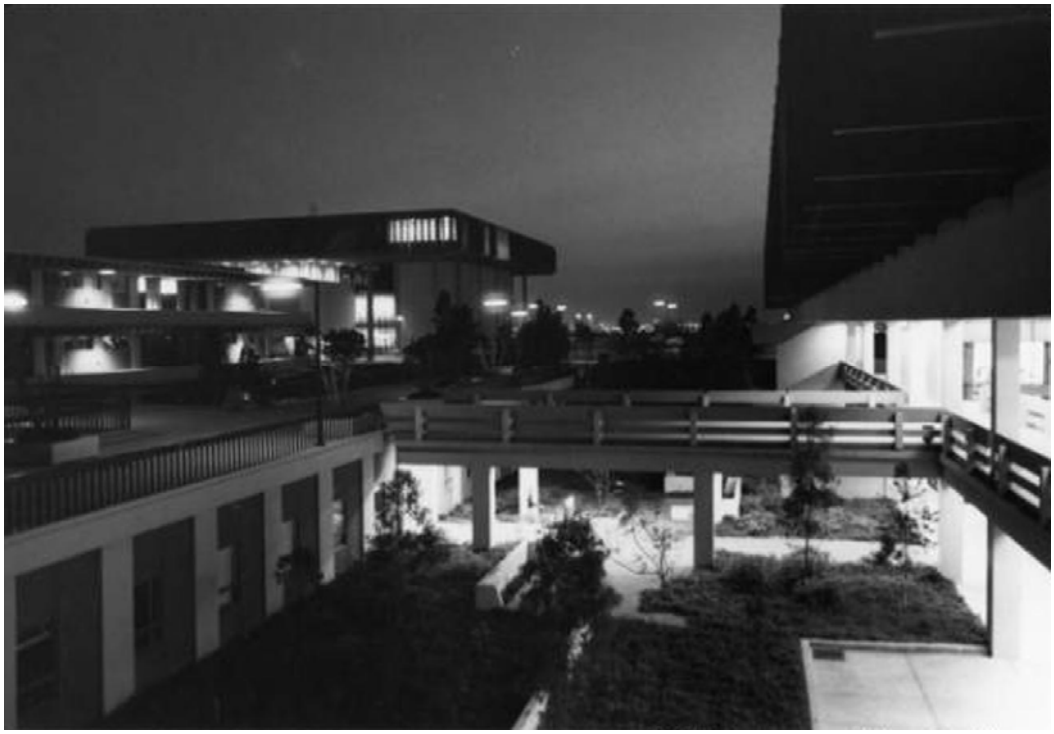
MASTER PLAN
CALIFORNIA STATE UNIVERSITY, DOMINGUEZ HILLS

Final Environmental Impact Report
State Clearinghouse Number 2007031129



Prepared for

The California State University

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PREFACE

This document constitutes the final environmental impact report (final EIR) for the California State University, Dominguez Hills (CSUDH) Master Plan. The body of this document contains the draft EIR, which was circulated for public review for 45 days, beginning November 19, 2007, and ending January 7, 2008. Chapter 8 of this final EIR includes written comments received on the draft EIR and responses to those comments. Changes and corrections to the text of Chapters 1 through 5 of the draft EIR in response to public comments are indicated in the body of the document by underline text for additions and ~~strikeout~~ for deletions.

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Acronyms

$\mu g/m^3$	micrograms per cubic meter
AB	Assembly Bill
ACBSP	Association of Collegiate Business Schools and Programs
ACM	asbestos-containing material
AFY	acre-feet per year
amsl	above mean sea level
AQMP	Air Quality Management Plan
ASI	Associated Students Inc.
AST	aboveground storage tanks
BART	Bay Area Rapid Transit
Basin	South Coast Air Basin
BAT	best available technology
BCT	best conventional pollutant control technology
bgs	below ground surface
BMPs	best management practices
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
Cal Water	California Water Service Company
Cal-EPA	California Environmental Protection Agency
Cal-OSHA	California Occupational Safety and Health Administration
Caltrans	California Department of Transportation
CAMS	California Academy of Mathematics
CARB	California Air Resources Board
CBC	California Building Code
CBOC	California Burrowing Owl Consortium
CC	Carson Circuit
CCAA	California Clean Air Act
Ccf	hundred cubic feet
CCR	California Code of Regulations
CDC/ITC	Child Development Center/Infant Toddler Center
CDFG	California Department of Fish and Game
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CH_4	methane
City	City of Carson
CMP	Congestion Management Program

CNEL	Community Noise Equivalent Level
CNNDB	California Natural Diversity Database
CNPS	California Native Plant Society
CO	carbon monoxide
COG	Council of Governments
Construction General Permit	General Permit for Discharges of Stormwater Associated with Construction Activity
CSMD	Consolidated Sewer Maintenance District
CSU	California State University
CSUDH	California State University, Dominguez Hills
CUSD	Compton Unified School District
CWA	Clean Water Act
D/C	demand-to-capacity
dB	decibels
dBA	A-weighted sound level
DDT	dichloro-diphenyl-trichloroethane
DNL or L_{dn}	day-night average sound level
DO	dissolved oxygen
DOF	Department of Finance
DOGGR	California Department of Conservation, Division of Oil, Gas, and Geothermal Resources
DPW	Los Angeles County Department of Public Works
DTSC	California Department of Toxic Substances Control
EB	eastbound
EBEP	Enclosed Bays and Estuaries Plan
ECP	Erosion Control Plan
EIR	environmental impact report
EPA	U.S. Environmental Protection Agency
EPD	Environmental Programs Division
L_{eq}	equivalent sound level
ESA	Endangered Species Act
F	Fahrenheit
FHWA-TNM®	Federal Highway Administration Traffic Noise Model
FTE	full time equivalent
GHG	greenhouse gas
gpd	gallons per day
GPS	global positioning system
gsf	gross square feet
HCD	Housing and Community Development
HDC	Home Depot Center
HMMH	Harris Miller Miller & Hanson, Inc.
HSWA	Hazardous and Solid Waste Act
HUD	Department of Housing and Urban Development
HWCL	California Hazardous Waste Control Law
Hz	hertz
I-110	Interstate 110
I-405	Interstate 405
I-710	Interstate 710
ISWP	Inland Surface Waters Plan
ITE	Institute of Transportation Engineers

JWPCP	Joint Water Pollution Control Plant
kW	kilowatt
kWh	kilowatt hours
LACM	Natural History Museum of Los Angeles County
LACOE	Los Angeles County Office of Education
LARWQCB	Los Angeles Regional Water Quality Control Board
LAUSD	Los Angeles Unified School District
LEED™	Leadership in Energy and Environmental Design
L_{max} and L_{min}	The root-mean-square maximum and minimum obtainable noise levels
LOS	level of service
LST	Localized Significance Threshold
MATES	Multiple Air Toxics Exposure Study
MBTA	Migratory Bird Treaty Act
Metro	Los Angeles County Metropolitan Transportation Authority
mgd	million gallons per day
MMBtu	million British thermal units
mph	miles per hour
MPO	metropolitan planning organization
MS4 permit	General Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems
MWD	Metropolitan Water District of Southern California
MWh	megawatt hours
N_2O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NASPAA	National Association of Schools of Public Affairs and Administration
NB	northbound
NCA	Noise Control Act of 1972
NCP	National Contingency Plan
NO_2	nitrogen dioxide
NOI	notice of intent
NOP	notice of preparation
NOx	oxides of nitrogen
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
NTR	National Toxics Rule
O_3	ozone
Ocean Plan	Water Quality Control Plan for Ocean Waters of California
PAHs	polycyclic aromatic hydrocarbons
Pb	lead
PCBs	polychlorinated biphenyls
PCR	PCR Services Corporation
PM10	particulate matter less than 10 microns in diameter
PM2.5	particulate matter less than 2.5 microns in diameter
Porter-Cologne	Porter-Cologne Water Quality Control Act of 1969
ppm	parts per million by volume
PPMP	Pollution Prevention and Monitoring Program
PVC	polyvinyl chloride

RCPG	Regional Comprehensive Plan and Guide
RCRA	Resource Conservation and Recovery Act of 1976
RHNA	Regional Housing Needs Assessment
ROC	reactive organic compound
ROG	reactive organic gases
ROP	Regional Occupational Program
RTIP	Regional Transportation Improvement Plan
RTP	Regional Transportation Plan
RWQCB	regional water quality control board
SARA	Superfund Amendments and Reauthorization Act
SB	southbound
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCE	Southern California Edison
SIP	State Implementation Plan
SO_2	sulfur dioxide
SPCP	spill prevention and control program
SR-91	State Route 91
SRA	Source Receptor Area
STIP	Statewide Transportation Improvement Program
SU-COL	Special Use (College)
SWPPP	stormwater pollution prevention plan
SWRCB	State Water Resources Control Board
TAC	toxic air contaminant
Thermal Plan	Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California
TMDL	total maximum daily load
UFC	Uniform Fire Code
USACE	U.S. Army Corps of Engineers
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
USTs	underground storage tanks
V/C	volume/capacity
VMT	vehicle miles traveled
VOCs	volatile organic compounds
WASC	Western Association of Schools and Colleges
WB	westbound
WBMWD	West Basin Municipal Water District
WDRs	waste discharge requirements
Williamson Act	California Land Conservation Act

Summary

Introduction and Background

California State University, Dominguez Hills (CSUDH) was officially incorporated into the California State University (CSU) system in 1966. As one of the 23 campuses of the CSU system, CSUDH offers 43 undergraduate majors, 19 master's degree programs, and a number of certificate and credential programs. The campus serves students from the Los Angeles metropolitan area and other parts of the state.

In 2006, 13,671 students (or 8,700 full-time-equivalent [FTE] students) were enrolled at the campus. Approximately 73 percent of the students were undergraduates, while 27 percent were post-baccalaureate students. In 2006, the university employed approximately 970 FTE faculty and staff personnel. In 2009, 14,338 students (or 9,554 full-time-equivalent [FTE] students) were enrolled at the campus. Approximately 72 percent of the students were undergraduates, while 28 percent were post-baccalaureate students. In 2009, the university employed approximately 1,328 FTE faculty and staff personnel.

In 1964, an integrated campus master plan and architectural design effort was undertaken to guide construction of the first campus buildings. The 1964 master plan also established an enrollment cap of 20,000 FTE students for the 346-acre campus. In 2002, 85 acres on the west end of the campus were leased to the Anschutz Entertainment Group, which developed the Home Depot Center, U.S. Soccer's National Training Facility. The remaining 261 acres comprise existing CSUDH campus facilities and undeveloped land.

Master Planning Process

The master planning process initiated by CSUDH in 2003 began with a campus capacity and central precinct study. The goal of the study was to develop land use strategies that could accommodate the university's enrollment cap of 20,000 FTE students within existing campus boundaries. The campus capacity study also involved an analysis of the existing campus to determine the most appropriate sites for near-term development projects. The recommendations in the campus capacity study called for development of new facilities, modification of existing facilities, and modification of pedestrian and vehicle circulation systems.

Project Location and Setting

The CSUDH campus is located in southern Los Angeles County, in the City of Carson (City), southwest of the intersection of Central Avenue and East Victoria Street. See Figures 2-1 and 2-2 for regional setting and project vicinity maps.

The CSUDH campus is situated near the top of the Dominguez Hills and bordered by East Victoria Street to the north, Central Avenue to the east, University Drive to the south, and Avalon Boulevard to the west. A variety of uses surround the campus. To the north, across Victoria Street, is a residential community. West of the campus, immediately adjacent to its boundary, is the Home Depot Center. To the south, along University Drive, is another residential community, and to the east, along Central Avenue, are industrial uses. The campus is accessible to the greater Los Angeles region from three major freeways, Interstates 405 and 110 and State Route 91.

Project Description

The master plan proposes several near-term projects, including construction of new academic buildings (a science and health professions laboratory building, La Corte Hall addition and renovation project, and an extended education complex addition), ~~construction of a parking structure on Lot 7~~ and a new campus entrance off Central Avenue ~~at Beachey Place~~. Housing for students and faculty/staff is also proposed, as is renovation of the existing Cain Library, social and behavioral sciences building, natural sciences and mathematics building (classrooms and offices), and a student recreation center/gymnasium. Construction of a cogeneration plant is also part of the master plan. These near-term projects would be constructed in phases over the next ~~10~~ 8 years, until 2017, and contingent upon an enrollment level of 11,000 FTE students and the availability of funding. If enrollment levels do not reach 11,000 FTE students by 2017, or if funding is unavailable, some near-term projects may not be built.

Long-term projects are those that would be required to accommodate 20,000 FTE students. The projects have been defined in concept only; no formal design efforts have begun. In the draft environmental impact report (EIR), released for public review in November 2007, it was assumed that an enrollment level of 20,000 FTE students would be achieved by 2040. The 2009 master plan revised the FTE estimate based on current enrollment information and growth trends. It is expected that enrollment will increase at a slower rate than previously anticipated. The 2040 FTE student projection has been revised downward to 13,565. For purposes of this EIR, a conservative higher estimate of 14,000 FTE students is assumed for 2040. It is expected that a buildout enrollment of 20,000 FTE students will occur much later, perhaps in 2089, based on current enrollment trends. ~~According to current growth trends, university enrollment would reach 20,000 14,000 FTE students by 2040.~~ Long-term development envisioned in the master plan includes academic/administrative facilities; campus life and student support facilities; access, circulation, and parking projects; campus infrastructure; and athletic fields.

Project Goals and Objectives

The intent of the ~~2006~~ 2009 master plan is to map out a trajectory for growth and change that will enhance the physical campus, reinforce the university's strengths, ameliorate its weaknesses, and support the mandate to provide high-quality education to a large student body. Specifically, the master plan is designed to facilitate the university's ability to

- support faculty and staff with appropriate teaching, research, and administrative facilities;
- reinforce the sense of campus community by providing in-class and out-of-class opportunities for faculty, student, and staff collaboration;
- make available the appropriate facilities for informal recreation, and intercollegiate athletics;
- serve as an accessible, attractive, safe, and welcoming campus for students, staff, faculty, and the community;
- serve as a regional center for intellectual, athletic, cultural, and life-long learning;
- adequately manage and maintain all campus facilities;
- preserve a balance between open space and the built environment;
- maintain its stewardship of campus landscape and natural resources; and
- continue its good relations with the City of Carson and the surrounding community.

Alternatives to the Proposed Project

During the master planning process and project development process, several alternatives were considered. These alternatives are summarized below.

Alternative 1 (No-Project Alternative)

Section 15126.6 (e) of the California Environmental Quality Act (CEQA) guidelines requires the analysis of a No-Project Alternative. This no-project analysis must discuss the existing condition as well as what would reasonably be expected to occur in the foreseeable future if the project were not approved. Section 15126.6(e)(3)(B) of the *State CEQA Guidelines* states

> If the project is … a development project on an identifiable property, the "no project" alternative is the circumstance under which the project does not proceed. Here the discussion would compare the environmental effects of the property remaining in its existing state against environmental effects that would occur if the project were approved. If disapproval of the project under consideration would result in predictable actions by others, such as the proposal

> of some other project, this "no project" consequence should be discussed. In certain instances, the "no project" alternative means "no build," wherein the existing environmental setting is maintained. However, where failure to proceed with the project will not result in preservation of existing environmental conditions, the analysis should identify the practical result of the project's non-approval and not create and analyze a set of artificial assumptions that would be required to preserve the existing physical environment.

In accordance with the *State CEQA Guidelines*, the No-Project Alternative analysis includes a discussion of the No-Build Alternative as well as what would reasonably be expected to occur in the foreseeable future if the project were not approved based on current plans and site zoning consistent with available infrastructure and community services. The No-Project Alternative is neither required nor expected to meet the project's objectives or avoid or reduce any of the significant impacts associated with the proposed project. Both the No-Project/No-Build and the No-Project/Reasonably Foreseeable Development Alternatives are discussed herein.

Alternative 1a (No-Project/No-Build Alternative)

Under the No-Project/No-Build Alternative, the improvements proposed in the master plan would not be constructed, and the campus would remain in its current condition. This alternative assumes that no changes would occur on the campus. The existing buildings would remain in their current condition, and no new educational buildings or parking structures would be constructed. No utility improvements, such as the cogeneration plant, would be constructed, and no renovation projects would be undertaken. Minimal increases in enrollment and faculty/staff levels would occur under this alternative.

Under this alternative, no improvements, as proposed within the master plan, would be implemented. As a consequence, the No-Project/No-Build Alternative would not result in any of the significant or potentially significant impacts of the proposed project, as described in Chapter 3 of this EIR. However, the No-Project Alternative would also not result in extensive improvements to existing facilities and construction of new facilities. Additionally, the No-Project Alternative would offer no capacity or space enhancements, and the deterioration of existing buildings would continue. This alternative would fulfill none of the project goals.

Alternative 1b (No-Project/Reasonably Foreseeable Development Alternative)

It is reasonable to assume that in the absence of a master plan, development at the campus would be piecemeal. Renovations and space upgrades would take place on an as-needed basis. It is possible that new temporary structures would be constructed to accommodate future students. The student, staff, and faculty levels would grow at a slow rate.

Under the No-Project/Reasonably Foreseeable Development Alternative, it is reasonable to assume that renovations and additions to existing facilities would occur on an as-needed basis.

Alternative 2 (Slower Enrollment Growth Rate)

The master plan assumes an average annual student enrollment growth rate of approximately 2.5 percent, which is in keeping with the overall vision for growth within the CSU system. However, in the last 5 years, the growth rate has been slower. The enrollment growth target for academic year 2007–2008 was 1.3 percent. From 2001 to 2007, the enrollment growth rate fell by approximately 2.52 percent. This alternative assumes that the slower and negative growth trends will continue. Slower or negative growth rates would mean that facilities would be constructed later than the dates anticipated in the master plan, and if enrollment levels are not high enough, some facilities may not be built at all.

Alternative 3 (No On-Campus Student and Faculty Housing)

Alternative 3 assumes a scenario where no new on-campus housing is provided. Under this alternative, students and faculty would continue to commute long distances to reach the campus. Given the high cost of real estate in the Southern California region, many qualified prospective faculty members would not choose to work at CSUDH without on-campus faculty housing as an incentive.

Areas of Controversy

During the public scoping and review process, a number of agencies provided written comments (see Appendix I and Chapter 8 of this EIR). The agency comments were largely related to procedures and guidelines for environmental impact analysis. The community raised concerns regarding traffic, noise, air quality, aesthetics, and drainage.

Issues to Be Resolved

Two locations for the new science and health professions laboratory building are considered in the EIR; a final decision regarding the location is pending. Also, the specific design for the building and landscaping has not yet been determined. The tentative location for the access road off of Central Avenue is along Beachey Place; a final decision will be made based on future conditions and the needs of the campus.

Intended Uses of the EIR

According to Section 15121 of the *State CEQA Guidelines*, an EIR is a public document that is used by a public agency to analyze the potentially significant environmental effects of a proposed project, identify alternatives, and disclose possible ways to reduce or avoid possible environmental damage. As an informational document, an EIR does not recommend for or against a project. The main purpose of an EIR is to inform governmental decision makers and the public about the potential environmental impacts of the project. Accordingly, this EIR will be used by the CSU system, as the lead agency under CEQA, in making its decision whether to approve the CSUDH Master Plan.

Permits and Approvals

The information in this EIR may also be used by the responsible agencies identified below in deciding whether to grant permits or approvals necessary to construct or operate the proposed project.

- State of California
  - California Department of Fish and Game (CDFG);
  - California Department of General Services, Division of the State Architect;
  - California Department of Toxic Substances Control (DTSC);
  - State Fire Marshal;
- Regional Water Quality Control Board (National Pollutant Discharge Elimination System [NPDES] permit);
- South Coast Air Quality Management District (SCAQMD) (stationary source permits); and
- County of Los Angeles (General Permit for Discharges of Stormwater from Small Municipal Separate Storm Sewer Systems [MS4 permit]).

Summary of Impacts and Mitigation Measures

Table S-1 provides a summary of the environmental effects that would result from implementation of the proposed project, potential mitigation measures, and the level of significance of the environmental impacts after implementation of the proposed mitigation. Impacts identified as "potentially significant" are considered to be significant impacts under CEQA.

In addition to the project impacts identified in Table S-1, the proposed project, in combination with related projects and other development in the area, could result in significant cumulative impacts after mitigation in the following areas: air quality, biological resources, public services (fire and police), and utilities (water supply, wastewater, solid waste, and electricity). However, it should be noted that the proposed project's contribution to some of these significant cumulative impacts would be minimal. For a detailed discussion of cumulative impacts, see Chapter 3 of this EIR.

