because there would be no contribution by the proposed Project to cumulative energy consumption, the Project's contribution to a significant cumulative energy impact would not be cumulatively considerable.

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7.0 GROWTH INDUCEMENT

Under CEQA Guidelines Section 15126.2(d), a project is defined as growth inducing when it directly or indirectly:

- Fosters economic growth, population growth, or the construction of additional housing in the surrounding environment;
- Removes obstacles to population growth;
- Taxes existing public facilities and services; and/or
- Encourages or facilitates other activities that could significantly affect the environments, either individually or cumulatively.

Growth inducement is generally dependent on the presence or lack of existing utilities and municipal or public services. The provision of services and utilities in a non-serviced area can induce growth between newly serviced areas and the community from which the facilities are obtained. In addition, growth inducement can also be defined as growth that makes it more feasible to increase the density of development in surrounding areas.

7.1 GROWTH INDUCEMENT DUE TO POPULATION GROWTH

The Project consists of the development of a mixed-use university campus that would accommodate a population of approximately 34,000 people. The Chula Vista Growth Management Plan calls for directing growth in and around the City in an orderly fashion, to avoid "leapfrog" development, to protect and serve the city's amenities, and to guide growth in a general west to east direction. The General Plan and Otay Ranch GDP, as amended, includes the 10,066,200 square feet of development proposed in the UID SPA Plan in its growth forecasts for Otay Ranch. Therefore, the Project is accommodating growth that is already projected to occur in the City.

Implementation of the UID SPA Plan would allow the development of a mixed-use university site within an existing undeveloped area. The UID SPA Plan includes a regulating plan, development regulations, and design guidelines to ensure that development is facilitated in a comprehensive and coordinated manner. The development proposed for the UID would result in a mixed-use community of academic/university, commercial, retail, residential, and recreational development.

Implementation of the UID SPA Plan would not represent "leapfrog" development. The site is surrounded to by developed land or land planned for development by the General Plan and Otay Ranch GDP. Village 9, to the west of the UID, and Village 10, to the south of the UID are currently undeveloped but are planned for development under the General Plan and GDP. The Millenia development to the north of the UID site is currently under development and Village 11 (north of the UID) is currently developed with residential development. The open space south of the site is known as the Otay River Valley and is part of the Chula Vista MSCP Subarea, the Otay River Valley Regional Park, and the Otay Ranch Preserve. The project would not facilitate growth in the area of the city that is not planned for residential growth or that was projected to remain vacant. Therefore, consistent with the conclusions of the 2013 GPA/GDPA SEIR and the 2001

EastLake III SEIR (01-01), implementation of the UID SPA Plan would not result in a significant growth inducement impact associated with population, and would actually accommodate projected growth in the City.

7.2 GROWTH INDUCEMENT DUE TO REMOVAL OF OBSTACLES TO POPULATION GROWTH

Implementation of the project includes public infrastructure improvements that would support development in the UID, such as water, sewer, and drainage pipelines, and new transportation facilities. These improvements would not open up new areas to development because on-site infrastructure would be sized to serve the UID and development planned for in the General Plan and GDP. Infrastructure would not include excess capacity that would allow for additional unplanned development. The mitigation measure identified in Section 5.15, *Public Utilities*, would ensure that public utilities would be provided concurrently with development. Therefore, consistent with the conclusions of the 2013 GPA/GDPA SEIR and 2001 EastLake III SEIR (01-01), implementation of the UID SPA Plan would not result in significant growth inducement associated with removal of obstacles to population growth as necessary.

7.3 GROWTH INDUCEMENT DUE TO ECONOMIC GROWTH

The Project would generate direct and indirect population growth and employment opportunities through the construction of housing and non-residential land uses. As people choose to live within the Project area rather than elsewhere in the San Diego region, a potential for economic growth would evolve. The Project would accommodate economic growth within the development by providing services and employment opportunities to support its residents. The increased population of the area would further foster economic growth by increasing demand for local retail and stimulating employment opportunities. The economic growth of the Project area would not be considered growth-inducing because the project includes mixed-use development that would provide a balance between jobs and housing. The proposed UID SPA Plan includes several different housing options, as well as a variety of retail, commercial, and office space opportunities to provide employment options. Additionally, the Project site is located adjacent to the Millenia development which would support a balance of jobs and housing in the area. Therefore, consistent with the conclusion of the 2013 GPA/GDPA SEIR and 2001 EastLake III SEIR (01-01), implementation of the SPA Plan would not result in significant growth inducement associated with economic growth.

7.4 GROWTH INDUCEMENT DUE TO CONSTRUCTION OF ADDITIONAL HOUSING

The UID SPA Plan anticipates housing up to 5,400 students and 6,000 non-students within 2,000 market-rate units. Residences developed in the UID would be new homes on currently vacant land that are envisioned by and consistent with the General Plan and GDP, as amended. Implementation of the Project would accommodate an already projected increase in population. By adding new residents, the number of potential consumers would increase, resulting in the need for additional commercial services. The Project is a mixed-use plan, the intention of which is to provide opportunities for both homes and employment. Residential growth in the UID would not induce additional growth beyond what is proposed for the Otay Ranch area because it provides mixed-use

development that complements land uses proposed for the surrounding villages. Therefore, consistent with the conclusion of the 2013 GPA/GDPA SEIR and 2001 EastLake III SEIR (01-01), the Project would not be growth-inducing with respect to the construction of additional housing due to the fact that the UID SPA Plan includes planned commercial growth in the area to support residential development and provides employment opportunities.

7.5 TAXATION OF EXISTING PUBLIC FACILITIES AND SERVICES

As discussed in Section 5.9, *Public Services*, and Section 5.15, *Public Utilities*, mitigation measures have been identified specifically regarding fire and police protection services and wastewater facilities would ensure that the Project would meet the requirements of the Growth Management Plan. The PFFP implements the Chula Vista Growth Management Program and Ordinance. The intent of the limited PFFP is to ensure that the phased development of the Project is consistent with the overall goals and policies of the Chula Vista General Plan, Growth Management Program, and the Otay Ranch GDP. The limited PFFP ensures that development of the UID will not adversely impact the city's quality of life standards by requiring public facilities and services concurrent with demand.