Table S-1. Summary Table

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
Draft EIR Section 3A – Aesthetics			
Visual Resources and Visual Quality: During construction, short-term visual impacts would occur due to the presence and storage of construction material and equipment in staging areas.	Less than Significant	No mitigation is required.	Less than Significant
Visual Resources and Visual Quality: Potential loss of visual character for the academic core campus buildings exists if the proposed buildings are inconsistent in scale and design.	Less than Significant	Although, no significant impacts on visual quality are expected, to ensure that new campus development is consistent with the visual quality and character of the existing campus, the following measure shall be implemented. **AES-1** New buildings and renovations to existing buildings shall adhere to the standards, criteria, and guidelines in the master plan under Campus Design Guidelines to ensure compatibility and cohesion in terms of architectural design, scale, massing, and siting.	Less than Significant
Visual Resources and Visual Quality: Construction of the new science and health professions laboratory building at the Small College Complex could result in a loss of mature trees and change the visual character of the academic core and Small College Campus.	Potentially Significant	**AES-2** New development proposed at the Small College Complex shall preserve the strong axes/cross-axial sight lines and pedestrian circulation to the academic core buildings. New landscaping shall be consistent with existing landscaping at the Small College Complex.	Less than Significant
Shade and Glare: While mostly non-glare-producing building materials would be used on the proposed buildings, glass with a low reflective index may be used on building façades. The buildings proposed would not be more than four stories in height and would not cast long shadows on nearby residential areas.	Less than Significant	No mitigation is required.	Less than Significant
Artificial Light: The installation of exterior lighting standards along entrances, pathways, and parking areas has the potential to change nighttime lighting conditions in areas such as the site for the faculty and staff housing facility where no nighttime lighting exists currently.	Less than Significant	**AES-3** Exterior lighting for the proposed student and faculty housing facilities shall include full-cutoff shielded fixtures or three-sided shielded fixtures pointed at least 45 degrees below horizontal to contain the light within the site and avoid spillover lighting impacts on- or off-site.	Less than Significant

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
Visual (cumulative): The proposed project would not result in a degradation of visual character. Also, related projects within 1.5 miles of the proposed project would not change the views or visual character of the existing setting.	Less than Significant	No mitigation is required.	Less than Significant
Draft EIR Section 3B – Air Quality			
Construction-Period Emissions of Criteria Pollutants: Construction of the proposed project has the potential to create air quality impacts when heavy-duty equipment is used on the project site and workers travel to and from the project site or deliver building materials. Short-term emissions during construction of near-term projects would exceed SCAQMD regional significance thresholds for nitrogen oxides (NOx) and reactive organic compounds (ROC).	Significant	**AQ1**: Use U.S. Environmental Protection Agency Tier 2 emissions-compliant equipment or newer. **AQ2**: Use architectural coatings containing a low level of volatile organic compounds.	Significant for ROC
Construction-Period Toxic Air Emissions: During construction, both trucks and equipment would emit diesel exhaust, which has been declared a toxic substance by the California Air Resources Board. However, construction activities associated with the near-term projects would be sporadic, transitory, and short term in nature (no more than 10 years). The assessment of cancer risk is typically based on a 70-year exposure period.	Less than Significant	No mitigation is required.	Less than Significant
Operational Emissions of Criteria Pollutants: Emissions of ROC, NOx, carbon monoxide (CO), and particulate matter (PM10) generated by operation of the proposed project, including emissions from on-site stationary sources and traffic generated by the proposed facilities, would be above SCAQMD thresholds.	Significant	**AQ-3** Synchronize traffic lights on streets affected by development. **AQ-4** Contribute or dedicate land for off-site bicycle trails to link the facility to designated bicycle commuting routes. **AQ-5** Provide preferential parking spaces for carpools and vanpools, and provide a minimum of 7 feet 2inches of vertical clearance in parking facilities for vanpool access. **AQ-6** Provide on-site child care and after-school facilities or contribute to off-site development within walking distance. **AQ-7** Construct on-site or off-site bus turnouts, passenger benches, or shelters.	Significant for ROC, NOx, CO, and PM10

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		AQ-8 Use solar or low-emission water heaters. **AQ-9** Use central water heating systems. **AQ-10** Use built-in energy-efficient appliances. **AQ-11** Provide shade trees to reduce building heating/cooling needs. **AQ-12** Use energy-efficient and automated controls for air conditioners. **AQ-13** Use double-pane glass windows. **AQ-14** Use energy-efficient low-sodium parking lot lights. **AQ-15** Use lighting controls and energy-efficient lighting. **AQ-16** Orient buildings to the north for natural cooling and include passive solar design (e.g., day lighting). **AQ-17** Use light-colored roof materials to reflect heat. **AQ-18** Increase walls and attic insulation beyond Title 24 requirements.	
Operational Carbon Monoxide Impacts: Localized CO emissions at the study intersections (selection based on SCAQMD criteria for CO analysis) would not exceed ambient air quality standards for CO.	Less than Significant	No mitigation is required.	Less than Significant
Air Quality (cumulative): Emissions associated with the project would be cumulatively considerable because the construction-period ROC regional mass emissions and operational-period ROC, NO_X, CO, and PM10 mass emissions would exceed SCAQMD thresholds.	Significant	No feasible mitigation available.	Significant
Draft EIR Section 3C – Biological Resources			
Vegetation: Construction of the addition to the extended education complex could result in the removal of a seasonally wet depression that provides habitat for fairy shrimp.	Potentially Significant	**3C-1a Avoidance.** If feasible, the footprint of the proposed extended education complex addition should be altered to avoid any direct impacts on the seasonally wet depression or its watershed. This includes avoidance of grading activities, construction, and/or material laydown. If avoidance is infeasible, mitigation measure 3C-1b shall be incorporated.	Less than Significant

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		3C-1b Consultation under the Federal Endangered Species Act (ESA). If San Diego fairy shrimp and/or vernal pool fairy shrimp are present within the proposed project footprint, consultation with the U.S. Fish and Wildlife Service (USFWS) under the federal ESA shall be initiated. Prior to approval of grading or improvement plans, permits or approvals (i.e., take authorization) shall be obtained from USFWS for potential impacts on species on the federal lists. Consultation under the federal ESA shall identify conservation measures to be implemented to ensure significant adverse impacts do not occur.	
Wildlife: Removal of mature trees could result in removal or destruction of potential bird nesting or roosting sites.	Potentially Significant	**3C-2 Raptor Nesting Preconstruction Survey.** Thirty days prior to the commencement of construction (if between January 15 and August 31), a qualified biologist shall perform a raptor nesting survey. This shall consist of a single visit to ascertain whether there are active raptor nests within 300 feet of the limits of disturbance. This survey shall also identify the species of nesting raptor and, to the degree feasible, the nesting stage (e.g., incubation of eggs, feeding of young, near fledging). Nests shall be mapped but not by a global positioning system (GPS) because encroachment may cause nest abandonment. If active nests are found, construction shall not occur within 300 feet of the nest until the nesting attempt has been completed or abandoned occurs due to non-project-related reasons.	Less than Significant
Wildlife: While no evidence (i.e., scat, tracks, feathers) of burrowing owls exists on the campus, construction of the proposed faculty and staff housing has the potential to remove foraging habitat for burrowing owls.	Potentially Significant	**3C-3a Burrowing Owl Focused Survey.** A focused survey for burrowing owls shall be performed following California Burrowing Owl Consortium (California Burrowing Owl Consortium 1997) guidelines. A survey for burrows and owls shall be conducted by walking through suitable habitat and areas within approximately 500 feet of the project impact zone where legally accessible. Burrows shall be mapped, and any observations of burrowing owls shall be recorded. If access to the 500-foot buffer is restricted, a visual survey of the area for burrows and burrowing owls is required.	Less than Significant

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		Burrowing owls shall be surveyed by visiting the site on four separate occasions. If burrowing owls are observed during the surveys, mitigation measure 3C-3c shall be implemented. If no burrowing owls are observed, mitigation measure 3C-3b shall be implemented. **3C-3b Preconstruction Burrowing Owl Survey.** Thirty days prior to the commencement of construction, a preconstruction burrowing owl survey shall be performed. This shall consist of a single survey with the focused intent of determining whether burrowing owls are still absent from the study area. If no burrowing owls are observed/detected, additional mitigation is not required. If burrowing owls are observed, mitigation measure 3C-3c shall be implemented. **3C-3c Passive Relocation.** Thirty days prior to the commencement of construction, a preconstruction burrowing owl survey shall be performed. This shall consist of a single survey with the focused intent of determining whether burrowing owls still occur within the study area. If the species is present outside the breeding season (September 1 through February 28), passive relocation shall be performed by a qualified biologist. No permits are necessary for this work. Prior to passive relocation of the birds from occupied burrows, potentially suitable burrows within the study area shall be collapsed so that the birds being passively relocated do not occupy a nearby burrow. At least 48 hours shall pass between the start of passive relocation and the collapse of the occupied burrows. This shall ensure that the birds are gone. If the species is found to be present and it is within the breeding season (March 1 through August 31), construction shall not occur within 300 feet of the active burrows until it has been confirmed by a qualified biologist that the nesting effort has been completed. At that time, passive relocation can be employed as described above.	

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
Wetlands and Jurisdictional Waters: Water features that may be under the jurisdiction of the U.S. Army Corps of Engineers (USACE), CDFG, or the regional water quality control board (RWQCB) were identified on the site for faculty and staff housing. Construction of the staff and faculty housing has the potential to affect these potential jurisdictional waters.	Potentially Significant	**3C-4a Resource Agency Coordination.** Prior to initiating detailed site plans for the faculty and staff housing complex, the applicant shall coordinate with USACE, CDFG, and the RWQCB to determine whether any or all of these agencies would regulate the water features on-site. If none of these agencies takes jurisdiction over these features, additional mitigation will not be required. However, if one or more of these agencies take jurisdiction over these features, mitigation measure 3C-4b shall be incorporated. **3C-4b.1 Avoidance.** If USACE, CDFG, and/or the RWQCB takes jurisdiction over the water features on-site, the proposed faculty and staff housing complex shall be designed to avoid any direct impacts on regulated waters, if feasible. This includes avoidance of grading activities, construction, and/or material laydown within these areas. If avoidance is infeasible, mitigation measure 3C-4b.2 shall be incorporated. **3C-4b.2 Replacement of Wetland/Water Functions and Values.** If avoidance of regulated waters is not feasible, the applicant shall develop a compensatory mitigation plan to ensure no net loss of wetland/water functions and values. The plan shall be developed through coordination with the appropriate agencies (USACE, CDFG, and/or the RWQCB) during the permitting processes with these agencies. The plan shall include criteria for evaluating the success of the mitigation plan as well as contingency plans in the event that the plan does not meet all success criteria.	Less than Significant
Biological Resources (cumulative): If burrowing owls are located within the impact area, the proposed project has the potential to result in a significant cumulative impact on burrowing owls, which are thought to be extirpated from the Los Angeles area. Cumulative impacts on burrowing owls would be considered significant. However, after mitigation, the project-level impacts on burrowing owls would be reduced to less than significant.	Potentially Significant	See mitigation measures 3C-3a, b, and c.	Potentially Significant (for cumulative impacts on burrowing owls if found on-site)

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
Draft EIR Section 3E – Archaeological Resources			
Construction-Period Impact: The archaeological survey of the project site failed to identify prehistoric or historical archeological resources. However, buried cultural resources or human remains could be inadvertently unearthed during ground-disturbing activities, which could result in destruction of or substantial damage to cultural resources.	Potentially Significant	**AR-1** If buried cultural resources, such as flaked or ground stone, historic debris, building foundations, or non-human bone, are inadvertently discovered during ground-disturbing activities, work will stop in that area and within 100 feet of the find until a qualified archaeologist can assess the significance of the find and, if necessary, develop appropriate treatment measures. Treatment measures typically include development of avoidance strategies, capping with fill material, or mitigation of impacts through data recovery programs such as excavation or detailed documentation. **AR-2** If cultural resources are discovered during construction activities, the construction contractor will verify that work is halted until appropriate site-specific treatment measures, such as those listed above, are implemented.	Less than Significant
Construction-Period Impact: The archaeological survey of the project site failed to identify prehistoric or historical archeological resources. Buried human remains could be inadvertently unearthed during excavation activities, which could result in damage to those remains.	Potentially Significant	**AR-3** If human remains of Native American origin are discovered during ground-disturbing activities, the construction contractor will comply with state laws, which fall within the jurisdiction of the California Native American Heritage Commission (Public Resources Code Section 5097), relating to the disposition of Native Americans. According to California Health and Safety Code, six or more human burials at one location constitute a cemetery (Section 8100), and disturbance of Native American cemeteries is a felony (Section 7052). Section 7050.5 requires that excavation be stopped in the vicinity of discovered human remains until the coroner can determine whether the remains are those of a Native American. If the remains are determined to be Native American, the coroner must contact the California Native American Heritage Commission to determine the most likely living descendant(s). The most likely living descendant shall determine the most appropriate means of treating the human remains and any associated grave artifacts and shall oversee disposition of the human remains and associated artifacts by the project archaeologists.	Less than Significant

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
Archeological Resources (cumulative): Although the proposed project and related projects could result in the progressive loss of not-yet-recorded archaeological resources, the proposed project includes mitigation that would reduce potential impacts to a less-than-significant level. Similar measures may also be implemented for related projects.	Less than Significant	See mitigation measures above. No additional mitigation measures required.	Less than Significant
Draft EIR Section 3F – Paleontological Resources			
Construction-Period Impact: Excavations in undisturbed older Quaternary deposits exposed throughout the proposed project area have a good chance of uncovering significant vertebrate fossils, even at depths as shallow as 5 feet below the surface.	Potentially Significant	**PR-1** A qualified paleontologic monitor shall monitor all excavation in areas identified as likely to contain paleontological resources. These areas are defined as all areas within the proposed CSUDH project area where planned excavation will exceed depths of 5 feet. The qualified paleontologic monitor shall retain the option to reduce monitoring if, in his or her professional opinion, sediments being monitored are previously disturbed. Monitoring may also be reduced if the potentially fossiliferous units, previously described, are not found to be present or, if present, are determined by qualified paleontologic personnel to have a low potential to contain fossil resources. **PR-2** The monitor shall be equipped to salvage fossils and samples of sediments as they are unearthed to avoid construction delays and shall be empowered to temporarily halt or divert equipment to allow removal of abundant or large specimens. **PR-3** Recovered specimens shall be prepared to a point of identification and permanent preservation, including washing of sediments to recover small invertebrates and vertebrates. **PR-4** Specimens shall be curated into a professional, accredited museum repository with permanent retrievable storage. **PR-5** A report of findings, with an appended itemized inventory of specimens, shall be prepared. The report and inventory, when submitted to the county, will signify completion of the program to mitigate impacts on paleontological resources.	Less than Significant

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
Paleontological Resources (cumulative): While the proposed project and related projects could result in the progressive loss of not-yet-recorded paleontological resources, mitigation measures have been identified that would avoid or reduce potential project-related impacts, and similar measures could be implemented for related projects.	Less than Significant	See mitigation measures above. No additional mitigation measures required.	Less than Significant
Draft EIR Section 3G – Geology/Soils/Seismicity			
Erosion (construction period): As a result of grading and excavation activities during construction, soils on the proposed project site would be exposed to wind and water erosion.	Potentially Significant	Compliance with industry-standard stormwater pollution-control best management practices (BMPs) would reduce soil erosion impacts to a less-than-significant level. No mitigation is necessary.	Less than Significant
Slope Stability (construction period): The potential for hazards to construction workers from slope instability during construction and earthwork exists.	Potentially Significant	**GEO-1** A geotechnical investigation shall be performed by qualified, licensed professionals before final design of any structures, and recommendations provided in the report shall be implemented, as appropriate. **GEO-2** Design and construction of structures for the proposed project shall conform to all applicable provisions and guidelines set forth in the 2007 California Building Code (CBC), Title 24, Part 2, Volume 2. The CBC is based on the 2006 UBC and sets forth regulations concerning proper earthquake design and engineering.	Less than Significant
Surface Fault Rupture and Ground Shaking (operational period): The campus may experience severe seismic shaking in the event of an earthquake on any of several faults in the area, including the Newport-Inglewood fault. Potential for ground rupture is low.	Potentially Significant	See mitigation measures GEO-1 and GEO-2.	Less than Significant
Landslides (operational period): According to the California Department of Conservation, Division of Mines and Geology, the proposed project site is not located within a mapped landslide hazard zone.	No Impact	No mitigation is required.	No Impact
Subsidence (operational period): There is no potential for ground subsidence caused by the Dominguez Oil Field.	No Impact	No mitigation is required.	No Impact

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
Liquefaction: According to the California Department of Conservation, Division of Mines and Geology, the site is not located within a mapped liquefaction hazard zone.	No Impact	No mitigation is required.	No Impact
Lateral Spreading (operational period): The proposed project site contains sandy loam, which has a high shrink-swell potential and could cause lateral spreading or expansion.	Potentially Significant	See mitigation measure GEO-1.	Less than Significant Impact
Expansive Soils (operational period): The soils on the campus are known to be expansive.	Potentially Significant	**GEO-3** The geotechnical investigation for the proposed facilities should fully document the presence and extent of corrosive, expansive, or loose compactable soil. Appropriate mitigation shall be designed using the collected data. Mitigation options could include the following: removal of unsuitable subgrade soils and replacement with engineered fill, installation of cathodic protection systems to protect buried metal utilities, use of coated or nonmetallic pipes (i.e., concrete or polyvinyl chloride [PVC]) that are not susceptible to corrosion, construction of foundations using sulfate-resistant concrete, support of structures on deep-pile foundation systems, densification of compactable subgrade soils with in situ techniques, and placement of moisture barriers above and around expansive subgrade soils to help prevent variations in soil moisture content.	Less than Significant
Geology (cumulative): The proposed project would not contribute to adverse cumulative impacts on unique geologic features, and it would not contribute to a cumulative increase in the risks posed by seismic hazards.	Less than Significant	See mitigation measures above. No additional mitigation measures required.	Less than Significant
Draft EIR Section 3H – Hazardous Materials			
Construction Impacts: While the proposed project site was not listed in any of the federal, state, and local hazardous materials databases, construction activities such as demolition and excavation have the potential to result in exposure to previously unknown sources of soil contamination.	Less than Significant	**HM-1** During excavation for any proposed structures related to the master plan, the contractor shall observe the exposed soil for visual evidence of contamination. If visual contamination indicators are observed during excavation or grading activities, all work shall stop, and an investigation shall be designed and performed to verify the presence and extent of contamination at the site. A qualified and approved environmental consultant shall perform the review and investigation. Results shall be reviewed and approved by the Los Angeles County Fire Department Health Hazardous Materials	Less than Significant

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		Division or DTSC prior to construction. The investigation shall include collecting samples for laboratory analysis and quantifying contaminant levels within the proposed excavation and surface disturbance areas. Subsurface investigation shall determine appropriate worker protection and hazardous material handling and disposal procedures appropriate for the subject site. **HM-2** Areas with contaminated soil determined to be hazardous waste shall be excavated by personnel who have been trained through the Occupational Safety and Health Administration-recommended 40-hour safety program (29 Code of Federal Regulations [CFR] 1910.120), with an approved plan for excavation, control of contaminant releases to the air, and off-site transport or on-site treatment. Health and safety plans prepared by a qualified and approved industrial hygienist shall be developed to protect the public and all workers in the construction area. Health and safety plans shall be reviewed and approved by the appropriate agencies, such as the Los Angeles County Fire Department Health Hazardous Materials Division or DTSC.	
Construction Impacts: During construction operations, hazardous materials such as vehicle fuels, oils, and other fluids would be used and stored in construction staging yards. Accidental spills of hazardous materials during construction activities could cause soil or groundwater contamination.	Potentially Significant	**HM-3** An environmental training program shall be established to communicate environmental concerns and appropriate work practices, including spill prevention, emergency response measures, and proper best management practices implementation, to all field personnel. The training program shall emphasize site-specific physical conditions to improve hazard prevention (e.g., identification of potentially hazardous substances) and shall include a review of all site-specific plans. A Hazardous Substance Control and Emergency Response Plan shall be prepared, which shall include measures for quick and safe cleanup of accidental spills. This plan shall be submitted with the grading permit application. It shall prescribe hazardous-materials handling procedures for reducing the potential for a spill during construction and shall include an emergency response program to ensure quick and safe cleanup of accidental spills. The plan shall identify areas where refueling and vehicle maintenance activities	Less than Significant

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		and storage of hazardous materials, if any, will be permitted. These directions and requirements shall also be reiterated in the project Stormwater Pollution Prevention Plan. **HM-4** Oil-absorbent material, tarps, and storage drums shall be used to contain and control any minor releases. Emergency spill supplies and equipment shall be kept adjacent to all work areas and staging areas and shall be clearly marked. Detailed information for responding to accidental spills and handling any resulting hazardous materials shall be provided in the project's Hazardous Substances Control and Emergency Response Plan. **HM-5** If groundwater is expected to be encountered, the contractor shall test and characterize the groundwater prior to construction. The contractor shall comply with all applicable regulations and permit requirements for construction dewatering. This may include laboratory testing, treatment of contaminated groundwater, or various disposal options. The results of groundwater testing shall be included in the Phase II Environmental Site Assessment.	
Construction Impacts: The campus is located within an historic oil-producing region, the Dominguez Oil Field; therefore, encountering abandoned oil wells during construction could result in potential hazards to workers and other persons on the construction site.	Potentially Significant	**HM-6** Prior to any construction, a geotechnical study will be performed to determine if any abandoned oil wells are within the proposed building or parking lot footprints. **HM-7** During the earthwork phase of construction, any known abandoned oil wells or wells discovered during the geotechnical study located beneath the proposed project site shall be exposed to allow the California Department of Conservation, Division of Oil, Gas, and Geothermal Resources (DOGGR) to examine the well heads, assess any potential for methane, and determine if re-abandonment of any wells will be required. Additionally, any wildcat wells encountered during earthwork shall also be subject to investigation and potential re-abandonment requirements. **HM-8** The development of any enclosed structures over an abandoned oil well may require any or all of the following measures, as determined by DOGGR: passive venting systems (horizontal piping designed to	Less than Significant

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		collect vapors and vent them to the surface or above the structure) installed under new enclosed structures, vapor barriers installed under new enclosed structures, or active venting systems (horizontal piping or vertical wells attached to a blower and designed to capture vapors within a specified radius of soil and vent them to the surface or above the structure) installed under new enclosed structures.	
Construction Impacts: Construction workers could encounter lead-based paint and/or asbestos-containing materials during renovation activities.	Potentially Significant	**HM-9** Prior to demolition of any buildings on campus, the CSUDH environmental compliance specialist from the Office of Environmental Health and Occupational Safety shall conduct a survey to determine the presence or absence of asbestos-containing materials and lead-based paints. Abatement of asbestos and lead-based paint shall be conducted in accordance with SCAQMD Rule 1403 prior to any demolition or construction activities.	Less than Significant
Operational Impacts: As with the existing uses, operation of the proposed near-term projects would continue to involve the use, disposal, and transport of small quantities of hazardous materials, such as those used for routine maintenance and laboratory activities.	Less than Significant	No mitigation is required.	Less than Significant
Hazardous Materials (cumulative): No substantial quantities of contaminated soil are expected to be encountered during construction of the proposed project. Thus, effects of the proposed project would not be cumulatively considerable.	Less than Significant	See mitigation measures above. No additional mitigation measures required.	Less than Significant
Draft EIR Section 3I– Hydrology and Water Quality			
Water Quality (construction period): Construction-related earth-disturbing activities could cause soil erosion and sedimentation in local waterways. In addition, construction equipment would have the potential to leak hazardous materials, thereby affecting surface water or groundwater quality. Compliance with NPDES permit requirements and implementation of the required Spill Prevention Control Program would ensure that impacts would be less than significant.	Less than Significant	No mitigation measures required. Compliance with NPDES requirements and implementation of the Spill Prevention Control Program would ensure that impacts are less than significant. **a) Comply with NPDES Requirements** To reduce or eliminate construction-related water quality effects, CSUDH shall require project contractors to comply with the requirements of the county's Stormwater Management Program. In addition, before the onset of any construction activities where the	Less than Significant

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		disturbed area is 1 acre or more in size, CSUDH shall also require project contractors to obtain coverage under the NPDES General Construction Permit. As a performance standard, the Stormwater Management Program and General Construction Permit require control of pollutant discharges using economically achievable best available technology (BAT) and best conventional technology (BCT) to reduce pollutants. More stringent controls may be necessary to meet water quality standards. BMPs may consist of a wide variety of measures taken to reduce pollutants in stormwater and other nonpoint-source runoff. Measures range from source control, such as reduced surface disturbance, to treatment of polluted runoff, such as detention or retention basins. BMPs to be implemented as part of the Stormwater Management Program and General Construction Permit may include, but are not limited to, the following measures: ■ Temporary erosion control measures (such as silt fences, staked straw bales/wattles, silt/sediment basins and traps, check dams, geofabric, sandbag dikes, and temporary revegetation or other ground cover) shall be employed to control erosion from disturbed areas. ■ Drainage facilities in downstream off-site areas shall be protected from sediment using BMPs acceptable to the RWQCB. ■ Grass or other vegetative cover shall be established on the construction site as soon as possible after disturbance. At a minimum, a vegetative application shall be completed by September 15 to allow plants to establish. No disturbed surfaces shall be left without erosion control measures in place between October 15 and April 15. Final selection of BMPs shall be subject to approval by the RWQCB. CSUDH shall verify that a notice of intent (NOI) has been filed with the State Water Resources Control Board and a stormwater pollution prevention plan (SWPPP) has been developed before allowing construction to begin. The ~~City~~ applicable agencies shall perform inspections of the construction area to verify that the	

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		BMPs specified in the SWPPP are properly implemented and maintained. CSUDH shall notify contractors immediately if there is a noncompliance issue and shall require compliance. **b) Implement a Spill Prevention and Control Program** CSUDH shall require that project contractors develop and implement a spill prevention and control program (SPCP) to minimize the potential for, and effects from, spills of hazardous, toxic, or petroleum substances during construction activities for all contractors. The program shall be completed before any construction activities begin. Implementation of this measure shall comply with state and federal water quality regulations and reduce the impact to a less-than-significant level. CSUDH shall review and approve the SPCP before the onset of construction activities. CSUDH shall routinely inspect the construction area to verify that the measures specified in the SPCP are properly implemented and maintained. CSUDH shall notify contractors immediately if there is a noncompliance issue and shall require compliance. The reportable spill quantity for petroleum products, according to federal standards, as defined in 40 CFR 110, is any oil spill that violates applicable water quality standards; causes a film or sheen on, or discoloration of, the water surface or adjoining shoreline; or causes a sludge or emulsion to be deposited beneath the surface of the water or adjoining shorelines. If a spill is reportable, the contractor's superintendent shall notify CSUDH, and CSUDH shall take action to contact the appropriate safety and cleanup crews to ensure that the SPCP is followed. A written description of reportable releases must be submitted to the Los Angeles RWQCB and DTSC. This submittal must contain a description of the release, including the type of material, and an estimate of the amount spilled, the date of the release, an explanation of why the spill occurred, and a description of the steps taken to prevent and control future releases. The releases shall be documented on a spill report form.	

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		If an appreciable spill has occurred and a determination is made that project activities have adversely affected surface water or groundwater quality, a detailed analysis shall be performed to the specifications of DTSC to identify the likely cause of contamination. This analysis shall include recommendations for reducing or eliminating the source or mechanisms of contamination. After review of the analysis, CSUDH and/or its contractors shall select and implement measures to control contamination, with a performance standard that surface water and/or groundwater quality must be returned to baseline conditions. These measures shall be subject to approval by CSUDH.	
Groundwater Quality (construction period): Trenching and excavation associated with the proposed project may reach a depth that exposes the water table (potentially 25 feet below ground surface), in which case a direct path to the groundwater basin may become available for contaminants.	Less than Significant	No mitigation is required.	Less than Significant
Surface Runoff (operational): The near-term components of the master plan, when complete, would result in new impervious surfaces, which would result in a reduction in the amount of natural soil surfaces available for infiltration of rainfall and runoff, potentially generating additional runoff during storm events.	Potentially Significant	**HYD-1 Implement a Drainage Concept Plan.** As part of the master plan, the applicant shall implement a drainage concept plan. This plan shall address the following topics. ■ A calculation of predevelopment runoff conditions and post-development runoff scenarios using appropriate engineering methods. This analysis shall evaluate potential changes in runoff through specific design criteria and account for increased surface runoff. ■ An assessment of existing drainage facilities within the project area and an inventory of necessary upgrades, replacements, redesigns, and/or rehabilitation. ■ A description of the proposed maintenance program for the on-site drainage system. ■ Standards for drainage systems to be installed on a project-specific basis. ■ ~~Proposed measures to ensure that structures are not located within localized flood areas.~~	Less than Significant

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		■ If structures are proposed in localized flood areas, measures shall be implemented to eliminate localized flooding hazards prior to construction of the proposed structures. Drainage systems shall be designed in accordance with California State University, and applicable agencies', flood control design criteria (including the City of Carson and Los Angeles County Department of Public Works, if applicable). As a performance standard, measures to be implemented shall provide no net increase in peak stormwater discharge relative to current conditions and ensure that localized flooding and the potential impacts are maintained at or below current levels. The measures shall also ensure that people and structures are not exposed to additional flood risk. The project shall implement measures provided in the drainage concept plan.	
Water Quality (operational): The proposed project could increase stormwater and non-stormwater runoff, transporting contaminants to adjacent receiving waters. Contaminated runoff waters could flow into the on-site stormwater drainage, the Dominguez Channel, and ultimately into Los Angeles Harbor, which could degrade the water quality of any of these water bodies. Implementation of county's Stormwater Management Program requirements would reduce the impact to a less-than-significant level.	Less than Significant	Implementation of the county's Stormwater Management Program requirements, such as inclusion of the appropriate BMPs found in Appendix B of the program (Development Planning for Stormwater Management), would reduce the impact to a less-than-significant level.	Less than Significant
Groundwater (operational): The proposed project would involve an increase in impervious surfaces (roads, buildings, etc.), which would reduce stormwater infiltration to the underlying aquifer on the site. However, the project area is less than 1 percent of the total Coastal Plain section of the Los Angeles groundwater basin and West Coast Basin surface area and, therefore, would not significantly interfere with the overall recharge of the subbasin.	Less than Significant	No mitigation is required.	Less than Significant

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
Draft EIR Section 3J – Land Use and Planning			
Compatibility with Nearby Land Uses: Construction activities would be contained within the campus. However, due to the nature of some of the activities taking place during construction, there could be some temporary, localized, site-specific disruptions to land uses in the area related primarily to construction traffic from trucks and equipment, possible access disruptions to facilities and parking, increased noise and vibration, and increased air pollution emissions. However, construction impacts would be temporary and intermittent. Once complete, the campus would continue to be compatible with surrounding land uses.	Less than Significant	No mitigation is required. Also see construction traffic, air quality, and noise avoidance and minimization measures below.	Less than Significant
Consistency with Local and Regional Plans and Land Use Designations: The master plan would be supportive of, or consistent with, the relevant policies and objectives in the City of Carson General Plan and the Southern California Association of Governments regional plan.	Less than Significant	No mitigation is required.	Less than Significant
Land Use (cumulative): The proposed project would be compatible with existing uses and consistent with zoning and general plan designations as well as local land use policies and objectives. It is expected that related projects would be constructed in compliance with applicable local land use regulations.	Less than Significant	No mitigation is required.	Less than Significant
Draft EIR Section 3K – Mineral and Agriculture Resources			
Mineral Resources: Construction activities or the operation of the proposed near-term projects would not lead to the loss of availability of designated Regionally and Statewide Important or Locally Significant Mineral Resources.	No Impact	No mitigation is required.	No Impact
Agricultural Resources: Construction activities or the operation of the proposed near-term projects would not lead to conversion of prime farmland, unique farmland, or farmland of statewide importance to nonagricultural use or conflict with a Williamson Act contract.	No Impact	No mitigation is required.	No Impact

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
Mineral and Agricultural Resources (cumulative): The project would not result in the loss of availability of mineral resources or agricultural land; therefore, it would not contribute to cumulative adverse impacts on any mineral or agricultural resources.	Less than Significant	No mitigation is required.	Less than Significant
Draft EIR Section 3L – Population, Employment, and Housing			
Relocation and Construction-Phase Employment: Most project construction workers would not relocate their households as a result of working on the proposed project. Construction-phase employment, therefore, would not result in a substantial increase to the local or regional population. No residences or businesses would be displaced as a result of the proposed project.	Less than Significant	No mitigation is required.	Less than Significant
Displacement: A 32-acre nursery is on a month-to-month lease with the campus. When the lease is terminated, the nursery would relocate off-campus.	Less than Significant	No mitigation is required.	Less than Significant
Employment Growth: Operation of the proposed near-term projects would result in the need for approximately 678 new employees; however, the additional on-campus employees would represent a small part of the projected population in the area. Many employees would be hired from the existing local labor pool; therefore, the project is not likely to result in substantial population growth or housing demand.	Less than Significant	No mitigation is required.	Less than Significant
Relocation and Employment (cumulative): No residences or businesses would be displaced as a result of the proposed project. In addition, the proposed project would create approximately 678 new jobs, which is not expected to induce substantial growth. The proposed project is consistent with local and regional land use plans.	Less than Significant	No mitigation is required.	Less than Significant

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
Draft EIR Section 3M – Noise			
Noise (construction period): Construction activities and equipment have the potential to create noise impacts for sensitive receptors, especially students, faculty, and staff and nearby residents to the south across from University Drive.	Significant	**N-1** Prior to initiation of construction of a specific development project, the university shall approve a construction noise mitigation program that shall be implemented for each construction project. This shall include, but not be limited to, the following: ■ construction equipment that is properly maintained and has been outfitted with feasible noise-reduction devices to minimize construction-generated noise; ■ stationary noise sources such as generators or pumps that are located at least 100 feet away from noise-sensitive land uses, as feasible; ■ laydown and construction vehicle staging areas that are located at least 100 feet away from noise-sensitive land uses, as feasible; ■ whenever possible, informing academic, administrative, and residential areas subject to construction noise of pending construction in writing at least a week before the start of each construction project; ■ not scheduling loud construction activity (i.e., jackhammering, concrete sawing, asphalt removal, and large-scale grading operations) within 100 feet of a residential or academic building during finals week; ■ not scheduling loud construction activity as described above within 100 feet of an academic or residential use, to the extent feasible, during holidays, Thanksgiving break, Christmas break, spring break, or summer break; ■ restricting loud construction activity within 100 feet of a residential building to the hours between 7:00 a.m. and 8:00 p.m. Monday through Saturday; and ■ scheduling loud construction activity within 100 feet of an academic building, to the extent feasible, on weekends.	Significant

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
Noise (operational period): Existing off-campus residents and existing and future on-campus residents could be exposed to increased noise from traffic on adjoining streets. However, noise increases are not anticipated to result in an exceedance of applicable noise standards.	Less than significant	No mitigation is required.	Less than significant
Noise (operational period): Future residents on campus could be exposed to high noise levels from increased vehicular traffic on adjacent roads.	Less than significant	Although, noise levels would not exceed applicable noise standards, the following measure is recommended. **N-2** For future noise-sensitive land uses, such as student and faculty/staff housing that would be constructed under the master plan, building and area layouts shall incorporate noise control as a design feature, as feasible. Noise control features could include increased setbacks (minimum of 75 feet from the centerline of the near lanes of Central Avenue and 40 feet from the centerline of University Avenue), landscaped berms, and building placement that would shield noise-sensitive exterior areas from direct roadway exposure. The campus may also use other noise attenuation measures such as double-pane windows and insulation to minimize interior noise levels.	Less than significant
Noise (cumulative): While there is the potential for cumulative noise impacts from construction if nearby projects take place at the same time as the proposed project, it is assumed that the nearby projects would include mitigation to reduce noise levels to the extent possible. Therefore, cumulative impacts would be less than significant during construction. No related projects are located close enough to the proposed project to have the potential to create a cumulative long-term operational noise impact. Off-site operational noise sources would consist primarily of vehicle trips along adjacent streets. The increase in traffic volumes, which includes volumes from related projects, was accounted for in the traffic analysis conducted for the proposed project. Cumulative impacts associated with the proposed project and identified related projects are anticipated to be less than significant.	Less than Significant	No mitigation is required.	Less than significant

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
Draft EIR Section 3N – Public Services			
Fire Services (construction period): Construction activities could affect access for fire and emergency services within the campus due to street or lane closures in work zones.	Less than Significant	**FS-1** The university shall notify the Los Angeles County Fire Department (LACoFD) regularly of project construction activities and schedules, including any proposed on-campus street or lane closures.	Less than Significant
Fire Services (construction period): Construction activities could diminish access to the campus for fire and emergency services.	Less than Significant	See mitigation measure FS-1.	Less than Significant
Fire Services (construction period): The increase in faculty/staff and student populations at the campus would generate additional traffic and potentially increase congestion and response times in the area surrounding the campus. The traffic impact analysis (see Section 3O) has indicates that, in 2017, only one of the 27 study intersections (PM peak hour at the intersection of Avalon Boulevard and the Interstate 405 northbound ramps) would be significantly affected by project-generated traffic. Consequently, the proposed project would not substantially increase response times.	Less than Significant	No mitigation required.	Less than Significant
Fire Services (operational): Operation of the facilities proposed under the master plan would result in an increased demand for fire and emergency resources. However, new structures would be designed and constructed in compliance with applicable fire codes, and specific fire safety measures recommended by the State Fire Marshal~~l and LACoFD~~ would be followed.	Less than Significant	**FS-2** Development of the proposed project shall comply with all applicable code and ordinance requirements for construction, access, water mains, fire flow, and hydrants. **FS-3** The proposed project shall be subject to all specific fire and life safety requirements for the construction phase identified by the State Fire Marshal ~~or LACoFD~~ during the fire plan check. **FS-4** Fire department apparatus shall have access to every building constructed using roadways with an all-weather surface of not less than the prescribed width and unobstructed and clear to the sky. The roadway shall be extended to within 150 feet of any portion of any exterior wall when measured from an unobstructed route around the exterior of the building.	Less than Significant

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		FS-5 CSUDH shall coordinate with the State Fire Marshal ~~and LACoFD~~ to determine adequate fire flow rates for the project. Fire flow shall be based on the size of the buildings and their relationship to other structures, property lines, and the types of construction. Fire hydrants shall be spaced 300 feet apart and shall meet the following requirements: ■ no portion of a lot's frontage shall be more than 200 feet, via vehicular access, from a public fire hydrant; ■ no portion of a building shall be more than 400 feet, via vehicular access, from a properly spaced public fire hydrant; and ■ additional hydrants will be required if hydrant spacing exceeds specified distances. **FS-6** All proposals for traffic calming measures (speed humps/bumps, traffic circles, roundabouts, etc.) shall be submitted to the fire department for review prior to implementation.	
Fire Services (cumulative): Operation of the facilities proposed under the master plan would result in an increased demand for fire and emergency resources. However, new structures would be designed and constructed in compliance with applicable fire codes, and specific fire safety measures recommended by the State Fire Marshal~~l and LACoFD~~ would be followed.	Potentially Significant	No feasible mitigation is available.	Potentially Significant
Police Service (construction period): Construction activities could affect access for police services within the campus due to street or lane closures in work zones.	Less than Significant	**PS-1** CSUDH shall regularly notify the Los Angeles County Sheriff's Department Carson substation and University Police of master plan construction activities and schedules, including any proposed on-campus street or lane closures.	Less than Significant
Police Services (construction period): Construction activities could diminish access to the campus or adjacent properties for police services.	Less than Significant	See mitigation measure PS-1.	Less than Significant

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
Police Services (construction period): The increase in faculty/staff and student populations at the campus would generate additional traffic and potentially increase congestion and response times in the area surrounding the campus. The traffic impact analysis (see Section 3O) has indicates that, in 2017, only one of the 27 study intersections (PM peak hour at the intersection of Avalon Boulevard and the Interstate 405 northbound ramps) would be significantly affected by project-generated traffic. Consequently, the proposed project would not substantially increase response times.	Less than Significant	No mitigation is required.	Less than Significant
Police Services (operational): Operation of the facilities proposed under the master plan would result in an increased demand for police services.	Less than Significant	**PS-2** Each element of the project shall include security features, such as lighting, signage, etc. Security system designs shall be submitted to University Police ~~and the Los Angeles County Sheriff's Department~~ for review and comment. **PS-3** Upon completion of each structure, CSUDH shall provide University Police ~~and the Los Angeles County Sheriff's Department~~ with a diagram of each building, including access routes, and additional information that might facilitate police response.	Less than Significant
Police Services (cumulative): Operation of the facilities proposed under the master plan would result in an increased demand for police services provided by University Police.	Potentially Significant	No feasible mitigation is available.	Potentially Significant
School Service (construction period): No nearby schools would be affected by construction activities. Construction-period pollutant air emissions could have a significant impact on students enrolled at the campus, including students at the California Academy of Mathematics (CAMS) and the Child Development Center/Infant Toddler Center (CDC/ITC). Although temporary, noise impacts on students could be potentially significant. However, these impacts would be temporary and short term.	Potentially Significant (for on-campus facilities)	See mitigation measures for air quality and noise.	Less than Significant