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8.0 SIGNIFICANT UNAVOIDABLE ENVIRONMENTAL EFFECTS/ IRREVERSIBLE CHANGES

CEQA Guidelines Section 15126.2 (b) and (c) require that the significant, unavoidable impacts of the Project, as well as any significant irreversible environmental changes that would result from Project implementation, be addressed in the EIR.

8.1 SIGNIFICANT ENVIRONMENTAL EFFECTS WHICH CANNOT BE AVOIDED IF THE PROJECT IS IMPLEMENTED

In accordance with CEQA Guidelines Section 15126.2 (b), any significant unavoidable impacts of a project, including those impacts that can be mitigated but not reduced to below a level of significance despite the applicant's willingness to implement all feasible mitigation measures, must be identified. Implementation of the Project would result in impacts associated with aesthetics (Impacts 5.2-1 and 5.2-2; direct and cumulative alteration of scenic views, visual character, and cumulative loss of views of open space), air quality (Impacts 5.4-2 and 5.4-3; direct violation of air quality standards for criteria pollutants VOCs, NO_X, CO, and PM_{10} related to operational and long-term emissions), cultural and paleontological resources (Impacts 5.7-1, 5.7-2, and 5.7-3); agriculture (Impact 5.12-1a; direct and cumulative loss of agricultural resources), and utilities (Impact 5.15.2-2; direct and cumulative impacts on wastewater) which are significant and unavoidable. All other significant impacts identified in Chapters 5.0 and 6.0 of this EIR are determined to be less than significant or can be reduced to below a level of significance with the mitigation measures identified.

8.2 IRREVERSIBLE ENVIRONMENTAL CHANGES WHICH WOULD RESULT IF THE PROJECT IS IMPLEMENTED

CEQA Guidelines Section 15126.2(c) indicates that:

> "[u]ses of non-renewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or non-use 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 Project would necessarily consume limited, slowly renewable and non-renewable resources. This consumption would occur during the construction phase of the project and would continue throughout its operational lifetime. The Project would require a commitment of resources that would include: (1) building materials, (2) fuel and operational materials/ resources, and (3) the transportation of goods and people to and from the UID.

Construction of the Project 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.

The resources that would be committed during operation of the Project would include potable water for drinking, showering/bathing, washing laundry/dishes, and flushing toilets, water for irrigation, and fossil fuels for electricity, natural gas, and transportation. Fossil fuels would represent the primary energy source associated with both construction and ongoing operation of the project, and the existing, finite supplies of these natural resources would be incrementally reduced. However, the UID SPA Plan includes a Non-Renewable Energy Conservation Plan that identifies feasible methods to reduce the consumption of non-renewable energy resources. Measures identified in the plan where reductions in non-renewable energy use may occur include transportation, building design, lighting, recycling, and alternative energy sources. Additionally, the SPA Plan includes a Water Conservation Plan (WCP) that includes water reduction measures for residential and non-residential land uses that would reduce water use. The Non-Renewable Energy Conservation Plan and WCP are described in detail in Section 5.10, *Global Climate Change*, and Section 5.15, *Public Utilities*. Mitigation measures in Section 5.10 also include requirements for reducing vehicle miles travelled and promoting energy efficiency, use of reclaimed water, and natural gas fireplaces.

The Project would involve an unquantifiable, but limited, use of potentially hazardous materials typical of residential, office and commercial uses, including cleaning solvents, fertilizers and/or pesticides for landscaping. These materials would be contained, stored, and used on site in accordance with manufacturers' instructions, applicable standards and regulations. Compliance with regulations would serve to protect against a significant and irreversible environmental change that could result from the accidental release of hazardous materials.

The UID site has historically been used for agricultural uses and development on the site would contribute to the incremental and cumulative loss of agricultural lands (Farmland of Local Importance). This would be an irreversible consequence of converting the site to urban uses. However, this site has been envisioned as part of the adopted Otay Ranch GDP to serve as an Urban Village and University to provide a mix of residential, commercial, and educational uses. No additional loss of agricultural land would occur beyond what was planned for in the GDP.

In summary, construction and operation of the project would result in the irretrievable commitment of limited, slowly renewable, and non-renewable resources, which would limit the availability of these particular resources for future generations or for other uses during the life of the project. However, the UID SPA Plan includes requirements for future development so that continued use of such resources would be of a relatively small scale compared to similar development. Additionally, the Project would accommodate growth forecasted for the Otay Ranch area. The loss of such resources would not be highly accelerated when compared to existing conditions and growth projections for the City of Chula Vista. Therefore, although irretrievable commitment of resources would result from the project, such changes would be considered less than significant.

9.0 EFFECTS FOUND NOT TO BE SIGNIFICANT

Based on Appendix G of the CEQA Guidelines, which provides a checklist questionnaire by which potential environmental effects can be identified, the NOP did not indicate that the proposed project would result in a potentially significant environmental impact to mineral resources. Because impacts to mineral resources have been determined to not be significant, they are not addressed in the environmental analysis of the EIR (Chapter 5.0). A short summary of mineral resources is provided below.

9.1 MINERAL RESOURCES

Mineral resources of economic value on the Otay Ranch have included sand, gravel, crushed rock (collectively known as construction aggregate), and bentonitic clay. These mineral resources are important to the construction industry. The Project site is not designated as a locally important mineral resource site in the city of Chula Vista, and these mineral resources do not occur within the SPA Plan area in sufficient quantities to be considered a valuable source. Areas containing significant mineral resources have been classified as regionally significant aggregate resource areas (MRZ-2), as depicted in Figure 16-1 of the 2005 GPU EIR, Regionally Significant MRZ-2 Aggregate Resource Areas. The area designated MRZ-2 is located south of the project site in the Otay River valley and extends to the west and east. It includes the southern portion of Village 8 West and the existing Otay Valley Rock Quarry. Development in the UID would not preclude extraction of mineral resources in areas potentially containing valuable mineral resources south of the site. As such, Project implementation would not result in significant impacts to mineral resources.