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
School Services (operational): The proposed project could result in some indirect student generation from new employees working at CSUDH who may choose to live in Carson. However, it is unlikely that any one school in the project vicinity would incur a substantial increase in enrollment.	Less than Significant	No mitigation is required.	Less than Significant
School Services (cumulative): The proposed project would result in a beneficial impact to higher education services in the community. The proposed faculty and student housing would not require construction of new schools or result in overcrowding at existing schools.	Less than Significant	No mitigation is required.	Less than Significant
Library Service (construction period): ~~Since expansion of the existing on-campus library is an element of the proposed project, it is possible that related construction activities could interfere with the function and atmosphere of the existing library. However, any disruptions or diminished access would be short term.~~ The expansion of the existing on-campus library is currently under construction, and construction will be completed prior to implementation of master plan projects. The construction activities will not interfere with the function and atmosphere of the existing library.	Less than Significant	No mitigation is required.	Less than Significant
Library Services (operational): With the additional floor space proposed at the university library, existing and future students, as well as faculty and staff, would have adequate library resources on campus.	Less than Significant	No mitigation is required.	Less than Significant
Library Services (cumulative): The renovation work ~~and proposed addition~~ at the existing campus library would have an overall beneficial impact on library resources in the community.	Less than Significant	No mitigation is required.	Less than Significant
Parks and Recreational Facilities (construction period): All construction related to the project would occur within the boundaries of the campus and would not affect any recreational facilities located in the community. The	Less than Significant	No mitigation is required.	Less than Significant

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
proposed project would not affect existing or proposed recreational facilities on campus, including renovation and modernization of the existing gymnasium.			
Park and Recreation Facilities (operational): It is not expected that recreational facilities and parks located in the vicinity of the campus would be overburdened or faced with accelerated deterioration from increased use. Adequate recreational facilities occur on campus to meet current and future demands.	Less than Significant	No mitigation is required.	Less than Significant
Park and Recreation Facilities (cumulative): The proposed project would have no impact on local recreational facilities and parks. No cumulative impacts would occur.	Less than Significant	No mitigation is required.	Less than Significant
Draft EIR Section 3O – Transportation, Traffic, and Parking			
Traffic (operational): The addition of project traffic would contribute to already-deficient conditions on local roads. In 2017, under the proposed project conditions, four of the 27 study intersections would operate at level of service (LOS) E or worse in the AM peak hour, and six of the 27 intersections would operate at LOS E or worse in the PM peak hour.	Significant	Although the proposed mitigation measures appear feasible based on preliminary evaluation, their implementation depends on factors outside the control of CSUDH. Various jurisdictions have ownership over the study intersections. If, during project development and the review process, the mitigation measures at a particular intersection are determined to be infeasible by the responsible agency or agencies, the project impact identified at any such intersection would remain significant and unavoidable. **Victoria Street and Interstate 110 Southbound Off-Ramp** **T-1** Restripe the Interstate 110 southbound off-ramp at Victoria Street to one right-turn lane and one shared right-/left-turn lane. **Victoria Street and Figueroa Boulevard** **T-2** Restripe the westbound approach of Victoria Street to the intersection from one left-turn lane, one through lane, and one shared through/right lane to one left-turn lane, two through lanes, and one right-turn lane.	Significant for one intersection in the PM peak hour only

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
		~~**Avalon Boulevard and Victoria Street**~~ ~~T-3 Restripe the eastbound approach of Avalon Boulevard to the intersection from one left-turn lane, one through lane, and one shared through/right-turn lane to one left-turn lane, two through lanes, and one right-turn lane.~~ **Avalon Boulevard and Del Amo Boulevard** **T-4** Convert the northbound single left-turn lane at Avalon Boulevard to a dual left-turn lane. **Central Avenue and Artesia Boulevard Westbound** **T-5** Reconfigure the westbound approach of Artesia Boulevard from one left-turn lane, one shared left/through lane, and one shared through/right-turn lane to two left-turn lanes, one through lane, and one right-turn lane. **Central Avenue and Albertoni/Artesia Boulevard Eastbound** **T-6** Reconfigure the northbound approach of Central Avenue from two right-turn lanes and two through lanes to two right-turn lanes and three through lanes.	
Access and Parking (operational): By 2017, the master plan proposes a total of ~~6,162~~ 5,283 to 5,533 parking spaces at the campus, a net increase of ~~1,800~~ 750 to 1,000 parking spaces. With the increase, the number of parking spaces would be more than the number required to meet the demands of the 17,400 students who would be enrolled at the university by 2017. Intersections at existing and new campus driveways would operate at LOS A.	Less than Significant	No mitigation is required.	Less than Significant
Transportation, Traffic, and Parking (cumulative): According to the intersection analysis prepared for the project, the proposed project would not contribute to cumulatively considerable traffic impacts.	Less than Significant	No mitigation is required.	Less than Significant

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
Draft EIR Section 3P – Utilities			
Water Supply (construction period): The additional amount of water used during construction would not be substantial; however, construction of the expanded facilities would result in short-term impacts, such as interrupted water services.	Less than Significant	**UT-1** The applicant shall provide reclaimed water for the proposed project's nonpotable water needs, if feasible. To the maximum extent feasible, reclaimed water shall be used during the grading and construction phase of the proposed project for dust control, soil compaction, and concrete mixing.	Less than Significant
Water Supply (operational): A sufficient water supply exists to accommodate the proposed project.	Less than Significant	No mitigation is required.	Less than Significant
Water Supply (cumulative): Although an adequate water supply exists to accommodate the project, cumulative development could require the development of new water supply facilities and infrastructure, the construction of which could have significant impacts on the environment.	Potentially Significant	No feasible mitigation is available.	Potentially Significant
Wastewater (construction period): Construction of the proposed project would not result in the generation of substantial amounts of wastewater.	Less than Significant	No mitigation is required.	No Impact
Wastewater (operational): The increased amount of sewage from the CSUDH campus would result in a 0.05 percent increase in the amount of wastewater treated at the Hyperion Treatment Plant during normal dry-weather conditions. This increase is not considered substantial.	Less than Significant	No mitigation is required.	Less than Significant
Wastewater (cumulative): Cumulative growth and development in the area served by the Hyperion Treatment Plant could substantially increase wastewater treatment demand, and new treatment facilities could be required, the construction of which could have significant impacts on the environment.	Potentially Significant	No feasible mitigation is available.	Potentially Significant

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
Solid Waste *(construction period)*: The proposed project would generate solid waste during the construction phase. However, a minimum of 50 percent of the construction and demolition debris would be diverted in accordance with Assembly Bill 75.	Less than Significant	No mitigation is required.	Less than Significant
Solid Waste (operational): The average increase in solid waste per year would be approximately 29.32 tons. This additional solid waste contribution would be negligible, and area landfills are expected to have adequate capacity to meet this demand.	Less than Significant	No mitigation is required.	Less than Significant
Solid Waste (cumulative): Due to diminishing landfill capacity in the region, new landfills or waste disposal facilities could be required to accommodate solid waste generated by cumulative growth and development in the county, the construction of which could have significant impacts on the environment.	Potentially Significant	No feasible mitigation is available.	Potentially Significant
Electricity Services (construction period): Construction activities may require the use of electricity. However, adequate electrical supplies exist in the region to meet this temporary demand.	Less than Significant	No mitigation is required.	Less than Significant
Electricity Services (operational): The proposed project would result in increased demand for electricity. However, the proposed project proposes a cogeneration plant, which would provide approximately 85 percent of current annual electrical load requirements.	Less than Significant	No mitigation is required.	Less than Significant
Energy (cumulative): New or improved transmission and distribution facilities would be required to meet increased energy demand from population growth and maintain an adequate level of service. Construction of these facilities could have an adverse impact on the environment.	Potentially Significant	No mitigation is required.	Potentially Significant
Natural Gas Services (construction period): Construction activities would not require substantial amounts of natural gas. Adequate supplies of natural gas exist in the region.	Less than Significant	No mitigation is required.	Less than Significant

Impact	Level of Significance before Mitigation	Mitigation Measures	Level of Significance after Mitigation
Natural Gas Services (operational): Existing on-site natural gas pipelines would be extended to the proposed cogeneration plant as necessary. The Southern California Gas Company is expected to be able to accommodate the projected increase in demand from the proposed project.	Less than Significant	No mitigation is required.	Less than Significant
Natural Gas Services (cumulative): The Southern California Gas Company is expected to be able to accommodate the projected increase in demand from the proposed project as well as related projects.	Less than Significant	No mitigation is required.	Less than Significant

Source: ICF Jones & Stokes, 2007.

Chapter 1
Introduction

Purpose of the EIR

This EIR was prepared to evaluate the significant or potentially significant environmental impacts associated with development of the California State University, Dominguez Hills Master Plan and address appropriate and feasible mitigation measures and alternatives to the proposed project that would reduce or eliminate those impacts. This draft EIR has been prepared pursuant to the *State CEQA Guidelines* (California Code of Regulations, Title 14, Section 15000 et seq.) and CEQA statutes provided in California Public Resources Code Section 21000 et seq.

All "projects" within the State of California are required to undergo an environmental review in accordance with CEQA to determine if the action would result in any environmental impacts. Accordingly, a project is defined as requiring environmental review pursuant to CEQA if the whole of its action has the potential to result in either a direct physical change to the environment or a reasonably foreseeable indirect physical change in the environment. More specifically, a project requires environmental review if it incorporates an action undertaken by a public agency; is an activity that is supported in whole or in part through public agency contracts, grants, subsidies, etc.; or, in the case of the proposed project, is an activity requiring a public agency to issue a lease, permit, license, certificate, or other entitlement.

CEQA was enacted in 1970 by the California legislature to disclose to decision makers and the public the significant environmental effects of proposed activities and the ways to avoid or reduce those effects by requiring implementation of feasible alternatives or mitigation measures. CEQA applies to all California government agencies at all levels, including local government agencies, that must issue permits or provide discretionary approvals for projects proposed by private applicants. Therefore, the CSU system is required to conduct an environmental review of the proposed project and consider the environmental effects before making a decision on the proposed project. In accordance with CEQA, CSU is the lead agency for the preparation of this EIR, and CSU has taken primary responsibility for conducting the environmental review and certifying the EIR.

EIR Public Scoping and Circulation

The draft EIR, which is the basis of this final EIR, was circulated to the public and agencies for review and comment. One of the primary objectives of CEQA is to enhance public participation in the planning process. This document is meant to inform agencies and the public of significant environmental effects associated with the proposed project, describe and evaluate reasonable alternatives to the project, and propose mitigation measures that would avoid or reduce the project's significant effects. Therefore, public involvement is considered an essential feature of CEQA. Community members are encouraged to participate in the environmental review process, request notification, monitor newspapers for formal announcements, and submit substantive comments to the lead agency. The environmental review process provides several opportunities for the public to participate through scoping, public notice, public review of the CEQA document, and public hearings. Additionally, agencies are required to consider comments from the scoping process in the preparation of the draft EIR and respond to public comments in the final EIR.

The preparation of an EIR is guided by a complex set of laws and guidelines. The process begins by determining whether the project is subject to environmental review. The second phase involves determining whether the project would have significant environmental effects. If it is determined that the project could result in significant environmental effects, then a notice of preparation (NOP) is circulated, and a draft EIR is then prepared. CSU will consider the final EIR for certification following the public review and comment period.

In accordance with the *State CEQA Guidelines*, the draft EIR was submitted to the State Clearinghouse for distribution to interested state agencies. As mandated by CEQA, this document was circulated for 45 days from November 19, 2007, through January 7, 2008. Responses to any comments received and any necessary revisions to the draft EIR are provided in the final EIR. This CEQA document is currently at the final EIR phase. Subsequent to responding to comments received ~~on the~~ from the public and agencies, as well as approval by CSU, this CEQA document will be considered complete, and the project will be authorized to proceed as described.

Scope of the EIR

This final EIR addresses the potential environmental effects of the proposed project. It was prepared after initial review in accordance with the CEQA checklist, circulation of the draft EIR, court mandates, and distribution to responsible and affected agencies. Scoping for the draft EIR was conducted using all of the tools required and recommended by CEQA.

In accordance with Section 15063 of the *State CEQA Guidelines*, an NOP was prepared and distributed to responsible and affected agencies and other interested parties for a 30-day public review period. The public review period for the NOP

began on March 26, 2007, and ended on April 27, 2007. The NOP was also posted in the CSU clerk's office and sent to the State Clearinghouse at the Governor's Office of Planning and Research to officially solicit statewide agency participation in determining the scope of the draft EIR.

The draft EIR was prepared and then circulated for public review and comment for a period of 45 days between November 19, 2007, and January 7, 2008. During this period, comments from the general public, organizations, and agencies on environmental issues raised in the draft EIR and on the accuracy and completeness of the draft EIR were submitted to the CSU at the following address:

Mary Ann Rodriguez
Vice President, Administration and Finance
California State University, Dominguez Hills
1000 East Victoria Street
Carson, CA 90747
Phone: (310) 243-3750
CSUDH_masterplan_comments@jsanet.com

Upon completion of the public review period, this Final EIR has been prepared to include the comments on the draft EIR received during the formal public review period as well as responses to those comments (see Chapter 8 of this Final EIR). In accordance with the Public Resources Code 21092.5, the CSU is providing each public agency that commented on the draft EIR with a copy of the CSU's response to the agency's comments at least 10 days prior to certifying this Final EIR.

Prior to approval of the proposed project, CEQA requires the CSU to adopt "findings" with respect to each significant environmental effect identified in the EIR (Public Resources Code, Section 21081; *State CEQA Guidelines*, Section 15091). For each such significant effect, CEQA requires the approving agency to make one or more of the following findings:

- The project has been altered to avoid or substantially lessen significant impacts identified in the EIR;
- The responsibility to carry out the above is under the jurisdiction of another agency; 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 the event that the CSU, as the lead agency, concludes that the proposed project will result in significant effects that are identified in the EIR but are not substantially lessened or avoided by feasible mitigation measures and alternatives, the County must adopt a "statement of overriding considerations" prior to approval of the proposed project (Public Resources Code, Section 21081, subd. (b); *State CEQA Guidelines*, Section 15093). Such statements are intended under CEQA to provide a written means by which the lead agency balances in writing the benefits of the proposed project and the significant and unavoidable

environmental impacts. 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.

In addition, pursuant to Section 21081.6 of the Public Resources Code, public agencies, when approving a project, must also adopt a monitoring or reporting program for 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. The reporting or monitoring program is adopted at the time of project approval and must be designed to ensure compliance during project implementation. If CSU, as the lead agency, approves the proposed project, CSUDH will implement the proposed project and mitigation monitoring program on behalf of CSU.

Required EIR Contents

In addition to the environmental issues identified above, this final EIR includes all of the sections required by CEQA. Table 1-1 contains a list of sections required under CEQA, along with a reference to the chapter in which they can be found.

Table 1-1. Required Final EIR Contents

Requirement/CEQA Section	Location in EIR
Table of Contents (Section 15122)	Table of Contents
Summary (Section 15123)	Summary
Introduction	Chapter 1
Project Description (Section 15124)	Chapter 2
Significant Environmental Impacts (Section 15126.2)	Chapter 3, Sections A–P
Environmental Setting (Section 15125)	Chapter 3, Sections A–P
Mitigation Measures (Section 15126.4)	Chapter 3, Sections A–P
Cumulative Impacts (Section 15130)	Chapter 3, Sections A–P
Alternatives to the Proposed Project (Section 15126.6)	Chapter 4
Growth-Inducing Impacts (Section 15126.2)	Chapter 5
Effects Found Not to Be Significant (Section 15128)	Chapter 5; Chapter 3, Sections A–P
Unavoidable Significant Adverse Impacts (Section 15126.2)	Chapter 5; Chapter 3, Sections A–P
Bibliography	Chapter 6
Organizations and Persons Consulted (Section 15129)	Chapter 6
List of Preparers (Section 15129)	Chapter 7
Responses to Comments	Chapter 8

Source: ICF Jones & Stokes, 2007, updated June 2009.

Chapter 2
Project Description

Introduction and Overview

CSUDH was officially incorporated into the California State University system in 1966. CSUDH offers 43 undergraduate majors, 19 master's degrees, and a number of certificate and credential programs. The 4-year university is accredited by the Accrediting Commission for Secondary Colleges and Universities of the Western Association of Schools and Colleges (WASC), the Association of Collegiate Business Schools and Programs (ACBSP), and the National Association of Schools of Public Affairs and Administration (NASPAA).

Since circulation of the draft EIR for public review in November 2007, CSUDH has further refined its master plan. The project description has been revised to reflect these changes.

Project Location and Setting

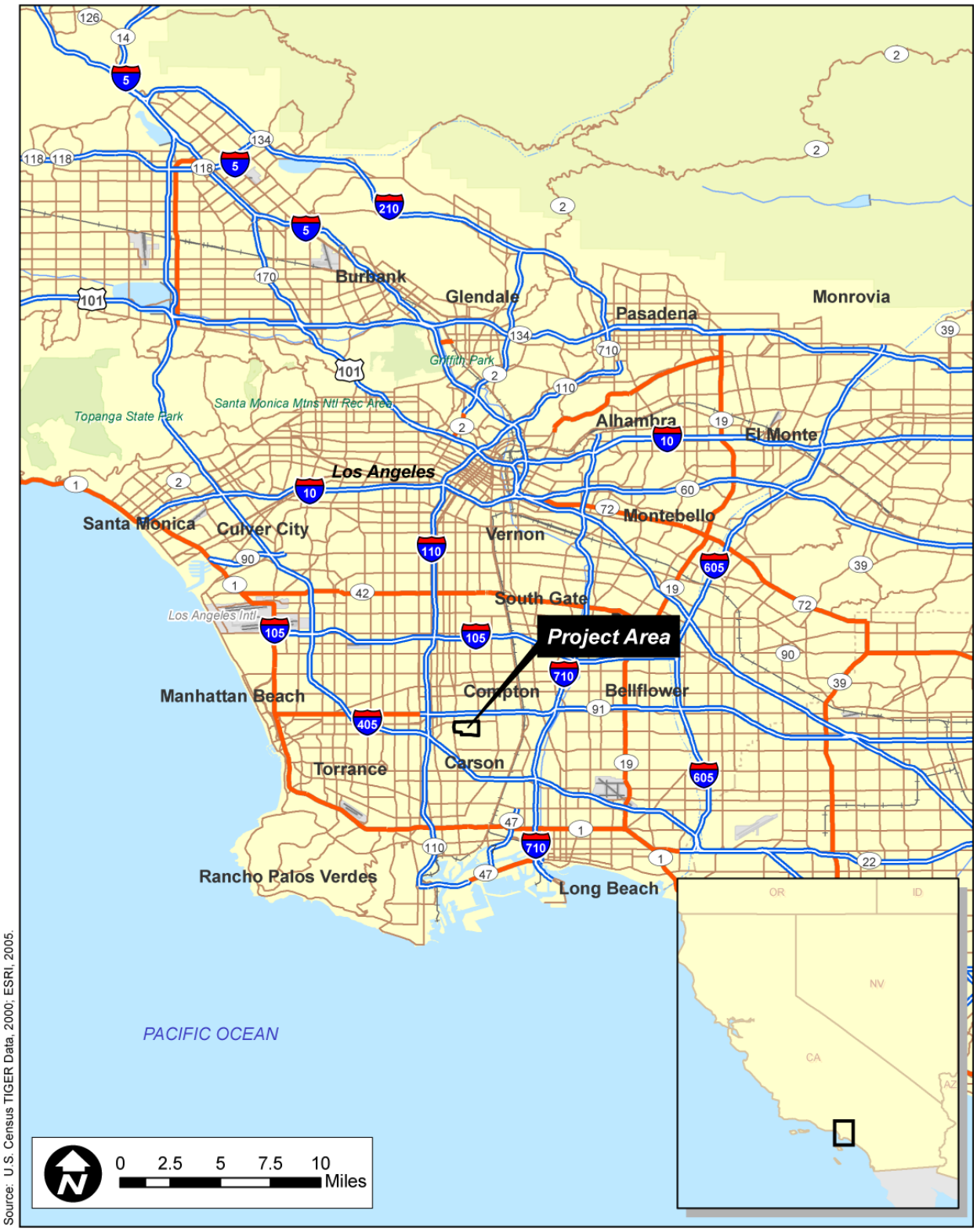
Physical Setting

The CSUDH campus is located in southern Los Angeles County, in the City of Carson (City), southwest of the intersection of Central Avenue and East Victoria Street. See Figures 2-1 and 2-2 for the regional setting and project vicinity maps. The CSUDH campus is situated near the top of the Dominguez Hills. The topography of the campus is characterized by changes in grade, with elevations that range from approximately 30 feet near the southwestern corner of the campus to 140 feet in the northeastern corner of the campus. The grade changes have been incorporated into the design of the buildings and open spaces, creating multilevel patios, berms, and sunken courtyards.

Surrounding Land Uses

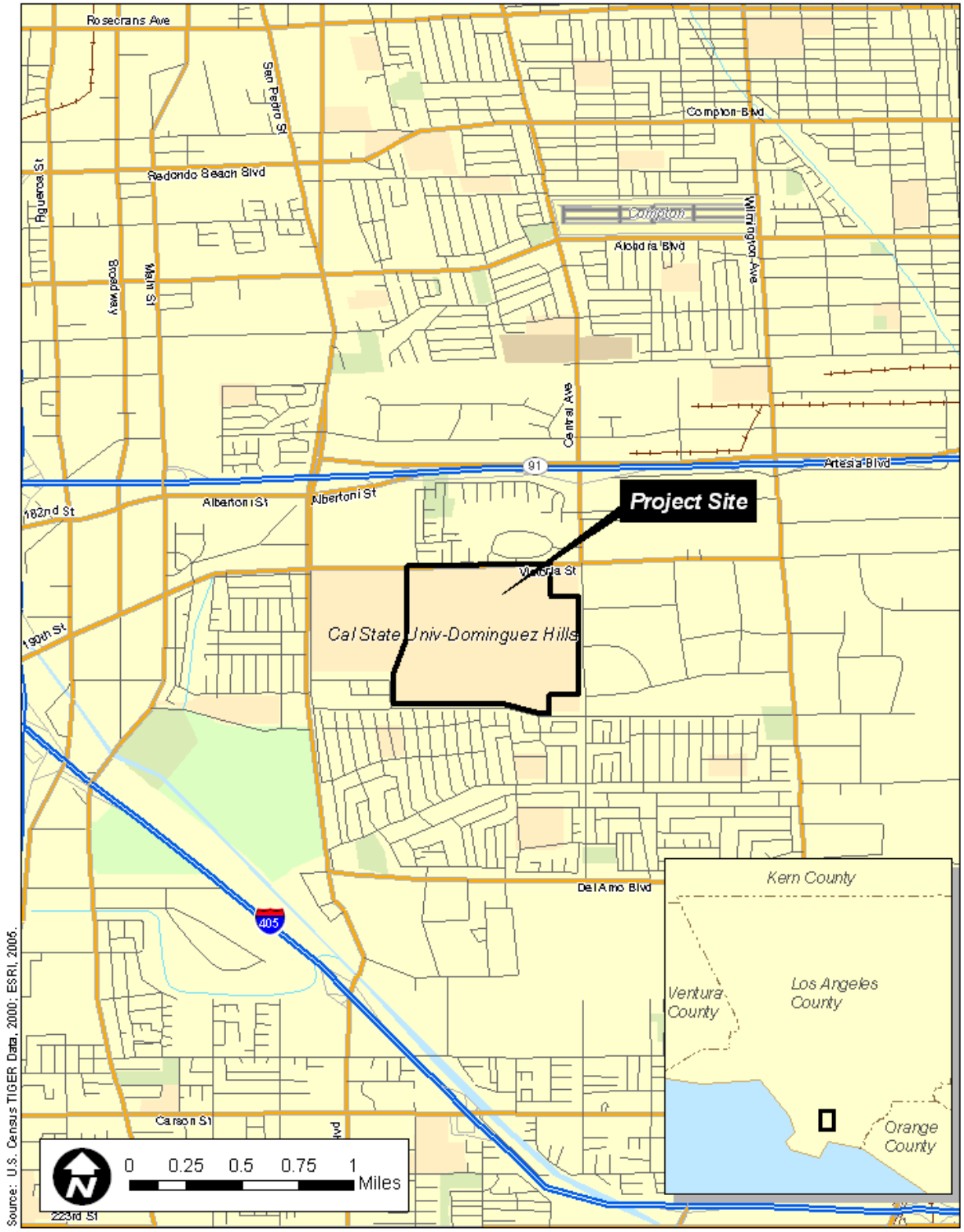
The CSUDH campus is bordered by East Victoria Street to the north, Central Avenue to the east, University Drive to the south, and Avalon Boulevard to the west. A variety of uses surrounded the campus: to the north, across Victoria Street, is a residential community; west of campus and immediately adjacent to

Figure 2-1: Regional Setting Map



Source: U.S. Census TIGER Data, 2000; ESRI, 2005.

Figure 2-2: Project Vicinity Map



its boundary is the Home Depot Center; to the south, along University Drive, is another residential community; and to the east, along Central Avenue, are industrial uses. The campus is accessible to the greater Los Angeles region from three major freeways, Interstates 405 and 110 and State Route 91.

Existing General Plan and Zoning

The City of Carson General Plan designates the campus as "Public Facilities." The campus is zoned as Special Use (College) within the City of Carson's Zoning Ordinance.

Overview of Existing Campus Facilities

The university's original campus consisted of 346 acres. As of 2002, 85 acres on the west end of the campus were leased to the Anschutz Development Company for development of a privately operated soccer training facility with a soccer stadium, tennis stadium, velodrome, parking facilities, and practice fields. The remaining 261 acres contain existing CSUDH campus facilities, along with undeveloped land.

The academic core is located in the north-central portion of the site. Surface parking facilities are distributed around this core. Student support facilities such as the Cain Education Center (library) and the Loker Student Center are located in the center of the campus. Student housing is a contained development at the east end of the campus. Athletic facilities are located on the southwestern portion of the campus, adjacent to the Home Depot Center. A portion of the south-central part of the campus is occupied by the California Academy of Mathematics (CAMS), a special high school-level program that allows participating students to use CSUDH food service and library facilities. Undeveloped land in the southern and southeastern portions of the campus is currently leased to a commercial nursery for geranium farming.

Master Plan Concepts

When CSUDH entered into a land lease agreement with the Anschutz Development Company for development of the U.S. Soccer National Training Center, now referred to as the Home Depot Center, questions were raised concerning the university's ability to meet its projected enrollment cap of 20,000 FTE students within the remaining 261-acre campus. AC Martin Partners was engaged in 2003 to conduct a capacity and central precinct study and develop land use strategies to accommodate the university's enrollment cap, which was established in the original 1964 master plan.

The primary principles guiding the ~~2006~~ 2009 master plan are to 1) create a campus designed to reinforce educational mission, 2) use open space as a campus organizing tool, 3) define and harmonize campus character by landscape, 4) reinforce the pedestrian character of the campus core, and 5) overcome grade changes and strengthen the campus fabric.

In the master plan design process, campus planning, landscape, and building design guidelines were identified and followed to address issues related to the physical development of the campus. Master plan development focuses on expanding the campus development footprint by intensifying use of the campus core, then expanding outward to development pads to the south, north, and east within the existing campus boundaries. The master plan notes that existing open spaces are underused and therefore should be developed to help meet the expansion needs of the academic and administrative services.

The land use component of the master plan focuses on 1) separating on-campus vehicle circulation from pedestrian circulation; 2) distributing parking facilities to the periphery of the campus core for convenient access from surrounding arterials and roadways; and 3) maintaining the campus academic core as a pedestrian zone by reducing general use of campus through roads while providing access for accessible parking and service and emergency vehicles.

The ~~2006~~ 2009 master plan provides design guidelines for future growth and development on the campus. Some of the focal design strategies identified in the ~~2006~~ 2009 master plan, which take into account the existing character of the campus, were to retain

- a clearly identifiable modern architectural style for the main buildings,
- a sloping campus with changes in grade and topography,
- a compact and exclusively pedestrian campus core, and
- a thematic double-tree canopy composed of tall ~~eucalyptus~~ trees and shorter floral trees.

Sustainable design would be promoted in the master plan by following the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED™) Green Building Rating System and the University's Sustainable Building Principles, Standards, and Processes.

Goals of the Master Plan

The intent of the ~~2006~~ 2009 master plan is to map out a trajectory for growth and change that will enhance the physical campus, reinforce the university's strengths, ameliorate its weaknesses, and support the university's mandate to provide high-quality education to a large student body. Specifically, the master plan facilitates the university's ability to

- support the faculty and staff with appropriate teaching, research administrative facilities;
- reinforce the sense of campus community by providing in-class and out-of-class opportunities for faculty, student, and staff collaboration;
- make available the appropriate facilities for informal recreation and intercollegiate athletics;

- serve as an accessible, attractive, safe, and welcoming campus for students, staff, faculty, and the community;
- serve as a regional center for intellectual, athletic, cultural, and life-long learning;
- adequately manage and maintain all campus facilities;
- preserve a balance between open space and built structures;
- maintain its stewardship of campus landscape and natural resources; and
- continue its good relations with the City of Carson and the surrounding community.

To achieve these goals, the ~~2006~~ 2009 master plan provides CSUDH with a framework for development that updates the 1964 master plan. The ~~2006~~ 2009 master plan is a strategic approach to the development of the physical campus that provides support for both immediate and long-term decision making by

- documenting and evaluating existing campus conditions,
- assembling and recording documentation of future campus needs and requirements,
- identifying appropriate sites for development of new facilities to support the needs of current and future growth,
- specifying safe and functional pedestrian and vehicle circulation patterns,
- quantifying parking requirements and identifying sites for adequate parking facilities,
- incorporating facilities currently under construction into the campus fabric, and
- specifying design guidelines to govern height limits, setbacks, building area, and connections with campus open space, pedestrian pathways, and vehicle access roads with new structures.

Horizon Year for the Master Plan

The ~~2006~~ 2009 master plan has been prepared to accommodate a future enrollment of 20,000 FTE students. Enrollment for the academic year 2005–2006 was 8,718 FTE students (or 13,671 students). Using the current growth rate, the master plan estimates that a future benchmark of 10,000 FTE students will occur around ~~2015~~ 2014, and 20,000 FTE students will occur around ~~2040~~ 2089.

Although a 20,000 FTE students buildout is envisioned in the master plan, the master plan acknowledges that a sequential phasing plan would need to be developed because some projects cannot be justified until an actual need occurs that can be demonstrated. Also, some projects cannot be constructed until other projects upon which they depend are constructed, and some projects may require long lead times to obtain sufficient funding.

The master plan identifies near- and long-term projects. The near-term projects are likely to be built within the next ~~10~~ 8 years if funding is available and enrollment levels justify construction of new facilities.

Approach of the EIR

The proposed EIR is a program/project EIR. Near-term projects are projects that will be needed to accommodate an enrollment level of approximately 11,000 FTE students (or 17,368 students). ~~According to current estimates 11,000 FTE students would be achieved by 2017.~~ According to current estimates in the 2009 master plan, an enrollment level of 10,518 FTE students would be achieved in 2017. For the purposes of the EIR, this number was conservatively rounded up to 11,000 FTE students in 2017. Near-term projects would be constructed in a phased manner over the next ~~10~~ 8 years. If enrollment levels do not reach 11,000 FTE students by 2017, or if funding is unavailable, some of the near-term projects may not be built. The environmental impacts for the near-term projects are analyzed in detail in this EIR. The near-term projects are in various phases of design and planning. Since more information is available for these projects, greater analysis can be provided.

Long-term projects are those that will be required to meet the demands of 20,000 FTE students (or 31,344 students). These projects have been defined in concept only, and no formal design efforts have begun. In the draft EIR, released for public review in November 2007, it was assumed that an enrollment level of 20,000 FTE students would be achieved by 2040. The 2009 master plan revised the FTE estimates based on current enrollment information and growth trends. It is expected that enrollment will increase at a slower rate than previously anticipated. The 2040 FTE student projection has been revised downward to 13,565. For the purposes of this EIR, a conservative higher estimate of 14,000 FTE students is assumed for 2040. It is expected that a buildout enrollment of 20,000 FTE students will occur much later, perhaps in 2089, based on current enrollment trends. The environmental analysis in Chapter 3 of this EIR has been revised based on the updated 2040 enrollment numbers. ~~According to current growth trends for enrollment at the university, 20,000 FTE students would be achieved by 2040.~~ Since long-term projects would be constructed far in the future, beyond the planning horizon of local and regional plans, the impacts of these future projects can only be qualitatively assessed. For example, the horizon year for the Regional Transportation Plan is 2030; for the South Coast Air Quality Management Plan and the City of Carson General Plan, the horizon year is 2020. ~~Therefore, the program portion of this EIR would analyze impacts for 2040 qualitatively.~~ While the buildout enrollment of 20,000 FTE students is projected to occur in 2089, any analysis of the impacts of development beyond 2040 is too speculative and, therefore, is not included in this document.

As enrollment levels rise beyond 11,000 FTE students, appropriate environmental documentation would be prepared to address new construction (not previously addressed in this project EIR) to accommodate enrollment growth.

Long-Term (2040) Projects

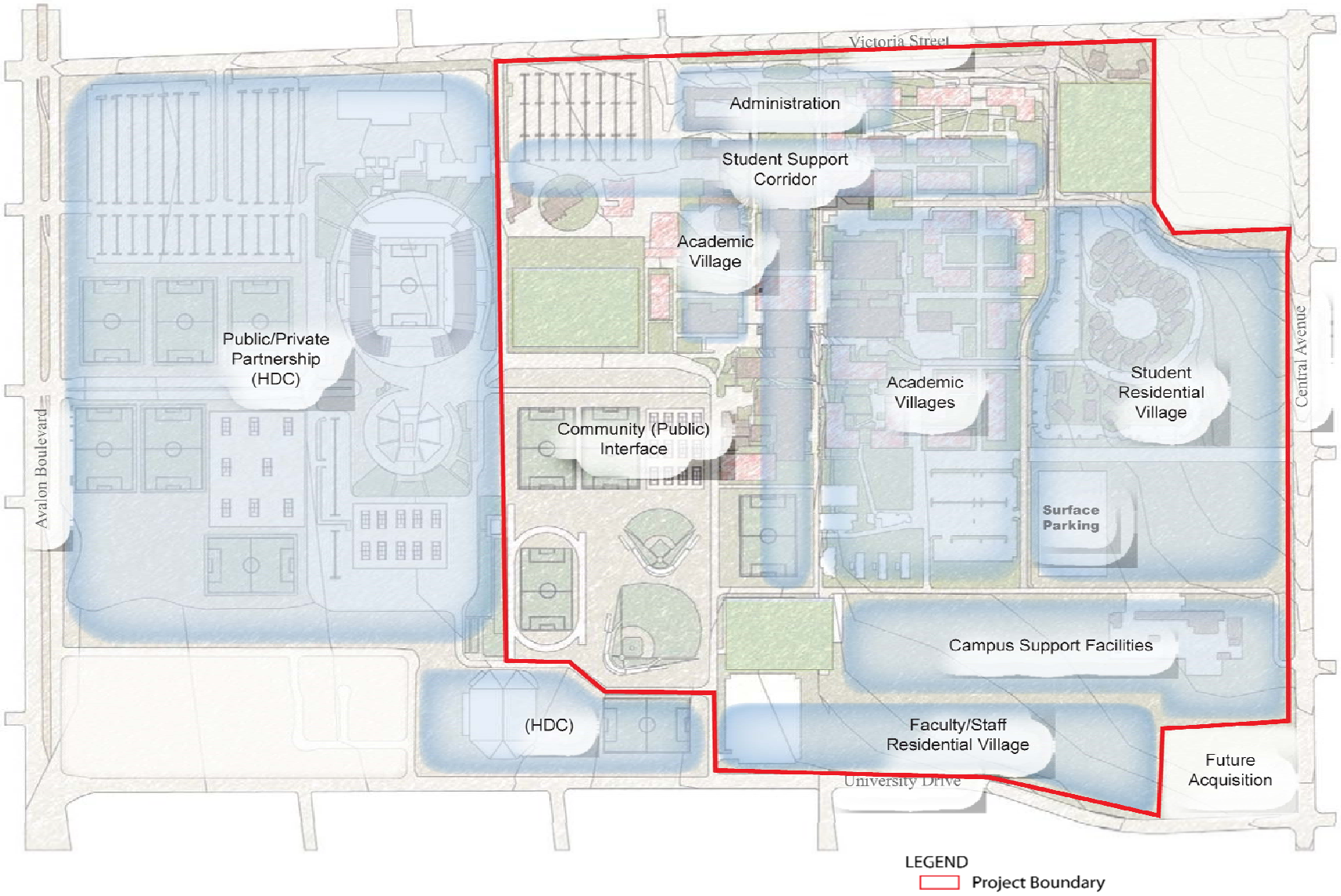
The long-term development of the campus as envisioned in the master plan includes various academic/administrative facilities, campus life and student support facilities, vehicle access, circulation and parking projects, campus infrastructure, and athletic fields and playfields. As shown in Figure 2-3, Functional Organization of the Campus, student support functions form a "T" at the heart of the campus, which is surrounded by academic villages. On the periphery of this academic core are student residential villages, parking areas, and recreational/playfield uses. Surrounding these functional areas are campus-wide support areas, which are designated areas for future faculty/staff housing facilities. This organizational structure allows CSUDH substantial flexibility as the campus grows and, at the same time, permits alterations to reflect the needs of a changing pedagogy and university priorities over the long term.

New academic and administrative facilities would be arranged along quadrangles; these quadrangles would be formed through construction of new academic, classroom, laboratory, and faculty office and other administrative office buildings. The prototype for the buildings assumes four stories and an average floor area of 40,000 square feet (60,000 to 90,000 square feet for academic and administrative buildings). ~~According to this prototype, the buildings would have a total floor area of between 687,000 and 1,058,000 square feet and would be sufficient to accommodate additional students up to the 20,000 FTE level.~~ According to this prototype, 21 buildings with an additional 1,318,000 square feet, or 2,029,000 gross square feet (gsf), of floor area, as proposed in the master plan, would be adequate to accommodate any additional students up to 20,000 FTE students.

Campus life and support facilities include new dining, student services and recreation, and performance facilities. A 1,500-seat performing arts center to be used by the campus and community is also proposed.

Under the plan, two surface lots located on the campus periphery would be retained. The master plan anticipates a need for 7,285 on-site parking spaces to accommodate 13,565 FTE students in 2040.The 2009 master plan calls for increasing the amount of parking provided on campus at buildout (for 20,000 FTE students), principally through the construction of three parking structures on existing surface parking lots at strategic locations. These structures would be accessible directly from the campus periphery. ~~Three parking structures are proposed and would be located on existing lots that are directly accessible to the campus periphery. These parking structures would accommodate 7,200 vehicles and accommodate the parking needs of 20,000 FTE students on campus.~~ Entry points would be visually reinforced with monument signs and landscape improvements with directional signs. An internal campus circulation loop would be created by partial closure of Toro Center Drive.

Figure 2-3: Functional Organization of the Campus



Source: CSUDH 2007, updated 2009.

The campus Physical Plant occupies 3.4 acres; an additional 4.2 acres to the south and west of the plant is reserved for future expansion of campus maintenance facilities.

Near-Term (2017) Projects

Given the refinements presented in the 2009 master plan, a number of near-term projects have been revised. Most notable is the removal of plans to construct a parking structure on Lot 7 and the decision to replace it with a 750- to 1,000-space surface parking lot. All changes to projects are presented in underline and strikeout below.

New Building Construction Projects

Please see Figure 2-~~3~~4 for the locations of the proposed near-term projects and the existing facilities on campus.

New Science and Health Professions Laboratory Building

A four-story**,** 150,000-square-foot science and health professions laboratory building would be constructed on the campus. Two locations have been proposed for the building: 1) south of the existing natural sciences and mathematics building or 2) within the Small College Complex.

Extended Education Complex Addition

A two-story**,** 22,000-square-foot addition is planned for the extended education complex, which houses the College of Extended and International Education. The addition would be located to the east of the existing extended education complex. Many of the programs offered at the extended education complex are open to the community.