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10.0 ALTERNATIVES

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

Implementation of the SPA Plan has been evaluated for significant direct and/or cumulative environmental impacts in Chapter 5.0, *Environmental Impact Analysis,* and Chapter 6.0, *Cumulative Impacts*. Significant direct and/or cumulative impacts have been identified for the following issues, prior to mitigation: land use compatibility, aesthetics/landform modification, transportation/traffic, air quality, noise, biological resources, cultural resources, geology/soils, public services, global climate change, hydrology and water quality, agricultural resources, hazards and hazardous materials, and utilities and service systems.

Mitigation measures have been identified that would reduce all direct and cumulative impacts to below a level of significance, with the exception of aesthetics (Impacts 5.2-1 and 5.2-2; direct and cumulative modification of scenic vistas and visual character or quality, and cumulative loss of views of open space), air quality (Impact 5.4-2 and 5.4-3; direct and cumulative conflict with air quality plans and violation of air quality standards), agricultural resources (Impact 5.12-1a; direct and cumulative conversion of agricultural resources), cultural resources (cumulative impacts to unknown archaeological resources and human remains), and utilities (Impact 5.15.2-2; impacts related to wastewater).

In developing the alternatives to be addressed in this chapter, consideration was given to the ability to meet the basic objectives of the Project and eliminate or substantially reduce the identified significant environmental impacts. The SPA Plan identifies the Project objectives that would implement the Otay Ranch GDP vision for the UID as indicated below:

1. Provide higher education opportunities for City residents and the broader San Diego-Tijuana region, serving the shifting demographics of the San Diego region, and the United States in general.

2. Prepare students for post-university careers that allow for lasting personal and professional growth.

3. Develop into a financially viable university entity that incorporates the newest educational delivery models.

4. Attract a wide range of educational, research, and industry partners regionally, nationally, and internationally.

5. Assist in developing creative solutions to critical environmental, social, and economic issues facing the world and the community.

6. Serve as an economic engine that contributes to the growth of the City and region, thereby enhancing the quality of life for South Bay residents.

7. Provide a source of high-quality jobs and contribute to diversifying the City's economy.

8. Become an integral part of the fabric of the community, fostering arts and cultural enrichment for residents of the City and the region.

9. Develop a flexible campus that allows for on-going growth and innovation, is physically well integrated and connected to the surrounding neighborhood and region.

10. Maximize accessibility to the campus by providing multi-modal streets, access to transit and trails, and amenities that support and encourage alternative modes.

Two alternatives have been selected for the UID, and include:

- No Project (No Build) Alternative
- Reduced Project Alternative

A summary of the buildout potential for the reduced project alternative compared to the proposed UID SPA Plan is shown in Table 10-1, *Alternative Land Use Comparison*.

Table 10-1 ALTERNATIVE LAND USE COMPARISON

Transect/Sector	Maximum Gross Square Footage (GSF)	
	Proposed Project	Reduced Project
T-6: Gateway District	2,098,000	1,049,000
T-5: Urban Core	2,757,700	1,378,850
T-4: Town Center	2,929,900	1,464,950
T-3: Campus Commons	1,642,400	821,200
T-2: Campus Vistas	575,600	287,800
T-1: Future Development	--[1]	--[1]
SD: Lake Blocks	47,600	23,800
O-3: Pedestrian Walk	N/A	N/A
O-2: Common Space	15,000	7,500
O-1: Habitat Conservation	0	0
TOTAL	10,066,200	5,033,100

[1] Development is encouraged to be focused in Transects T-2 through T-6; a maximum of 10 percent of the total developed gross square footage within the other transects may be permitted within Transect T-1 (subject to Design Review and approval by the City Council.

Alternatives considered but eliminated from further analysis are identified in Section 10.1 below. An analysis of the alternatives to the Project is presented in Sections 10.2 and 10.3. Each subject area included in Chapter 5.0 has been evaluated under each alternative. A concluding Section 10.4 provides a summary of the comparative assessment and a discussion of the alternatives' ability to meet the Project objectives.

As required under Section 15126.6(e)(2) of the CEQA Guidelines, an EIR must identify the environmentally superior alternative. Pursuant to the CEQA Guidelines, if the No Project Alternative is determined to be the most environmentally superior project, then another alternative among the alternatives evaluated must be identified as the environmentally superior project. Section 10.5 identifies the Environmentally Superior Alternative.

10.1 ALTERNATIVES CONSIDERED BUT ELIMINATED FROM FURTHER ANALYSIS

An alternative to the Project that was considered but eliminated from further analysis included the development of the UID SPA Plan at another location. This was determined to be infeasible because the City owns the UID site, and the goal of the Project is to complete the vision of the Otay Ranch GDP with a university project on the UID SPA Plan site, which could only be accomplished at the current Project location.

10.2 NO PROJECT (NO BUILD) ALTERNATIVE

CEQA Guidelines Section 15126.6 (e)(3)(B) states that the No Project (No Build) Alternative is "a circumstance under which a project does not proceed" and considers the environmental effects of the property remaining in its existing state. The No Project (No Build) Alternative assumes that no SPA Plan would be developed for the UID and that no construction would occur within the Project area; therefore, the Project site would remain in its current condition. The potential impacts of this alternative are compared to the proposed Project below.

It is noted that there are typical two types of "No Project" Alternatives, including the "No Project (No Build)" Alternative (which is analyzed in this section) and the "No Project (Existing Land Use and Zoning Designations)" Alternative. The latter alternative is typically used to evaluate what could potentially be developed on a project site if the land uses and/or zoning designations in the project site were to remain unchanged. The "No Project (Existing Land Use and Zoning Designations)" Alternative is not applicable here because the Project site is designated for development as a university site per the Chula Vista General Plan and the Otay Ranch GDP. In addition, the Project site cannot be developed without an approved SPA Plan; i.e., development would not be allowed to occur on the Project site if the current UID SPA Plan is not approved and another SPA Plan would be required to permit development of the site. Therefore, this EIR only analyzes the No Project (No Build) Alternative.