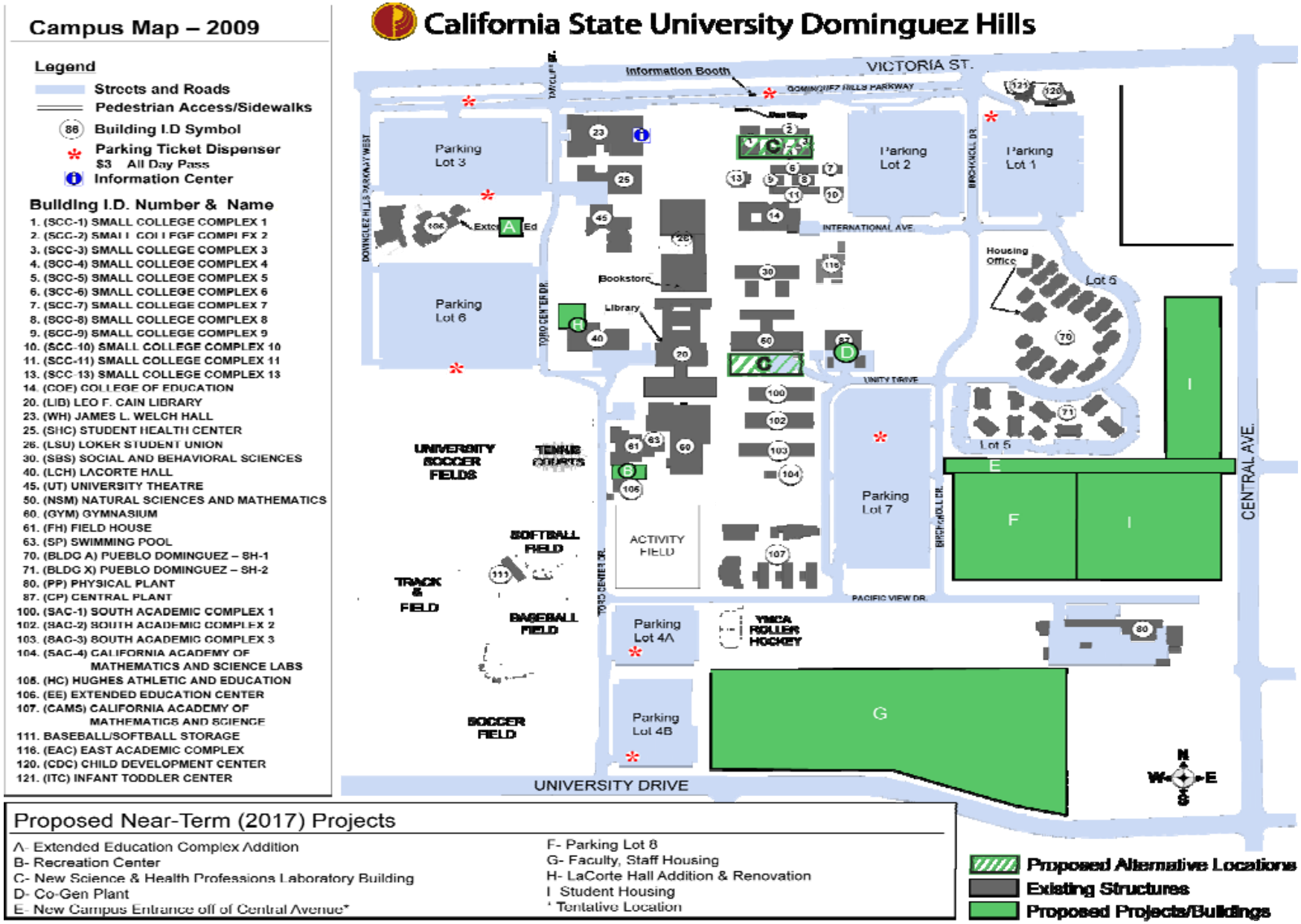
La Corte Hall Addition and Renovation

A 47,000-square-foot, or 72,000 gsf, four-story addition to La Corte Hall (Building 40 in Figure 2-4) is proposed. Proposed improvements would include some limited remodeling to transition from the existing fine arts building to the new addition. The project would provide studio space for sculpting and painting, lecture areas, as well as appropriate support space.

~~Loker Student Union Addition – Fitness Center~~

~~A 40,000 gsf addition to the Loker Student Union building is proposed. The addition would be used for a fitness center.~~

Figure 2-~~3~~4: Locations of the Proposed Near-Term Projects and the Existing Facilities on Campus



Recreation Center

A 110,400 gsf recreation center is proposed in the vicinity of the existing gymnasium and playfields (see project B in Figure 2-4).

Faculty and Staff Housing

Faculty and staff housing would be provided on a 23-acre area in the southeast corner of the campus. The housing would be for campus faculty and staff only. The faculty and staff housing would be accessed directly via University Drive.

Although no design plans have been developed, the master plan lays out a concept for development of this housing. The range of housing types that could be built range from two-story attached town home-type units to apartment/condo-type units that could be up to four stories. Depending on the mix and size of units, the 23-acre site could accommodate up to an estimated 230 to 350 units (assuming an overall density of 10 to 15 units per acre), or 998,757 square feet of total floor area. Access to the faculty and staff housing would be provided via a new driveway on University Drive.

Student Housing

Two areas east and southeast of the existing Pueblo Dominguez student housing area, totaling approximately 18.3 acres, have been designated for future student housing. Currently, student housing is proposed along Central Avenue and would contain a total of 798,280 gsf of floor space. The student housing buildings would be no more than four stories in height.

Student housing would be constructed in two phases; Phase I would include construction of a building with 300 beds. Similar to the existing layout, the 600 beds for future student housing would be accommodated within 1-, 2-, and 3-bed units.

Southeast Campus Site Development/Infrastructure

It is proposed that a single-story, 3,500-square-foot cogeneration facility be located within the existing Central Plant area. The facility would be accessed via Pacific View Drive at Central Avenue.

Campus Site Accessibility Development

Existing sidewalks within the campus would be improved to meet Americans with Disabilities Act (ADA) standards. Additional internal sidewalks or ramps may be constructed, as necessary. The intent of these improvements is to provide ADA-accessible sidewalks from the points of arrival on campus to the campus grounds and public outdoor facilities; improvements would include external building-to-building access and accessible parking spaces throughout the campus.

Access and Parking Projects

~~Parking Structure on Lot 7~~

~~A 2,400-space, five-level, 720,000-square-foot parking structure is proposed. The parking structure would likely be located on the southern half of existing parking lot 7. A total of 600 existing surface parking spaces would be lost due to construction of the parking structure.~~

New Campus Entrance from Central Avenue

A new entrance and access road is tentatively proposed from Central Avenue at Beachey Place that would connect to the existing east–west circulation system on campus and provide access to future surface parking on Lot 8. The access road would have two lanes.

Parking Lot 8

A 750- to 1,000-space surface parking lot, Lot 8, is proposed in proximity to existing Lot 7 on the east side of the campus. For the long term, the parcel is designated for student housing; therefore, the parking lot would be incorporated into the proposed student housing complex in the future.

Renovation and Modernization Projects

Cain Library Educational Resource Seismic Safety and Fifth-Floor Remodeling

A seismic safety retrofit of the existing building is also planned. The existing building has a total area of 129,200 square feet and is five stories in height. Also, the 30,625-square-foot fifth floor of the existing building would be remodeled.

Natural Sciences and Mathematics Building Remodeling (classrooms and offices)

Remodeling of the natural sciences and mathematics building, encompassing 85,500 square feet, is proposed. The natural sciences and mathematics building is located in the center of the campus.

Social and Behavioral Sciences Building Remodeling

Remodeling of the social and behavioral sciences building, encompassing 27,800 square feet, is proposed. The social and behavioral sciences building is located in the center of the campus.

Construction Scenario

The estimated start and end dates of construction are provided below (see Table 2-1). The construction scenario may change depending on availability of funding and enrollment growth at the campus, which drives demand for these facilities.

No substantial grading is expected for any of the near-term projects. The regulation pertaining to the City's construction hours of 7 a.m. to 7 p.m. Monday through Saturday would be followed. Construction would not occur on Sundays or holidays.

Table 2-1: Proposed Master Plan Components

Project Name	Size (gsf)	Construction Schedule*
Proposed Facilities/Buildings		
New Science and Health Professions Laboratory Building	150,000	ES ~~2010~~ TBD EF 2012
Extended Education Complex	22,000	ES 2011 EF 2013
Faculty and Staff Housing	998,757	ES TBD EF TBD
Student Housing – Phase I (300 Beds)	245,288	ES TBD EF TBD
Student Housing – Phase II (300 Beds)	552,992	ES TBD EF TBD
Cogeneration Plant	3,500	ES 2009 EF 2009
~~Parking Structure on Lot 7~~	~~720,000~~	~~ES 2016~~ ~~EF 2018~~
La Corte Hall Addition and Renovation	72,000 gsf	ES 2012 EF 2013
Surface Parking Lot 8	700 to 1,000 spaces	ES 2017 EF 2017
Campus Site Accessibility Development		ES 2014 EF 2014
~~Loker Student Union Addition (fitness center)~~	~~40,000~~	~~ES 2014~~ ~~EF 2016~~
Recreation Center	110,400	ES 2014 EF 2016
New Campus Entrance off Central Avenue		ES 2016 EF 2016

Project Name	Size (gsf)	Construction Schedule*
Renovation and Modernization		
Cain Library Seismic Safety Retrofit	66,200	ES 2010 EF 2012
Cain Library Fifth-Floor Remodeling	30,635	ES ~~2012~~ 2010 EF 2012
Natural Sciences and Mathematics Building Remodeling (classrooms and offices)	85500	ES 2012 EF 2014
Social and Behavioral Sciences Building Remodeling	27,800	ES 2014 EF 2015

Notes:

* These dates are tentative and may be adjusted as design and planning proceeds to accommodate the university's needs and requirements or availability of funds.

ES = expected start date of construction; EF = estimated finish date; TBD = to be determined.

Source: CSUDH, 2009.

Operational Characteristics

According to current projections, enrollment levels are expected to grow to 11,000 FTE students by 2017 and ~~20,000~~ 14,000 FTE students by 2040. Please see Table 2-2 for student enrollment and faculty/staff projections.

Table 2-2: Student Enrollment and Faculty/Staff Projections

	Students (FTE students/student headcount)*	Faculty/Staff (headcount only)
2006	8,700 FTE students/13,671 students	972
2009	9,554 FTE students/14,388** students	1,328 (897 full time and 431part time)**
Proposed—2017	11,000 FTE students/17,368 students	1,650
Proposed—2040	~~20,000~~14,000 FTE students/ 21,420 students***	1,820****

* FTE student numbers have been rounded. The 2009 master plan estimates 10,518 FTE students by 2017 and 13,565 FTE students by 2040.

**CSUDH 2009b.

***Extrapolated form given FTE students x (average)153%=Student Headcount

****Extrapolated form given FTE students x (average)13%=Faculty/ Staff Headcount

Source: CSUDH, 2007, updated 2009.

Related Projects and Cumulative Development

CEQA regulations require that an EIR discuss the cumulative impacts of a project when the effect is cumulatively considerable. A cumulative impact results when the project evaluated in the EIR combines with other projects to cause related impacts. Under the *State CEQA Guidelines*, any of the following can be used as the basis for the cumulative impacts discussion:

- a list of past, present, and probable future projects producing related or cumulative impacts;
- a summary of growth projections in an adopted general plan; and
- a related planning document.

Provided below in Table 2-3 is a list of related projects in the general vicinity of the campus that could result in localized cumulative impacts. The related projects are within an approximately 1.5-mile radius of the campus and are either proposed, in the planning stage, under construction, or recently completed. The locations of the related projects are shown in Figure 2-5. Also provided below is a discussion of relevant growth plans and policies. For a detailed discussion of the project's potential cumulative impacts, please refer to Chapter 3 of this EIR.

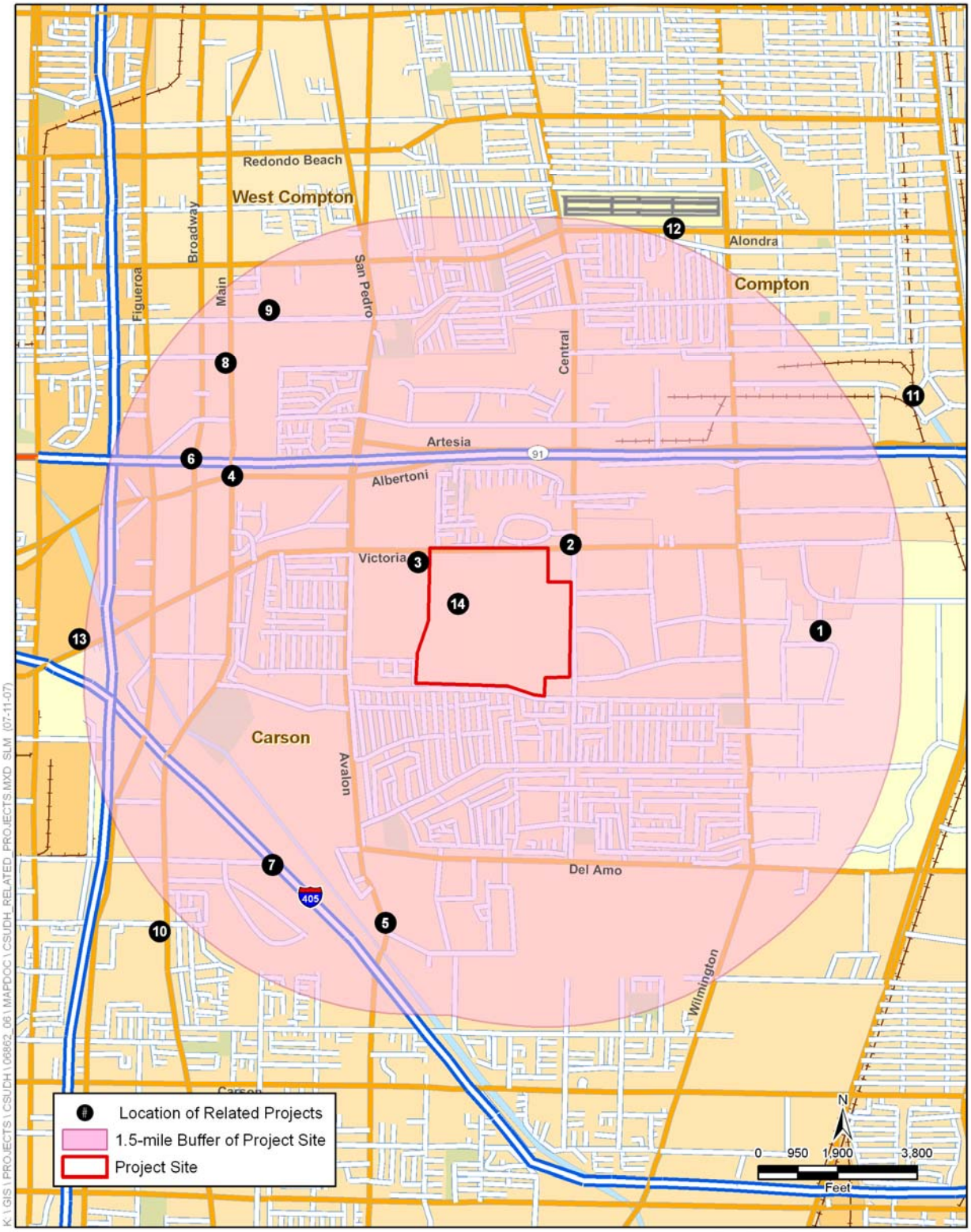
Table 2-3: Related Projects – CSUDH Master Plan

ID	Project Name	Location	Description	Status
		LOS ANGELES COUNTY		
1	Dominguez Technology Center	18553 Dominguez Hills Drive	Construction of 840,997-square-foot (sf) technology space, 693,822 sf industrial space, 567,673 sf office space.	Unknown
		CITY OF CARSON		
2	Dominguez Hills Village	Northeast corner of Victoria Street and Central Avenue	Construction of childcare facility for 150 children.	~~Site graded; construction in progress~~ Project is complete
3	CSUDH/Home Depot Center Phase II	18400 Avalon Boulevard	Construction of a 200-room hotel, including a 5,000 sf restaurant and 10,000 sf meeting room/banquet space. The project includes a 110,000 sf office/ athletic performance center/field house training facility (30,000 sf for office space, 30,000 sf for the athletic performance center, and 50,000 sf for training facilities). The project also includes a 240-bed dormitory and reconfiguration of 212 dedicated parking spaces.	Unknown
4	Prime Wheel Expansion (Phase I) Prime Wheel Expansion (Phase II)	17703 Main Street	Phase I: 99,123 sf of new warehouse space would be developed. Phase II: construction of 165,000 sf warehouse and office space.	Currently on hold
5	South Bay Pavilion	20700 Avalon Boulevard	The project would include 783,753 sf of development after demolition and 225,454 sf of incremental development. This would result in 1,009,207 sf of planned future development. Phase II includes a restaurant and residential units.	Phase I is ~~98%~~ complete; negotiations for land for restaurants and commercial space is under way for Phase II ~~is on hold~~
6	Industrial/Office Mixed Use	17420 Broadway	Construction of 40,000 sf four-unit industrial/manufacturing space and 10,000 sf for office buildings.	Unknown
7	Carson Marketplace	Southwest corner of Interstate 405 and Del Amo Boulevard	Construction of a 1,370,000 sf regional retail center, which includes a 130,000 sf neighborhood retail center, 1,550 residential units, a 300-room hotel, 81,125 sf of restaurant space, and 214,000 sf of commercial recreational and entertainment space.	Expected to open in 2012

ID	Project Name	Location	Description	Status
8	Dynamic Builders Industrial Building Subdivision	16900 Main Street	Construction of 90,000 sf industrial space.	~~Under construction~~ Project complete
9	Manufacturing/Warehouse	249 Gardena Boulevard	Construction of 78,408 sf manufacturing/warehouse space.	Unknown
10	Glory Christian Fellowship International	20881 Main Street	Construction of 127,345 sf church.	Under construction ~~Submitted July 27, 2006; anticipated Planning Commission hearing mid-2007~~
11	Gateway Town Center	At the end of Carob Street near Metro Blue Line tracks	Construction of a 509,666 sf shopping center, 38 single-family dwelling units, and a 2,000-seat movie theater.	~~Unknown~~ Commercial portion of the project is complete
		CITY OF COMPTON		
12	Townhouse/Church Project	Alondra Boulevard and Dwight Avenue	Construction of 28 townhouses and a 4,500 sf church.	Unknown
		CITY OF GARDENA		
13	Shopping Center/Self-Storage	777 190th Street	Construction of a 125,800 sf shopping center and 186,450 sf self-storage facility.	Unknown
		CSUDH		
14*	Cain Library Expansion	CSUDH campus, 1000 Victoria Street	A four-story, 140,276-square-foot addition is proposed for the existing Cain Library.	Under construction

Notes:
Status of projects updated in June 2009. After a review of the list of projects available on City's web site (http://ci.carson.ca.us/content/department/eco_dev_service/devstatusreport.asp) in June 2009, no new City projects were identified within 2 miles of the campus. However, since the release of draft EIR in November 2007, CSUDH has started construction of its Cain Library expansion project. The project has been added in the updated related projects list in this EIR.
* This project has not been included in the traffic analysis because traffic generated due to library expansion would be covered under the traffic impacts analyzed for 11,000 FTE students in 2017.
Source: The Mobility Group and the City of Carson, Planning Division. n.d. Development Status Report.
Available: <http://ci.carson.ca.us/content/includes/department/devstatusreport_content.asp>; City of Carson. 2007. Development Summary 2007.
Available: <http://ci.carson.ca.us/content/files/pdfs/planning/Development_Status_Report_2007.pdf>. Accessed: July 6, 2007.

Figure 2-5: Locations of Related Projects



SOURCE: ESRI Streetmap USA (2006)

Chapter 3
Environmental Analysis

Introduction

The purpose of this chapter is to provide the reader with the information necessary to understand and evaluate the potential environmental impacts due to implementation of the proposed master plan. In accordance with the S*tate CEQA Guidelines* (Section15128 and Section15143), this chapter focuses on the impacts identified in the NOP and during project scoping as needing further analysis (aesthetics; air quality; biological resources; historical resources; archaeological resources; paleontological resources; geology and soils; hazardous materials; hydrology and water quality; land use and planning; mineral resources and agriculture; population, employment, and housing; noise; public services; transportation/circulation; and utilities and service systems).

The environmental setting discussions contain a description of the physical environmental conditions in the vicinity of the project as they existed at the time the NOP was distributed (March 2007). The existing environmental conditions described in the setting sections serve as a baseline for the impact analyses in this chapter. The significance criteria identified for each environmental impact category are consistent with the *State CEQA Guidelines*. The environmental impact analyses focus on the potentially significant effects that could occur during construction and/or operation of the CSUDH Master Plan. Subsequent to circulation of the draft EIR for public review in November 2007, CSUDH further refined its master plan. The impacts of near-term master plan projects required to meet a future enrollment level of 11,000 FTE students in 2017 have been addressed in detail. According to current estimates in the 2009 master plan, an enrollment level of 10,518 FTE students would be achieved in 2017. For the purposes of the EIR, this number was conservatively rounded up to 11,000 FTE students in 2017. In the draft EIR, it was assumed that an enrollment level of 20,000 FTE students would be achieved by 2040. The 2009 master plan revised the FTE estimates based on current enrollment information and growth trends. It is expected that enrollment will increase at a slower rate than previously anticipated. The 2040 FTE student projection has been revised downward to 13,565. For the purposes of this EIR, a conservative higher estimate of 14,000 FTE students is assumed for 2040. It is expected that a buildout enrollment of 20,000 FTE students will occur much later, perhaps in 2089, based on current enrollment trends. The environmental analysis in Chapter 3 of this EIR has been revised based on the updated 2040 enrollment numbers. The impacts of long-term master plan projects through 2040 required to meet a future enrollment level

of ~~20,000~~ 14,000 FTE students have been addressed qualitatively because these projects are defined in concept only. As required by CEQA, mitigation measures are identified to reduce or eliminate significant adverse impacts to the extent feasible. A discussion of cumulative impacts is also provided. The buildout enrollment of 20,000 FTE students is projected to occur in 2089. Any analysis of the impacts of development beyond 2040 is too speculative and is not included in this document.

Section 3A
Aesthetics

Introduction

This section evaluates the aesthetic and visual effects associated with construction and operation of the proposed master plan. The analysis addresses the potential for the proposed project to substantially degrade the existing visual character or quality of the site and its surroundings. Because an individual's reaction and attachment to a given view or site are subjective and personal, visual changes inherently affect viewers differently. Accordingly, analysis in this section is based on the qualitative visual changes that would occur as part of the proposed project and overall changes that would occur to the visual and aesthetic resources from master plan implementation.