A. Land Use

Similar to the Project, the No Project (No Build) Alternative would result in a less than significant impact related to physical division of an established community because no community exists on site and the undeveloped area would be compatible with surrounding land uses. If the site were to remain undeveloped, open rolling hills would be retained, maintaining the existing character of the Project site. Similar to the Project, the No Project (No Build) Alternative would not conflict with the Chula Vista MSCP Subarea Plan and the Otay Ranch RMP because the site would remain open space and would not include any land uses that would conflict with these resource plans. However, the No Project (No Build) Alternative would conflict with the General Plan and GDP because it would not implement the development envisioned for the UID in these documents. For example,

this alternative would conflict with Objective LUT 86 of the Chula Vista General Plan Land Use and Transportation Element, which promotes the development of integrated, high-intensity urban uses; office and business parks; retail centers; residential uses; and a major higher educational institution along the SR-125 corridor to serve the East Planning Area and the broader south county region. The No Project (No Build) Alternative would not develop any of these uses and would remain inconsistent with the vision for the area as outlined in the Chula Vista General Plan. Impacts under the No Project (No Build) Alternative related to consistency with plans would be greater when compared to the Project.

B. Aesthetics/Landform Modification

The No Project (No Build) Alternative would avoid impacts related to scenic vistas, scenic roadways, visual character or quality, lighting and glare, sensitive landforms, and steep slopes compared to the Project. Under this alternative, the views and character of the site would remain unchanged. Additionally, no new sources of light, glare, or shading would be introduced. The Project's direct impacts on scenic vistas and visual character and quality, as well as the cumulatively considerable contribution to a significant aesthetic impact would be avoided. Impacts under this alternative would be reduced compared to the Project.

C. Transportation and Traffic

The No Project (No Build) Alternative would result in reduced direct impacts to traffic and level of service standards and congestion management compared to the Project because no new vehicular trips would be generated by this alternative. However, connections between villages would not be as strong if the UID is left vacant as it occurs under existing conditions. Specifically, north-south on-site roadways including the extension of Eastlake Parkway and Discovery Falls Drive would not occur under this alternative, which are planned to connect through the project site to Village 10. Also, east-west on-site roadways, such as Streets C, D, E, Campus Boulevard, and Streets H and I would not be built under this alternative, which would connect with Village 9 to the west. As a result, the lack of these street improvements would contribute to an increase in long-term cumulative traffic impacts. Also, while additional traffic from the Project site would not be added, regional and local traffic from other developed areas would be focused on fewer roadways and a potentially greater cumulative impact could occur compared to the Project.

Additionally, impacts related to emergency access and alternative transportation policies would be greater under this alternative because evacuation, emergency response, and alternative transportation facilities to adjacent development areas would not be enhanced under this alternative. No new points of access, trails, pathways, bicycle paths, or transit routes proposed for the UID would be developed. The No Project (No Build) Alternative would be inconsistent with General Plan polices to increase use of alternative modes of transportation. For example, Objective LUT 17 in the Land Use and Transportation Element is to plan and coordinate development to be compatible and supportive of planned transit. The No Project (No Build) Alternative would conflict with planned transit routes for the Otay Ranch area.

The No Project (No Build) Alternative would result in no impacts to air traffic patterns compared to the Project because no development would occur and no notification in compliance with the Brown Field ALUCP would be required.

No roadways would be constructed under this alternative; therefore, impacts related to safety hazards would be less than significant, similar to the Project.

In summary, when compared to the Project, the No Project (No Build) Alternative would result in some reduced and some increased traffic-related impacts.

D. Air Quality

The No Project (No Build) Alternative would avoid impacts related to air quality violations compared to the Project because no construction or operational emissions would result from this alternative. The significant and unavoidable impacts that would result from the Project related to long-term emissions of criteria pollutants (e.g., VOC, NO_X, CO, SO_X, PM_{10}, and $PM_{2.5}$) would be avoided. Impacts related to sensitive receptors would also be avoided because no new potential toxic air contaminant sources or sensitive receptors would be developed in the UID. The No Project (No Build) Alternative would result in no impact related to consistency with the RAQS and SIP because no new criteria air pollutant emissions or growth would occur under this alternative; however, the Project would not be inconsistent with the RAQS and SIP. The significant and unavoidable cumulative air quality impacts that would result from the Project would be avoided. Similar to the Project, the No Project (No Build) Alternative would result in less than significant impacts related to consistency with General Plan air quality policies.

E. Noise

The No Project (No Build) Alternative would avoid impacts related to excessive noise levels compared to the Project because no new noise sources or sensitive receptors would be developed in the UID, and no traffic would be generated on site. The Project's impacts related to ground-borne vibration and temporary increase in ambient noise would not occur under the No Project (No Build) Alternative because no construction would occur. The No Project (No Build) Alternative would not contribute to any perceived increase in ambient noise levels. Similar to the Project, the No Project (No Build) Alternative would result in less than significant impacts related to aircraft noise and consistency with General Plan noise policies.

F. Biological Resources

The No Project (No Build) Alternative would not result in any impacts related to special status plant and wildlife species, riparian habitat, and other sensitive natural communities, federally protected wetlands, and consistency with the MSCP and RMP because no development would occur. No direct or indirect impacts to biological resources would occur. Less than significant impacts related to wildlife movement corridors and nursery sites would also be avoided. This alternative would avoid impacts to biological resources that would occur under the Project.

G. Cultural and Paleontological Resources

Similar to the Project, there would be no impacts related to historical resources on site because no historical resources are located in the UID site. Potentially significant direct and cumulative impacts related to archaeological resources, human remains, and paleontological resources would be avoided under this alternative because no earth-disturbing construction activities would occur.

However, the potential benefit of discovery of scientific information about the natural history in southwestern San Diego County would not occur under this alternative.

H. Geology and Soils

The No Project (No Build) Alternative would avoid potentially significant impacts related to exposure to seismic related hazards, soil stability, and expansive soils that would occur under the Project because no development would occur. Potentially significant impacts related to soil erosion and topsoil loss would also be avoided compared to the Project because no site preparation activities or alteration of drainage patterns would occur. Similar to the Project, the No Project (No Build) Alternative would not require any septic tanks or alternative wastewater disposal systems.

I. Public Services

The No Project (No Build) Alternative would not result in any impacts to fire and emergency medical services, schools, libraries, or parks and recreation because no increase in demand for these services would occur under this alternative; therefore, the ability to meet the City's services standards would not be affected. Impacts related to schools siting would be similar compared to the Project because no new schools would be needed or developed; therefore, no additional impacts to schools would occur under the Project when compared to this alternative.