Setting

The purpose of this section is to provide a visual impact assessment of the proposed project and determine its potential effect on visual resources (i.e., effects on scenic views/vistas and the effects of artificial light and shade/glare in the project area). A discussion of feasible measures to mitigate or reduce the significant impacts on the visual environment is also provided.

The environmental setting for the proposed project is described in terms of visual quality and character, scenic views/vistas, artificial lighting, and shade and glare. It is based on the presence of distinguishing built or natural features, if any.

Visual character and quality are defined by the built and natural environment. The character of a view is based largely on topography, general land use patterns, scale, form, and the presence of natural areas. Visual quality refers to the aesthetics of a view based upon the relative degree of vividness, intactness, and unity. Vividness is the visual power or memorability of landscape components as they combine in striking and distinctive patterns. Intactness is the visual integrity of the landscape and its freedom from encroaching elements. Unity is the visual coherence and compositional harmony of the landscape considered as a whole. Views of high visual quality have the following characteristics:

- topographic relief,
- a variety of vegetation,
- rich colors,
- impressive scenery, and
- unique natural and built features.

Areas of medium visual quality have interesting but minor landforms, some vegetative variety, some variety in color, and/or moderate scenery. Areas of low visual quality have uninteresting features, little variety in vegetation, minor color variations, uninteresting scenery, and/or other common elements.

Visual Quality and Character of the Campus

The existing visual character of the campus was dictated by the A. Quincy Jones Master Plan, created in 1964. The 1964 master plan presented a comprehensive vision for the physical development of the campus. The plan is notable for its continuous and interrelated open space system, continuity of pedestrian circulation, separation of pedestrian and vehicular movement, integrated and consistent concept of architectural form, and grade-separated utilities and service systems. A distinct type of modern architecture that used concrete construction was proposed in the 1964 master plan. The landscaping proposed under the 1964 master plan consisted of a "double canopy" concept, with high eucalyptus trees and a lower canopy of coral trees.

The general layout of the campus places the academic core in the north-central portion of the campus; surface parking facilities are located around this core at the periphery of the campus. Student housing is located along the eastern periphery of the campus, away from the central core. Athletic facilities, such as track and field areas, soccer fields, and baseball and softball diamonds, are located on the southwestern portion of the campus. Campus maintenance, as well as the physical plant, is located in the southeastern portion of the campus. The California Academy of Mathematics, a special high school-level program, is located in the south-central portion of the campus. The existing buildings are no more than three or four stories in height, and many are accessed from mid-level due to grade changes. Remaining undeveloped land to the south and southeast of the campus is leased to a commercial nursery for geranium farming.

Overall, the campus has many mature trees, although most landscaping is found in the academic core rather than the areas at the periphery of the campus. The main walkways in the academic core are lined with trees and shrubbery (see Figure 3A-1). The topography of the campus is characterized by uneven grades and slopes. The original master plan incorporated grade changes and uneven topography into building design and the layout of open spaces by creating multilevel patios, berms, and sunken courtyards (see Figure 3A-2).

Figure 3A-1: View North, Near Loker Student Union

Source: Jones & Stokes, 2007.

Figure 3A-2: Sunken Courtyard at Natural Sciences and Mathematics Building

Source: Jones & Stokes, 2007.

The vividness and intactness of a view determine visual quality. The buildings at the campus appear to be intact. There are no signs of graffiti, and the areas around the buildings appear to be well maintained. With respect to vividness, the site has an undulating topography. Landscaped areas within the academic core do include elements of a memorable natural landscape.

The visual character of the built elements is largely institutional, although the buildings at the academic core, such as the Cain Library, the social and behavioral science building, the natural sciences and mathematics building, and La Corte Hall, have a distinct architectural style that appears representative of the modern architecture of 1960s. The campus also has several newer buildings with a contemporary architecture style that use concrete, steel, and glass. Uniformity in scale is maintained between the older buildings and the contemporary buildings. Some of the original buildings designed by A. Quincy Jones are considered fine examples of his educational and institutional architecture. Overall, the academic core has a higher level of visual character and integrity than areas at the periphery of the campus. The landscaping in the academic core is more planned and in harmony with the built elements.

Scenic Vistas and Views

For the purposes of the proposed project, scenic vistas and views are defined by their perceived importance to a particular set of viewers. The quality of a scenic vista or view is evaluated according to the length of time the viewer is exposed to it and the viewer's sensitivity. In general, the length of exposure is determined by the proximity of the viewer to the viewshed, viewing duration, and the overall impression of the view on the viewer. Viewer sensitivity is based on the visibility of resources in the landscape, the number and types of viewers, the frequency of viewing, and the duration of viewing. Viewer activity, awareness, and expectation also influence visual sensitivity. Sensitivity depends upon the length of time the viewer has access to a particular view. Typically, residential viewers have extended viewing periods and are often concerned about changes in views from their homes. Visual sensitivity is therefore considered to be high for residential neighborhood areas. Visual sensitivity is considered to be less important for commuters and other people driving along surrounding streets. Views from vehicles are generally more fleeting and temporary yet, under certain circumstances, are sometimes considered important (i.e., viewers who are driving for pleasure, with views/vistas from scenic corridors).

Visual resources may include historic buildings that uniquely identify a setting, views identified as significant in local plans, and/or views from scenic highways. The importance of a view to viewers is related to the position of the viewers relative to the resource and the distinctiveness of a particular view. The visibility and dominance of landscape elements are usually described with respect to their placement in the viewshed.

The following discussion focuses on the existing views from surrounding areas, especially views from surrounding residential areas.

Views of the Campus

The campus is nestled among suburban and industrial development within the City of Carson. Residential development is located to the north, across from Victoria Street; to the west, across from Avalon Boulevard; and to the south, across from University Drive. To the east, across from Central Avenue and abutting the campus, are the industrial uses. To the west, adjacent to the campus, is the Home Depot Center, which is a sports stadium.
The single-family neighborhoods surrounding the campus to the north, west, and south are small-scale developments and no more than two stories in height. These neighborhoods are oriented inward, with walled backyards facing the designated major streets on which they front. The sense is one of separate enclaves separated by walls with their own specific local-street access points. The only exceptions are the multifamily units along the north side of Victoria Street between Rainsbury Avenue and Tamcliff Avenue. To the east of the campus (east of Central Avenue) are large-footprint mid-rise industrial buildings.

The sensitive viewers in the vicinity of the site would include neighborhood residents to the north, west, and south; the students and staff at the campus; and pedestrians and motorists along adjoining streets. Neighborhood residents are considered to have a higher level of sensitivity because the duration of their views is longer. Residents in general have higher sensitivity to changes in their views, while workers/staff are considered to have a low level of sensitivity because, for the most part, they are focused on their work. Pedestrians and motorists also have a low level of sensitivity because their attention is focused primarily on moving from point A to point B.

The existing views from adjacent areas are described below.

Views from North of the Campus, Looking South

Parking areas and open space front the street edge along Victoria Street; the campus buildings are set farther back, up to 100 feet from the street. A row of tall but not dense eucalyptus trees provides intermittent views of the campus from areas to the north (see Figures 3A-3 and 3A-4). Other mature trees closer to the buildings also obscure views of the campus buildings. The campus is not fenced or walled at this location, which allows views into the campus. Victoria Street is the main entranceway into the campus, which is marked with large signs. Views from the north are also available to the residential developments, both single family and multifamily. However, these homes are no more than two stories in height and behind walls or chain link fences; therefore, clear views of the campus are not possible from these locations. Only pedestrians and motorists would have views when looking south, toward the campus. The views of the campus are of moderate quality since none of the campus landscaping elements or academic core buildings are in clear view.

Figure 3A-3: View of Campus, Looking South from Victoria Street

Source: Jones & Stokes, 2007.

Figure 3A-4: View of Campus, Looking South from Entrance of Dominguez Hills Village Residential Community

Source: Jones & Stokes, 2007.

The campus buildings and the Home Depot Center block rooftop views of areas beyond the campus, such as the South Bay area and the Palos Verdes Peninsula. Views from within the campus looking south are of moderate quality because the views of the South Bay are available only from higher ground (see Figure 3A-5).

Figure 3A-5: Looking South and Southwest near Existing Student Housing

Source: Jones & Stokes, 2007.

Views from South of the Campus Looking North

Homes located south of University Drive (the Del Amo and Dominguez neighborhood areas) have views of the campus. To the east, views of the geranium farms and parking areas are available. To the west, views of the athletic facilities and Home Depot Center are available; due to a grade change, these views along the western portion of University Hill are uphill views.

The residential areas are composed of predominantly single-family homes situated behind 10- to 15-foot-high concrete walls, depending on grade changes. Large mature trees on the periphery block most views of the campus, and the campus buildings are located at least 200 feet from the residences. The views from the eastern portion of University Drive have a large expanse of the parking lot in the foreground. An iron grill/fence has been installed along the periphery of the campus on University Drive (see Figures 3A-6 and 3A-7). The signs to the campus are small and not particularly prominent, signifying that this is not the main entrance into the campus.

Figure 3A-6: View North, at University Drive Entrance

Source: Jones & Stokes, 2007.

Figure 3A-7: View West at University Center Drive Entrance

Source: Jones & Stokes, 2007.

The view when looking north is of low visual quality, with a vast expanse of parking lots being the predominant view. There are no unique landscape and built features visible from areas to the south. Views to the north from within the campus are similarly not of high quality.

Views from West of the Campus Looking East

From Avalon Boulevard (looking east), the view of the campus is obstructed by the Home Depot Center. Views of campus areas to the south are available to some single-family residences that abut the campus property south of the Home Depot Center. These homes are located within a walled community and are two stories in height. Mature trees and changes in grade obstruct views of the campus from these residences (see Figure 3A-8). The homes have backyards facing the campus; the fronts of the homes are oriented away from the campus. There are no campus entrances along Avalon Boulevard, and motorists and pedestrians along Avalon Boulevard do not have views of the campus.

The views from the west looking toward the campus are of low visual quality. There are no unique landscape and built elements in the views. The views to the west from within the campus are also not of high visual quality (see Figure 3A-9).

Figure 3A-8: View North—Trees Obstruct Views West of Residential Area Adjacent to Campus on West

Source: Jones & Stokes, 2007.

Figure 3A-9: View East from within Campus near Social and Behavioral Sciences Building

Source: Jones & Stokes, 2007.

Views from East of the Campus Looking West

Industrial buildings abut the campus to the east. Views from the east are available to staff personnel and workers at these industrial buildings and also motorists and pedestrians. Views to the west are available for motorists and pedestrians moving southward along Central Avenue as they pass the student housing facility; industrial buildings and campus housing obstruct views along the northern section of Central Avenue bordering the campus. A 20-foot-wide landscaped sidewalk exists along the west side of Central Avenue. Moving southward along Central Avenue, far-off views of the South Bay are available (see Figures 3A-10, 3A-11, and 3A-12).

The view of the campus to the west is not of high visual quality. However, the view to the south and southwest toward the South Bay and Palos Verdes Peninsula is of moderate to high visual quality; pedestrians and motorists along Central Avenue, which passes through an industrial area, as well as workers at the industrial units experience this view. These viewer groups do not have high sensitivity to changes in views or long-term views.

Figure 3A-10: View West and Southwest from Central Avenue

Source: Jones & Stokes, 2007.

Figure 3A-11: View West from Central Avenue near Existing Student Housing

Source: Jones & Stokes, 2007.

Figure 3A-12: Looking North, View of Industrial Areas to the East of Campus

Source: Jones & Stokes, 2007.

Shade/Shadow, Light, and Glare

Glare is sharply reflected light caused by sunlight or artificial light reflecting from highly finished surfaces such as window glass or brightly colored surfaces. Multistory buildings are prominent sources of nighttime light and potential sources of glare.

Shade/Shadow, Light, and Glare Conditions at the Campus

At present, there is a minimal amount of glare from the campus buildings. There are no buildings in the vicinity of the campus with extensive glass façades, and the colors on the buildings are from a dull palette, which reduce extensive glare. The existing structures do not emit light in amounts that would be characterized as either a hazard or a visual nuisance.

There are no high-rise buildings on the campus; therefore, shade from such structures is not an issue.

Artificial Lighting

Artificial lighting includes exterior lighting used to illuminate walkways and parking lots and/or security lighting. Additional sources of artificial light include lights inside buildings and vehicle headlights on streets.

Artificial Lighting Conditions at the Campus

Exterior lighting at the proposed project site consists mainly of lighting in the parking lots at the periphery. The adjoining streets have standard street lighting. The Home Depot Center has exterior and sports lighting. Because of the residential character of the area, the level of lighting is low. The most visible sources of light are the parking areas within the CSUDH campus. Background views to the south include the lighting haze surrounding the major refineries located in southern Carson and Wilmington and the Victoria Golf Course located southwest of the campus.

Applicable Regulations

The proposed project is subject to state laws, regulations, and standards only. Although local zoning and land use laws do not apply to the project, City of Carson General Plan policies are considered in this analysis for reference only. ~~area is subject to local laws, ordinances, regulations, and standards. Applicable regulations are limited to those contained in the City of Carson General Plan and the City of Carson Zoning Ordinance.~~

~~Land Use Element of the City of Carson General Plan~~

~~The City of Carson's Land Use Element strongly influences the visual character of the city by determining the type, intensity, and location of development to occur within Carson. The Land Use Element includes specific goals and policies to ensure compatible development throughout the city.~~

Scenic Highway Element

There are no designated scenic highways in the City of Carson. However, the City has made the beautification of views along its roads a primary objective. Carson has adopted several policies designed to improve the visual quality of the City from its roads, including requiring architectural review of buildings and signs in redevelopment and environmentally sensitive areas, undergrounding utilities, providing parkway trees along local streets and highways, landscaping medians, abating nonconforming billboard signs, and establishing monument signs at entrances to the City.

Impacts and Mitigation

Thresholds of Significance

For the purposes of the analyses in this EIR, the proposed project would have a significant impact on aesthetics/visual resources if it

- substantially degrades the existing visual character or quality of the site and its surroundings,
- substantially damages significant visual resources such as trees and historic buildings,
- would have a substantial adverse effect on a scenic vista/view or obstruct the scenic views of sensitive viewers,
- creates substantial shade/shadows that affect shadow-sensitive viewers,
- results in substantial glare that would adversely affect sensitive views in the area or create potential hazards to motorists, or
- creates substantial artificial light that would adversely affect nighttime views in the area.

Project Impacts

Near-Term (2017) Projects

Construction Impacts

Potential Impact: Construction Activities Could Result in Short-Term Visual Impacts

Potential visual impacts would arise from construction activities (e.g., barricade installation, construction staging, and grading). Additionally, the presence of trucks with building materials and equipment would result in short-term visual impacts. However, these activities would be visible only from adjacent properties. While construction staging could become an unsightly nuisance, it is not expected to pose a significant adverse impact on sensitive viewers overall because the impact would be short term in nature.

The nearest construction site, for faculty/staff housing, would be approximately 150 feet from the nearest residential viewer. The visual obstructions would affect students and staff on campus more than residents.

Construction hours would be limited to daytime hours; therefore, use of construction lighting would be minimal. Some of the existing lighting would be removed during site preparation; however, no significant artificial lighting impacts are anticipated during construction.

Mitigation Measures

No mitigation is required.

Operational Impacts

Potential Impact: The Proposed Project Could Affect the Visual Quality and Character of the Site

The proposed near-term projects would be consistent with the educational/ institutional appearance of the existing buildings on campus. None of the proposed buildings would be tall enough to stand out; heights would be consistent with the general low-rise character of the campus. Additionally, grade changes on the campus would be incorporated into the design.
The academic core is an area of high visual quality within the campus. None of the proposed buildings would substantially alter the visual quality of the core campus. Closest to the academic core would be the new science and health professions laboratory building, which would be designed to be consistent with surrounding buildings in terms of scale, size, and massing. Two locations are being considered for the proposed new science and health professions laboratory building, neither of which would substantially alter the visual setting of the academic core. One of the locations being considered for the new science and health professions laboratory building is the Small College Complex (see Figure 3A-13). The one-story buildings of the small complex college are arranged in quadrangles around central courtyards. The buildings are attractive in design and thoughtfully sited and planned but appear to have been envisioned as temporary structures that would serve the campus for only the 30-year period of the 1964 master plan. The landscaping within the Small College Complex and the layout of the buildings conveys unique visual character and a sense of place. The loss of this landscaping and the replacement of the existing one-story buildings with the proposed three- to four-story building would diminish the existing visual character of the Small College Complex. The Small College Complex is connected to the rest of the campus via a diagonal pathway that leads to the Loker Student Union building and Cain Library, demonstrating that the Small College Complex is fully integrated within the campus in both planning and pedagogical terms.

Figure 3A-13: Looking North through the Small College Complex

As a result of the proposed near-term projects, the amount of existing open space available on campus would be reduced. ~~However, none of the landscaped area in the academic core would be affected.~~ The construction of an addition and renovation work at La Corte Hall would result in the loss of some of the landscaped area, including a few mature trees, near the existing building, which is located in the academic core. This would substantially change visual quality and character at this location. Buildings with larger footprints, such as the housing units ~~and the parking structure~~, are proposed along the periphery of the campus and away from academic buildings. The loss of landscaping at the Small College Complex would be a potentially significant impact should the new science and health professions laboratory building be constructed at that location.

The proposed buildings would not substantially alter the visual character and setting of the campus since they would be consistent with the existing buildings in terms of scale and massing.

Mitigation Measures

Although, no significant impacts on visual quality are expected, to ensure that new campus development is consistent with the visual quality and character of the existing campus, the following measure shall be implemented.

AES-1 New buildings and renovations to existing buildings shall adhere to the standards, criteria, and guidelines in the master plan under *Campus Design Guidelines* to ensure compatibility and cohesion in terms of architectural design, scale, massing, and siting.

To reduce potentially significant impacts on the Small College Complex should the new science and health professions laboratory building be located there, the following measure is proposed.

AES-2 New development proposed at the Small College Complex and the addition and renovation work at La Corte Hall shall preserve the strong axes/cross-axial sight lines and pedestrian circulation to the academic core buildings. New landscaping shall be consistent with existing landscaping at the Small College Complex and near La Corte Hall.

Residual Impact

Implementation of the mitigation measures would ensure that impacts would be less than significant.

Potential Impact: The Proposed Project Could Affect Scenic Vistas and Views

Views from North of the Campus Looking South

Most of the new buildings with large footprints proposed under the master plan would be located in the southern and eastern portions of the campus. The closest new buildings to the areas in the north would be the extended education complex addition and the new science and health professions laboratory (one of the two proposed locations). The proposed extended education complex addition would be at least 700 feet from the nearest residence on Victoria Street. The addition would be designed to be consistent with the existing extended education complex in terms of height and architectural design. The proposed addition would be no more than two stories in height. Since a row of tall eucalyptus trees lines the campus along Victoria Street and the intervening distance is considerable, the sensitive viewers (i.e., the residents) would have only far-off views of the new addition. Therefore, the new addition would make up a small part of the viewshed and would not represent a substantial change with respect to views of the campus. Similarly, motorists and pedestrians would also have far-off and intermittent views of the new building. For students and staff on campus, the addition would appear as an extension of the existing building. The site for the proposed addition is currently a vacant dirt lot, which, after construction, would be landscaped. Therefore, no significant impacts on views would occur due to construction of the addition to the extended education complex.

Two locations for the new science and health professions laboratory are being considered. One location is just south of the existing natural sciences and mathematics building in the central portion of the campus, some 1,300 feet south of Victoria Street. No views of this proposed building would be available from Victoria Street if this location were chosen. The other location being considered is within a complex of temporary one-story buildings that were built with the intention of providing temporary accommodation for university departments that needed temporary structures. If the new science and health professions laboratory were to be built at this location, some of the one-story temporary buildings would be demolished and the existing uses would be relocated to the new buildings.

The proposed science and health professions laboratory would be approximately 400 feet south of existing residences along Victoria Street. Although the proposed four-story structure would be a departure from the one-story buildings in the complex, the intervening distance and the existing eucalyptus trees would shield views of the new building. Additionally, the building would be similar in scale to the newer James L. Welch Hall, which is west of the proposed building. The proposed building would be no more than four stories in height and architecturally similar to newer buildings on campus. The viewer experience for pedestrians and motorists would remain largely unchanged because no key views or views of high quality would be obstructed. For students and staff using the complex of temporary buildings, the loss of the open space needed to accommodate the proposed building would be a visual impact. However, this visual impact would not be significant. New landscaping and open space would be provided around the new building to integrate it with other campus buildings. Also, the proposed building would not affect any views of high visual quality to the north. Therefore, a less-than-significant impact would result.

Mitigation Measures

No mitigation is required.