J. Global Climate Change

The No Project (No Build) Alternative would not result in any impact related to GHG and compliance with AB 32 because no construction or operation emissions of GHGs would occur under this alternative.

K. Hydrology and Water Quality

The No Project (No Build) Alternative would not result in any impacts related to water quality standards, erosion and siltation, surface runoff, drainage capacity, and water quality degradation compared to the Project because no changes to the existing drainage pattern would occur, and no construction or development activities would take place that would generative pollutants. Similar to the Project, this alternative would not interfere with groundwater supplies and recharge, place housing or structures within a 100-year flood hazard boundary, expose people or structures to significant risk of loss from flooding, or result in an increased risk of exposure to inundation by seiche, tsunami, or mudflow.

L. Agricultural Resources

The direct and cumulative significant and unavoidable impact related to conversion of agricultural resources would not occur under this alternative because no development would be implemented on the site, and no potential agricultural land would be converted to non-agricultural use. Potentially significant impacts related to land use conflicts would be avoided because no development would occur on site.

M. Hazards and Hazardous Materials

No development would occur under this alternative; therefore, no hazardous materials would be transported, used, or disposed of for construction or operation. The less-than-significant impacts related to the accidental release of hazardous materials, hazards to schools, and historic use of pesticides under the Project would be avoided because no ground disturbing activities with the potential to disturb contaminated soil would occur, and no new schools would be developed. Less than significant impacts related to wildland fire would be avoided because no new development would occur. A Fire Protection Plan would not be required. The potential for a wildland fire on the project would still exist, but the No Project Alternative would not expose any new structures or people to fire risks.

Similar to the Project, impacts related to listed hazardous sites would not occur. The No Project (No Build) Alternative would not result in any impacts related to airport hazards compared to the Project because no development would occur. Impacts related to emergency response and evacuation plans would be greater under this alternative because the circulation system would not be constructed through the site thereby hindering emergency response to the area. There would be no need for evacuation from the site in case of any emergency, as no residents would be located in the UID site.

N. Housing and Population

No impacts related to population growth would occur under this alternative because no residential or economic growth would occur and no infrastructure would be installed. Also similar to the Project, the No Project (No Build) Alternative would not displace any housing or people.

O. Utilities

The No Project (No Build) Alternative would not result in any impacts related to water, wastewater treatment, solid waste, and recycled water compared to the Project because no development, and therefore no demand for services, would occur. The No Project (No Build) Alternative and the proposed Project would both result in no net increases in energy use.

10.3 REDUCED PROJECT ALTERNATIVE

As shown in Table 10-1, the Reduced Project Alternative would include about half of the development proposed within the UID SPA Plan under the proposed Project. This alternative was derived from the intention to provide a less dense approach to development in the SPA Plan area and to consider environmental impacts at a reduced density when compared to the Project. This alternative reduces all development by approximately 50 percent. As such, a maximum of 5,033,100 square feet of development would occur under this alternative, compared to 10,066,200 square feet under the Project.

A. Land Use

Similar to the Project, the Reduced Project Alternative would result in a less than significant impact related to physical division of an established community because no community exists on site, and the proposed land uses would be compatible with surrounding planned land uses. Similar to the

Project, the Reduced Project Alternative would not conflict with applicable land use plans, the Chula Vista MSCP Subarea Plan, or the Otay Ranch RMP as this alternative would propose similar development areas as the proposed project, would include a Preserve Edge Plan, and would not include any land uses that conflict with these resource plans.

However, the Reduced Project Alternative would result in a significant impact related to consistency with the GDP and Chula Vista General Plan because this alternative would not implement the objectives and policies envisioned for the development in the UID described in the General Plan and GDP. For example, this alternative would conflict with Objective LUT 86 of the Chula Vista General Plan Land Use and Transportation Element, which is the development of integrated, high-intensity urban uses; office and business parks; retail centers; residential uses; and a major higher educational institution along the SR-125 corridor to serve the East Planning Area and the broader South County region. The Reduced Project Alternative proposes residential and mixed-use development to support the University uses envisioned on the site, but not the extent planned for in the General Plan and GDP. Therefore, this alternative would result in an additional land use impact compared to the Project.

B. Aesthetics/Landform Modification

Similar to the Project, the Reduced Project Alternative would result in less than significant impacts related to scenic roadways and steep slopes. This alternative would result in similar grading because the development areas would be similar. Although densities would be reduced, similar land uses would be developed across the UID project site. Similar to the Project, implementation of the design guidelines in the SPA Plan would reduce direct impacts to a less than significant level. However, significant direct and cumulatively considerable impacts related to scenic vistas, visual character, and loss of rolling hills would be significant and unavoidable under this alternative, similar to the Project because loss of open rolling hills would still occur. Significant impacts related to lighting and glare, including shading, would also occur under this alternative, but would be reduced because this alternative would result in fewer high-rise buildings associated with the reduced amount of development.

C. Transportation and Traffic

The Reduced Project Alternative would result in reduced direct and cumulative impacts to traffic and level of service standards and congestion management compared to the Project because approximately half of the vehicular trips would be generated by this alternative: 25,821 ADT compared to 51,642 ADT under the UID as proposed, based on the trip generation rates utilized in the traffic impact analysis. This alternative assumes an internal capture rate similar to the internal capture rate of the project because the Reduced Project Alternative would continue to provide a mixed-use community of academic/university, commercial, retail, residential, and recreational development.

This alternative would also result in the development of the same transportation network as proposed under the Project; however, half of the anticipated equivalent dwelling units are anticipated at buildout under this alternative, or 2,582 EDU compared to 5,164 EDU. As a result, mitigation measures identified in 2025 and 2030 would not apply as their triggers are 3,565 and 5,164 EDU, respectively, neither of which would be reached under this alternative. All other

impacts would likely occur under this alternative and their associated mitigation measures would be required.

This alternative would result in a similar maximum number of daily construction trips compared to the Project because similar construction activities would be required; however, the length of construction and the associated temporary increase in trips would be reduced because less construction would occur. Similar to the Project, the mitigation measures that would be implemented for this alternative's operational impacts would also reduce temporary construction impacts to a less than significant level.

Impacts related to emergency access, road safety, and transportation policies would be less than significant under this alternative, similar to the Project, because the circulation system proposed for the UID would also be implemented under the Reduced Project Alternative. The extensions of roadways within the UID site that connect to surrounding villages, such as Discovery Falls Drive, Eastlake Parkway, and Campus Boulevard would provide additional points of access to the surrounding regional circulation system, and ultimately major evacuation routes such as SR-125.

The proposed trails, pathways, bicycle trails, and transit routes proposed for the UID especially along Campus Drive, Eastlake Parkway, and Innovation Drive would provide important pedestrian, bicycle, and transit connections between villages in Otay Ranch. The Reduced Project Alternative would also result in similar impacts to air traffic patterns compared to the Project because the same maximum building heights would be allowed under this alternative. ~~FAA notification would be required to reduce impacts to a less than significant level.~~

D. Air Quality

The Reduced Project Alternative would result in reduced impacts related to air quality violations compared to the Project because fewer construction and operational emissions would result from this alternative. This alternative would result in similar construction activities and associated emissions from grading, paving, and underground utility installation; however, because fewer structures would be constructed, building construction and coating emissions would be reduced. Operational emissions would be reduced and some impacts would be avoided when compared to the Project. Similar to the Project, cumulative construction emissions would remain cumulatively considerable and unavoidable under this alternative due to the amount of grading required.

Regarding operational emissions in 2030, impacts under this alternative would likely remain significant and unavoidable for VOC and NO_X due to the exceedances anticipated by the Project. While this alternative would result in half of the anticipated development analyzed under the Project, the Project's anticipated emissions are to a degree that would not avoid a significant long-term cumulative impact. For instance, project-related emissions of VOCs in the long-term would exceed the threshold by more than five times and emissions of NO_X would exceed the threshold by more than three times. Reducing the Project by half is not expected to reduce the long-term VOC emissions to a less than significant level. Project-related impacts to CO and PM_{10}; however, would likely be avoided under the Reduced Project Alternative, as their exceedances in the proposed Project scenario are less than twice the allowed amount. Similar to the Project, exceedances for SO_X and $PM_{2.5}$ would not occur. However, long-term emissions would still exceed

regional thresholds in 2030 and would be cumulatively considerable and unavoidable under this alternative, similar to the Project.

The Reduced Project Alternative would not exceed the RAQS growth assumption for the UID. However, this alternative would still result in new significant and unavoidable criteria pollutant emissions. Cumulative impacts would remain significant and unavoidable, similar to the Project. Less than significant impacts related to consistency with General Plan air quality policies would be similar to the Project under the Reduced Project Alternative.

E. Noise

The Reduced Project Alternative would result in reduced direct and cumulative impacts related to exposure of on-site receptors to excessive noise levels compared to the Project because less traffic would result in lower noise levels within the UID. However, due to cumulative increases in traffic, including the Reduced Project Alternative trips, substantial traffic noise would still be generated by the on-site roadways. NSLU would still be proposed in Transects T-3A, T-3B, T-6A, T-6B, T-6D, T-6E, and the SD: Flex Overlay. The mitigation measures required for the Project would also be required for the Reduced Project Alternative.

Less than significant impacts related to ground-borne vibration and temporary increases in ambient noise would be similar to the Project under the Reduced Project Alternative because similar construction activities would occur. The Reduced Project Alternative would result in reduced impacts related to the substantial permanent increase in off-site ambient noise levels on off-site roads compared to the Project because fewer trips would be generated from the UID; however, impacts would remain less than significant under both the Project and this alternative. Less than significant impacts related to aircraft noise and consistency with General Plan noise policies would be similar to the Project under the Reduced Project Alternative.

F. Biological Resources

The Reduced Project Alternative would result in the same potentially significant but mitigable impacts related to special status plant and wildlife species, riparian habitat, and other sensitive natural communities, federally protected wetlands, and consistency with the MSCP and RMP compared to the Project because this alternative would have the same development footprint as the Project. The mitigation measures identified for the Project would also be required under this alternative.

G. Cultural and Paleontological Resources

Impacts related to historical resources would be less than significant under the Reduced Project Alternative, similar to the Project, because no historical resources are located in the UID site. Potentially significant impacts related to archaeological resources, human remains, and paleontological resources would be the same as the Project because this alternative would have the same development footprint as the Project and would require similar ground disturbing activities. The mitigation measures required for the Project would also be required for Reduced Project Alternative. Similar to the Project, even with implementation of these mitigation measures, the alternative's incremental contribution to impacts to unknown resources and human remains would

be cumulatively considerable and unavoidable due to the potential for discovery of these resources in the UID area.

H. Geology and Soils

The Reduced Project Alternative would result in the same potentially significant impacts related to exposure to seismic related hazards, soil stability, soil erosion and topsoil loss, and expansive soils that would occur under the Project because similar development would occur across the majority of the Project area. The mitigation measures identified for the Project would also be required for this alternative to implement the geotechnical recommendations and comply with applicable regulations. Impacts on geology and soils under the Reduced Project Alternative would be similar to the Project.

I. Public Services

The Reduced Project Alternative would result in reduced demand on fire and emergency medical services, schools, libraries, or parks and recreation compared to the Project; therefore, no additional impacts would occur under the Project when compared to this alternative.

J. Global Climate Change

The Reduced Project Alternative would result in less than significant impacts related to GHG emission and compliance with AB 32, similar to the Project. All proposed land uses would be reduced by half compared to the Project; and therefore, it is assumed that GHG emissions under this alternative would also be reduced by about half, when compared to the Project's emissions.

K. Hydrology and Water Quality

The Reduced Project Alternative would result in similar impacts related to water quality standards, erosion and siltation, surface runoff, drainage capacity, and water quality degradation compared to the Project. The Reduced Project Alternative has the same development footprint as the Project and would result in similar impacts to the existing drainage pattern, and similar construction and development activities would take place. Generation of pollutants during operation would be slightly reduced because less development would occur. Similar to the Project, mitigation would be required to reduce hydrology and water quality impacts to a less than significant level. Similar to the Project, this alternative would not interfere with groundwater supplies and recharge, place housing or structures within a 100-year flood hazard boundary, conflict with General Plan policies related to hydrology and water quality, expose people or structures to significant risk of loss from flooding, or result in an increased risk of exposure to inundation by seiche, tsunami, or mudflow.

L. Agricultural Resources

A significant and unavoidable direct and cumulative impact related to conversion of agricultural resources would occur under this alternative, similar to the Project, because this alternative would have the same development footprint as the Project and would result in the conversion of land to non-agricultural use. Similar to the Project, the Reduced Project Alternative would potentially result in land use conflicts without mitigation that requires implementation of an agricultural plan

to prevent land use conflicts. This alternative would not result in any conflict with agricultural policies and impacts would be less than significant.

M. Hazards and Hazardous Materials

Impacts related to transport, use, and disposal of hazardous materials would be similar to the Project under this alternative because similar land uses are proposed. Similar to the Project, impacts related to listed hazardous sites would be less than significant because no sites are listed within the UID boundaries.

The Reduced Project Alternative would result in similar impacts related to airport hazards compared to the Project because the same maximum building heights would be allowed, although this alternative emphasizes horizontal rather than vertical development. Impacts related to emergency response and evacuation plans would be similar under this alternative because the circulation network proposed for the UID would be fully implemented. Less than significant impacts related to wildland fire would be similar to the Project because similar development would occur along the edge of the Project area, and a Fire Protection Plan would be implemented. Similar to the Project, the Reduced Project Alternative would not conflict with any General Plan policies related to hazards and hazardous materials.

N. Housing and Population

Less than significant impacts related to population growth would be reduced under this alternative because less residential growth would occur. Similar to the Project, the Reduced Project Alternative would not displace any housing or people, or conflict with any General Plan housing and population policies.

O. Public Utilities

The Reduced Project Alternative would result in reduced demand for water, wastewater treatment, solid waste, and recycled water compared to the Project because less development would occur. Energy impacts would be similar under the Reduced Project Alterative and would result in no net increase in energy use. However, the mitigation measures identified for the Project to ensure provision of public utilities concurrent with development would also be required under this alternative. The significant and unavoidable impacts related to wastewater under the proposed Project would be reduced; however, the Reduced Project Alternative would still result in significant and unavoidable wastewater impacts.

10.4 FULFILLMENT OF PROJECT OBJECTIVES

This section provides a discussion of whether each alternative would meet the Project objectives. A summary comparison of the alternatives considered to the Project objectives is shown in Table 10-2, *Comparison of Consistency with Project Objectives*.

Table 10-2 COMPARISON OF CONSISTENCY WITH PROJECT OBJECTIVES

Objective	No Project (No Build) Alternative	Reduced Project Alternative
Provide higher education opportunities for Chula Vista residents and the broader San Diego-Tijuana region, serving the shifting demographics of the San Diego region, and the United States in general.	No	Yes
Prepare students for post-university careers that allow for lasting personal and professional growth.	No	Yes
Develop into a financially viable university entity that incorporates the newest educational delivery models.	No	Partially
Attract a wide range of educational, research, and industry partners regionally, nationally, and internationally.	No	Partially
Assist in developing creative solutions to critical environmental, social, and economic issues facing the world and the community.	No	Partially
Serve as an economic engine that contributes to the growth of the City and region, thereby enhancing the quality of life for South Bay residents.	No	Partially
Provide a source of high-quality jobs and contribute to diversifying the City's economy.	No	Partially
Become an integral part of the fabric of the community, fostering arts and cultural enrichment for residents of Chula Vista and the region.	No	Yes
Develop a flexible campus that allows for on-going growth and innovation, is physically well integrated and connected to the surrounding neighborhood and region.	No	Partially
Maximize accessibility to the campus by providing multi-modal streets, access to transit and trails, and amenities that support and encourage alternative modes.	No	Yes

10.4.1 No Project (No Build) Alternative

This alternative would not attain any of the 10 Project objectives because no SPA would be adopted and no development would be entitled on the Project site. Therefore, the No Project (No Build) Alternative would not accomplish any of the Project objectives.

Additionally, the No Project (No Build) Alternative would not meet the overall goals and objectives of the City for future growth as outlined in the City's General Plan and the GDP. The regional metropolitan planning organization, SANDAG, has projected a specific growth in population by 2050. If development is eliminated in the UID, the planned future growth would be accommodated elsewhere, potentially inducing unplanned growth in another area of the City. The City has also identified the proposed development of the UID site as necessary to support future development of a university and support BRT ridership east of SR-125.

10.4.2 Reduced Project Alternative

This alternative would attain four of the 10 Project objectives, and would partially attain the remaining six objectives. The Reduced Project Alternative would still provide higher education opportunities at the UID site and would therefore meet Objective 1. Objective 2 would also be met because while there would be approximately half of the amount of university-related spaces under this alternative, personal and professional growth would still occur with the reduced amount of university uses. This alternative would also meet Objective 8 because the development of a university site with a mix of commercial and residential uses would be unique to the area and would be a regional amenity unlike no other in the San Diego region. Lastly, Objective 10 would be met by this alternative because multi-modal streets and transit stops would be included, similar to the Project.

The Reduced Project Alternative would create a mixed-use area with urban and campus development, but these uses would be reduced by about half under this alternative. Because of the reduced size, the financially viability and ability to attract a wide range of students would be equally diminished, and as a result, the effectiveness and creativity of the university uses would also be reduced compared to the objectives contemplated for the UID SPA Plan. Also, the reduction of non-campus development would reduce the amount of potential jobs available to area residents, and the amount of high-quality jobs would be reduced by about half. The reduction of development under this alternative would also only partially meet the objective to allow flexibility for campus development. As a result, this alternative would only partially meet Objectives 3, 4, 5, 6, 7, and 9.

10.5 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

The No Project (No Build) Alternative would be the environmentally superior alternative, as it would entirely avoid the Project's significant and unavoidable impacts associated with aesthetics (direct loss of undeveloped character from a scenic vista, cumulative modification of visual character, and cumulative loss of views of open space), air quality (direct and cumulative conflict with air quality plans and violation of air quality standards), agricultural resources (direct and cumulative conversion of agricultural resources), cultural resources (cumulative impacts to unknown archaeological resources and human remains) and utilities (impacts related to wastewater). However, as the No Project (No Build) Alternative is determined to be environmentally superior, another environmentally superior alternative must be identified.

The Reduced Project Alternative is identified as the environmentally superior alternative as it would reduce significant air quality, noise, and traffic impacts. Table 10-3, *Summary of Alternative Impacts Compared to the Proposed Project*, provides a generalized summary comparison of the Project and the two Project alternatives.

Table 10-3 SUMMARY OF ALTERNATIVE IMPACTS COMPARED TO THE PROPOSED PROJECT

Issue Areas	Proposed Project		Alternatives	
	Without Mitigation	With Mitigation	No Project (No Build)	Reduced Project Alternative
5.1 Land Use and Planning				
Divide Established Community	LS	--	↓	O
Conflicts with Land Use Plans, Policies, and Regulations	PS	LS	↑	↑
Conflicts with HCPs or NCCPs	PS	LS	O	O
5.2 Aesthetics/Landform Modification				
Scenic Vistas	PS	SU	↓	O
Scenic Resources	LS	--	↓	O
Visual Character or Quality	PS	SU	↓	O
Lighting, Glare, and Shadow	PS	LS	↓	↓
Landform Modification	LS	--	↓	O
5.3 Transportation/Traffic				
Traffic and Level of Service Standards (Direct and Cumulative)	PS	LS	↓	↓
Congestion Management	PS	LS	↓	↓
Air Traffic Patterns	~~PS~~LS	LS	↓	O
Road Safety	LS	--	O	O
Emergency Access	LS	--	↑	O
Consistency with Transportation Policies	LS	--	O	O
5.4 Air Quality				
Air Quality Plans	LS	--	O	O
Air Quality Violations	PS	SU	↓	↓/SU
Cumulative Increase of Criteria Pollutants	PS	SU	↓	↓/SU
Sensitive Receptors	PS	LS	↓	↓/SU
Objectionable Odors	LS	--	↓	O
5.5 Noise				
Excessive Noise Levels	PS	LS	↓	↓
Excessive Ground-borne Vibration	PS	LS	↓	O
Permanent Increase in Ambient Noise Levels	LS	--	↓	↓
Temporary Increase in Ambient Noise Levels	PS	LS	↓	O
Aircraft Noise	LS	--	O	O
5.6 Biological Resources				
Sensitive Plant and Wildlife Species *Cumulative*	PS	LS	↓	O
Riparian Habitat and Sensitive Natural Communities	PS	LS	↓	O
Federally Protected Wetlands	PS	LS	↓	O
Wildlife Movement Corridors and Nursery Sites	LS	--	↓	O
Consistency with Local Policies, Ordinances, HCP, and NCCP	PS	LS	↓	O

Table 10-3 (cont.) SUMMARY OF ALTERNATIVE IMPACTS COMPARED TO THE PROPOSED PROJECT

Issue Areas	Proposed Project		Alternatives	
	Without Mitigation	With Mitigation	No Project (No Build)	Reduced Project Alternative
5.7 Cultural Resources				
Historical Resources	LS	--	O	O
Archaeological Resources	PS	LS/CSU	↓	O
Human Remains	PS	LS/CSU	↓	O
Paleontological Resources	PS	LS/CSU	↓	O
5.8 Geology and Soils				
Exposure to Seismic Related Hazards	PS	LS	↓	O
Soil Erosion or Topsoil Loss	PS	LS	↓	O
Slope Stability	PS	LS	↓	O
Expansive Soils	PS	LS	↓	O
Septic Tank/Wastewater Disposal Systems	LS	--	O	O
5.9 Public Services				
Fire and Medical Services	PS	LS	↓	↓
Police Services	PS	LS	↓	↓
Schools	PS	LS	↓	↓
Libraries	PS	LS	↓	↓
Parks, Recreation, Open Space, Trails	PS	LS	↓	↓
5.10 Global Climate Change				
GHG Emissions	~~PS~~LS	--	↓	↓
Plan Consistency	LS	--	↓	↓
5.11 Hydrology and Water Quality				
Water Quality Standards	PS	LS	↓	O
Groundwater Supplies and Recharge	LS	--	O	O
Erosion or Siltation	PS	LS	↓	O
Surface Runoff	PS	LS	↓	O
Exceed Drainage Capacity	PS	LS	↓	O
Degradation of Water Quality	PS	LS	↓	O
100-Year Flood Hazards	LS	--	O	O
Flooding	LS	--	O	O
Inundation	PS	LS	O	O
5.12 Agricultural Resources				
Direct Conversion of Agricultural Resources	PS	SU	↓	O
Zoning and Williamson Act Conflicts	LS	--	O	O
5.13 Hazards and Hazardous Materials				
Routine Transport of Hazardous Materials	LS	--	↓	O
Routine Use and Accidental Release of Hazardous Materials	PS	LS	↓	O
Hazards to Schools	PS	LS	↓	O
Existing Hazardous Materials Sites	PS	LS	O	O
Airport Hazards	PS	LS	↓	O
Emergency Response and Evacuation Plans	LS	--	↑	O
Wildland Fires	LS	--	↓	O

Table 10-3 (cont.) SUMMARY OF ALTERNATIVE IMPACTS COMPARED TO THE PROPOSED PROJECT

Issue Areas	Proposed Project		Alternatives	
	Without Mitigation	With Mitigation	No Project (No Build)	Reduced Project Alternative
5.14 Housing/Population				
Displacement of Housing and People	NI	--	O	O
5.15 Public Utilities				
Water	LS	--	↓	↓
Wastewater	PS	SU	↓	↓/SU
Solid Waste	LS	--	↓	↓
Recycled Water	LS	--	↓	↓
Energy	NI	--	O	O

Key:
↑ Alternative is likely to result in a greater impact when compared to the Project.
O Alternative is likely to result in a similar impact when compared to the Project.
↓ Alternative is likely to result in a reduced impact when compared to the Project.
LS = Less than Significant impact
NI = No Impact
PS = Potentially Significant
SU = Significant and Unavoidable
-- = no mitigation is required (because No Impact or Less than Significant impacts would occur prior to mitigation)
CSU = Cumulatively Significant and Unavoidable

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12.0 EIR PREPARATION

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