Views from South of the Campus Looking North

Existing views to the north would change substantially due to construction of the proposed faculty and staff housing units within the campus adjacent to University Drive. However, the existing view from the south is not of high visual quality. From the residential areas to the south, only far-off views of the campus buildings are available since most are set back more than 800 feet from University Drive.

The site for the proposed faculty and staff housing units is currently leased for geranium planting and nursery uses. With construction of the new faculty and staff housing units, far-off views of the campus would be obstructed (the eastern portion of the proposed student housing building may also be visible). However, the proposed faculty and staff housing units would have essentially the same residential character as the areas to the south. Since no views of high quality

would be affected due to construction of the staff and faculty housing units, the impacts would be less than significant. The motorist and pedestrian experience would change; however, no key views would be blocked. Staff and students do not frequent the area to the south because the site is not used for educational purposes. The faculty and staff housing units would be no more than two stories in height and, therefore, would not block views of the South Bay from the central core, which is at a higher elevation than areas to the south. No significant impacts on views from the south would occur.

Mitigation Measures

No mitigation is required.

Views from West of the Campus Looking East

The Home Depot Center and the athletic fields on campus obstruct views of campus buildings from areas to the west. The campus buildings are 2,000 feet east of Avalon Boulevard. A small residential area abuts the campus property to the southwest. Homes along Pepperdine Drive have their backyards along the campus boundary. The closest proposed buildings would be the faculty and staff housing units, which would be located 1,500 feet east of the residences. No clear views of the proposed housing units would be available. Motorists and pedestrians traveling east on Loyola Drive have far-off views of the campus; however, no buildings in the academic core are visible. A row of trees along the periphery of the campus, changes in grade, intervening buildings within the Home Depot Center complex, and campus athletic facilities obstruct clear views of the campus. No significant adverse impacts on views from the west would occur.

Mitigation Measures

No mitigation is required.

Views from East of the Campus Looking West

From areas to the east, the only viewers with moderate sensitivity to changes in views are the pedestrians and motorists traveling south along Central Avenue. Their views are likely to be affected by the proposed project. Given the industrial nature of the areas to the east, no other viewer group would have high sensitivity to changes in views.

Construction of the new student housing units and faculty and staff housing units is likely to obstruct southwest views of the South Bay and Palos Verdes Peninsula from portions of Central Avenue adjacent to the campus. The views of the campus itself from this location are not high quality. There are no residential

areas or neighborhood commercial areas to the east of the campus that would encourage pedestrian flows. However, since residential areas are located to the north and south, some pedestrians may use Central Avenue.

Although, the views of the South Bay are of high visual quality, they are available only to a small group of motorists and pedestrians. Motorists and pedestrians typically do not have high sensitivity, especially given the industrial setting. The views to the south and southwest from existing student housing units would also be obstructed. However, these views would be available to residents of the new housing units. Students in dormitories reside at campus only for the duration of their academic studies and typically do not have as high a level of sensitivity to views as do owners and tenants of single- or multifamily housing units. Given that no viewer groups with high sensitivity to changes in views have long-term views when looking toward the south and southwest, impacts due to obstruction of these views would be less than significant.

Mitigation Measures

No mitigation is required.

Potential Impact: The Proposed Project Could Create New Sources of Shade and Glare

None of the proposed buildings would be taller than the existing buildings on campus. The tallest proposed building is the new science and health professions laboratory building, which would be four stories high. Therefore, the potential for substantial shade from proposed buildings affecting adjacent campus buildings is low. Given the location of the proposed buildings and distance between the proposed buildings and off-site uses, there would be no adverse shade impacts on any off-campus uses.

Any glass used on the façades of the proposed buildings would have a low reflective index, thereby minimizing glare. Nonreflective building materials would be used, consistent with the materials on existing buildings on campus. Additionally, existing and proposed landscaping around the proposed buildings would further reduce adverse glare impacts on surrounding uses.

Mitigation Measures

No mitigation is required.

Potential Impact: The Proposed Project Could Change Nighttime Lighting Conditions On-Site

Lighting for the proposed buildings would include exterior lighting along the entrances and pathways and in the parking areas. Nighttime lighting conditions are likely to change in areas of the campus where no nighttime lighting exists currently. The proposed sites for the faculty and staff housing units and the student housing units currently are not well lit; with construction of the proposed housing, new lighting would be introduced in the area. Lighting for the proposed student housing units would be similar to the lighting that exists to the north for existing student housing. The industrial facilities to the north and east have exterior security lighting and are generally well lit at night. Central Avenue has standard street lighting fixtures that illuminate the sidewalk and street. Existing and proposed landscaping would shield off-site residents, pedestrians, and motorists from lighting and spillover impacts; therefore, no significant impacts would occur as a result of lighting for student housing. Nonetheless, mitigation measure AES-3 is proposed to ensure that full-cutoff fixtures are installed.

Lighting for the proposed faculty and staff housing units would be visible to residents to the south and motorists and pedestrians along University Drive. However, the exterior lighting for the proposed housing would be similar to lighting for any residential area, including the residential area to the south. Interior lighting within the housing units would be shielded by the use of curtains or blinds; therefore, it would not create any spillover impacts.

Mitigation Measures

AES-3 Exterior lighting for the proposed student and faculty housing facilities shall include full-cutoff shielded fixtures or three-sided shielded fixtures pointed at least 45 degrees below horizontal to contain the light within the site and avoid spillover lighting impacts on- or off-site.

Residual Impact

Implementation of the mitigation measure above would ensure that the level of impact would be less than significant.

Long-Term (2040) Projects

The long-term development of the campus as envisioned in the master plan includes various academic/administrative facilities, campus life and student support facilities, vehicle access, circulation and parking projects, campus infrastructure, and athletic fields and playfields. These long-term projects define the long-term vision for the campus. There are no definitive plans for any of the long-term projects, and construction of the individual projects and realization of the long-term vision is dependent upon adequate funding and supporting enrollment levels.

It is assumed that these long-term projects would be consistent with the existing character and scale of the campus, thereby reducing the potential for aesthetic impacts.

Unavoidable Significant Adverse Impacts

No unavoidable significant visual impacts would occur as a result of the proposed master plan.

Cumulative Impacts

Potential cumulative visual impacts could occur if other projects when combined with the proposed master plan development cumulatively contribute to the degradation or deterioration of the visual setting or damage scenic views or vistas. The study area for the cumulative visual impact analysis would consist of the general area in the immediate vicinity of the campus, including those areas that can be viewed from, or have views of, the campus. In Table 2-3, some ~~13~~ 14 related projects are listed within approximately a 1.5-mile radius of the campus. A majority of the projects are relatively small in scale and scope and do not have design features that have the potential to result in significant adverse visual impacts. In addition, none of the large-scale projects within approximately 1 mile of the campus (namely, the Carson Marketplace and South Bay Pavilion) are part of the visual setting due to intervening topography and development. The library addition, which is currently under construction, is similar in scale and size to other new buildings on the campus. The Home Depot Center Phase II project would be constructed to the west of the campus along Victoria Street. The Home Depot Center Phase II project would result in new artificial light sources in the vicinity of the campus; however, it is expected that it would not be any brighter than the existing stadium with its lighting for athletic events. Although, the Home Depot Center Phase II project could be of substantial height in comparison to the campus buildings, it would not affect the academic core buildings of the campus or the visual character of the campus and, therefore, would not degrade visual quality at the campus. It is assumed that all related projects would be developed in accordance with approved community design plans and public input in an effort to minimize potential visual impacts.

The proposed master plan would not change the basic design attributes of the campus in any significant way. In addition, operational procedures and policies governing implementation of the proposed project are premised upon avoidance of environmental impacts, good community relations, and enhancing aesthetic quality. As a result, visual impacts are expected to be less than significant. Overall, no significant scenic resources, vistas, or views have been identified in local plans that would be cumulatively affected by related projects.

Consequently, the related projects and proposed master plan are not expected to result in significant cumulative visual impacts when considered together.

Section 3B
Air Quality

Introduction

This section evaluates potential air quality impacts associated with the proposed project. All analyses have been performed consistent with SCAQMD requirements for air quality assessments to satisfy CEQA requirements.

Setting

Regulatory Setting

A number of statutes, regulations, plans, and policies have been adopted to address air quality issues. The proposed project site and vicinity are subject to air quality regulations developed and implemented at the federal, state, and local levels. At the federal level, the U.S. Environmental Protection Agency (EPA) is responsible for implementation of the federal Clean Air Act (CAA). Some portions of the CAA (e.g., certain mobile-source requirements) are implemented directly by EPA. Other portions of the CAA (e.g., stationary-source requirements) are implemented by state and local agencies.

Authority for Current Air Quality Planning

Various agencies have adopted a number of plans and policies to address air quality concerns. Those plans and policies relevant to the proposed project are discussed below.

Federal Clean Air Act

The CAA was first enacted in 1955 and has been amended numerous times in subsequent years (1963, 1965, 1967, 1970, 1977, and 1990). The CAA establishes federal air quality standards, known as National Ambient Air Quality Standards (NAAQS), and specifies future dates for achieving compliance. The CAA also mandates that the state submit and implement a State Implementation Plan (SIP) for local areas not meeting those standards. The plans must include pollution control

measures that demonstrate how the standards will be met. The City of Carson is within the South Coast Air Basin (Basin) and, as such, is in an area designated a nonattainment area for certain pollutants that are regulated under the CAA.

The 1990 amendments to the CAA identify specific emission-reduction goals for areas not meeting the NAAQS. These amendments require both a demonstration of reasonable further progress toward attainment and incorporation of additional sanctions for failure to attain or meet interim milestones. The sections of the CAA that would most substantially affect the development of the proposed project include Title I (Nonattainment Provisions) and Title II (Mobile-Source Provisions).

Title I provisions were established with the goal of attaining the NAAQS for criteria pollutants. Table 3B-1 shows the NAAQS currently in effect for each criteria pollutant. The NAAQS were amended in July 1997 to include an 8-hour standard for ozone (O_3) and adopt a NAAQS for fine particulate matter, i.e., particulate matter less than 2.5 microns in diameter (PM2.5). The Basin fails to meet national standards for O_3; inhalable particulate matter, i.e., particulate matter less than 10 microns in diameter (PM10); and PM2.5 and therefore is considered a federal nonattainment area for those pollutants. Table 3B-2 lists each criteria pollutant and its related attainment status.

Federal Climate Change Policy

Twelve U.S. states and cities (including California), in conjunction with several environmental organizations, sued to force EPA to regulate greenhouse gases (GHG) as a pollutant pursuant to the CAA (*Massachusetts vs. Environmental Protection Agency et al.* [U.S. Supreme Court, Case No. 05–1120; argued November 29, 2006; decided April 2, 2007]). The court ruled that the plaintiffs had standing to sue, that GHGs fit within the CAA's definition of a pollutant, and that EPA's reasons for not regulating GHGs were not adequately grounded in the CAA. Despite the Supreme Court ruling, no federal regulations have been promulgated to date to limit GHG emissions.

California Clean Air Act

The California Clean Air Act (CCAA), signed into law in 1988, requires all areas of the state to achieve and maintain the California Ambient Air Quality Standards (CAAQS) by the earliest practical date. The CAAQS incorporate additional standards for most of the criteria pollutants and set standards for other pollutants recognized by the state. In general, the California standards are more health protective than the corresponding NAAQS. California has also set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. The Basin is in compliance with these California standards. Table 3B-1 details the current NAAQS and CAAQS, while Table 3B-2 provides the Basin's attainment status with respect to federal and state standards.

Global Warming Solutions Act of 2006

On June 1, 2005, Governor Arnold Schwarzenegger signed Executive Order S-3-05. The goal of this executive order is to reduce California's GHG emissions to 1) 2000 levels by 2010, 2) 1990 levels by 2020, and 3) 80 percent below the 1990 levels by 2050. In 2006, this goal was further reinforced with the passage of Assembly Bill (AB) 32, the Global Warming Solutions Act of 2006. AB 32 sets the same overall GHG emissions reduction goals while further mandating the California Air Resources Board (CARB) to create a plan that includes market mechanisms and implement rules to achieve "real, quantifiable, cost-effective reductions of greenhouse gases." Executive Order S-20-06 directs state agencies to begin implementing AB 32, including the recommendations made by the state's Climate Action Team.

Senate Bill 1368

On August 31, 2006, the California Senate passed Senate Bill 1368 (signed into law on September 29, 2006), which required the Public Utilities Commission (PUC) to develop and adopt a "greenhouse gasses emission performance standard" by February 1, 2007, for the private electric facilities under its regulation. PUC adopted an interim standard on January 25, 2007. These standards apply to all long-term financial commitments entered into by electric utilities (California Senate Bill 2006). The California Energy Commission (CEC) was required to adopt a consistent standard by June 20, 2007. However, this date was missed; CEC will address the concerns of the Office of Administrative Law (OAL) and resubmit the rulemaking as soon as possible. The rulemaking then must be approved by OAL before it can take effect.

Assembly Bill 1493

On July 1, 2002, the California Assembly passed AB 1493 (signed into law on July 22, 2002), requiring CARB to "adopt regulations that achieve the maximum feasible and cost-effective reduction of GHG emissions from motor vehicles." The regulations were to be adopted by January 1, 2005, and applied to 2009 and later model-year vehicles. In September 2004, CARB responded by adopting carbon dioxide equivalent (CO_2e) "fleet average emission" standards. The standards will be phased in from 2009 to 2016, reducing emissions by 22 percent in the near term (2009–2012) and 30 percent in the mid-term (2013–2016) compared to 2002 model-year fleets.

Executive Order S-01-07

Executive Order S-01-07 was enacted by Governor Schwarzenegger on January 18, 2007. Essentially, the order mandates the following: (1) that a statewide goal be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020 and (2) that a Low Carbon Fuel Standard (LCFS) for transportation fuels be established in California.

Table 3B-1. Federal and State Ambient Air Quality Standards

Pollutant	Averaging Time	CAAQS[a]	NAAQS[b]
Ozone (O_3)	1 hour	0.09 ppm[c]	—
	8 hour	0.07 ppm	0.08 ppm
Carbon Monoxide (CO)	1 hour	20 ppm	35 ppm
	8 hour	9 ppm	9 ppm
Nitrogen Dioxide (NO_2)	1 hour	0.18 ppm	—
	Annual	0.030 ppm	0.053 ppm
Sulfur Dioxide (SO_2)	1 hour	0.25 ppm	—
	3 hour	—	0.5 ppm
	24 hour	0.04 ppm	0.14 ppm
	Annual	—	0.030 ppm
Inhalable Particulate Matter (PM10)	24 hour	50 $\mu g/m^3$[c]	150 $\mu g/m^3$
	Annual	20 $\mu g/m^3$	—
Fine Particulate Matter (PM2.5)	24 hour	—	35 $\mu g/m^3$
	Annual	12 $\mu g/m^3$	15 $\mu g/m^3$
Sulfates	24 hour	25 $\mu g/m^3$	—
Lead (Pb)	30 day	1.5 $\mu g/m^3$	—
	Calendar quarter	—	1.5 $\mu g/m^3$
Hydrogen Sulfide	1 hour	0.03 ppm	—
Vinyl Chloride	24 hour	0.01 ppm	—

Notes:

[a] The CAAQS for O_3, CO, SO_2 (1-hour and 24-hour), NO_2, PM10, and PM2.5 are values not to be exceeded. All other California standards shown are values not to be equaled or exceeded.

[b] The NAAQS, other than O_3 and those based on annual averages, are not to be exceeded more than once a year. The O_3 standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above the standard is equal to or less than one.

[c] ppm = parts per million by volume; $\mu g/m^3$ = micrograms per cubic meter.

Source: California Air Resources Board, 2007a.

Table 3B-2. Federal and State Attainment Status for South Coast Air Basin

Pollutants	Federal Classification	State Classification
O_3 (1-hour standard)	—	Nonattainment
O_3 (8-hour standard)	Nonattainment, Severe-17	—
PM10	Serious Nonattainment	Nonattainment
PM2.5	Nonattainment	Nonattainment
CO	Attainment	Attainment
NO_2	Unclassified/Attainment	Attainment
SO_2	Attainment	Attainment

Source: California Air Resources Board, 2006; compiled by Jones & Stokes, June 2007.

South Coast Air Quality Management District

SCAQMD has jurisdiction over an area of approximately 10,743 square miles. This area includes all of Orange County, all of Los Angeles County except for the Antelope Valley, the nondesert portion of western San Bernardino County, and the western and Coachella Valley portions of Riverside County. The Basin is a subregion of the SCAQMD jurisdiction. While air quality in this area has improved, the Basin requires continued diligence to meet air quality standards.

SCAQMD has adopted a series of air quality management plans (AQMPs) to meet the CAAQS and NAAQS. These plans require, among other emissions-reducing activities, control technology for existing sources, control programs for area sources and indirect sources, a SCAQMD permitting system designed to allow no net increase in emissions from any new or modified (i.e., previously permitted) emission sources, and transportation control measures.

SCAQMD adopted a comprehensive AQMP update, the 2007 AQMP for the Basin, on June 1, 2007.[1] The 2007 AQMP addresses several federal planning requirements and incorporates significant new scientific data, primarily in the form of updated emissions inventories, ambient measurements, new meteorological episodes, and new air quality modeling tools. The 2007 AQMP builds upon the approaches taken in the 2003 AQMP for the Basin to attain the federal air quality standards. Additionally, the AQMP discusses the significant reductions and the additional strategies needed, especially in the area of mobile sources, to meet federal criteria pollutant standards within the timeframes allowed under federal CAA. After the 2007 AQMP is received and approved by CARB, it will be sent to EPA for final approval. Until the 2007 AQMP is approved by EPA, the 2003 AQMP remains in effect.

[1] South Coast Air Quality Management District. 2007a. Available: < http://www.aqmd.gov/aqmp/AQMPintro.htm>.

SCAQMD adopts rules and regulations to implement portions of the AQMP. Several of these rules may apply to construction or operation of the proposed project. For example, SCAQMD Rule 403 requires the best available fugitive dust control measures to be implemented during active operations, such as on-site earth moving, construction/demolition, or driving construction equipment on paved or unpaved roads. SCAQMD has published a handbook (*CEQA Air Quality Handbook, November 1993*) to help local governments analyze and mitigate project-specific air quality impacts. This handbook provides standards, methodologies, and procedures for conducting air quality analyses in environmental impact reports and was used extensively in the preparation of this report. In addition, SCAQMD has published two additional documents (*Localized Significance Threshold Methodology for CEQA Evaluations, June 2003*) and (*Particulate Matter (PM) 2.5 Significance Thresholds and Calculation Methodology, October 2006*) that provide guidance in evaluating localized effects from mass emissions during construction. Both were used in the preparation of this analysis.

Regional Comprehensive Plan and Guide

The Southern California Association of Governments (SCAG) is the regional planning agency for Los Angeles, Orange, Ventura, Riverside, San Bernardino, and Imperial Counties. It addresses regional issues relating to transportation, the economy, community development, and the environment. As the federally designated metropolitan planning organization (MPO) for the majority of the Southern California region and the largest MPO in the nation, SCAG has prepared its Regional Comprehensive Plan and Guide (RCPG) for air quality planning in the region. The guide includes both Growth Management and Regional Mobility chapters. These chapters were used to prepare the air quality forecasts and the consistency analysis included in the AQMP and were the basis for the land use and transportation components.

Criteria Pollutants

Ozone

Ozone is a respiratory irritant that increases susceptibility to respiratory infections. It is also an oxidant that can cause substantial damage to vegetation. Ozone is not emitted directly into the air but is formed by a photochemical reaction in the atmosphere. Ozone precursors, called reactive organic gases (ROG), and oxides of nitrogen (NOx) react in the atmosphere in the presence of sunlight to form ozone. Ozone is primarily a summer air pollution problem because the photochemical reaction rates are directly related to the intensity of ultraviolet light and air temperature. Ozone is considered a regional pollutant because high levels often occur downwind of an emission source due to the length of time between the formation of ROG and the time when the gases react with light and change to ozone.

Inhalable Particulate Matter

Particulates can damage human health and retard plant growth. Health concerns associated with suspended particulate matter focus on those particles small enough to reach the lungs when inhaled (PM10 and PM2.5). Particulates also reduce visibility and corrode materials.

Particulate emissions are generated by a wide variety of sources, including agricultural activities, industrial emissions, dust suspended by vehicle traffic and construction equipment, and secondary aerosols formed by reactions in the atmosphere.

Carbon Monoxide

CO is a public health concern because it combines readily with hemoglobin and reduces the amount of oxygen transported in the bloodstream. CO can cause health problems such as fatigue, headache, confusion, and dizziness and even death.

CO occurs in so-called "CO hot spots." Motor vehicles are the dominant source of CO emissions in most of the areas considered to be CO hot spots, which are normally located near roads and freeways with high traffic volumes. High CO levels develop primarily during winter when periods of light winds combine with the formation of ground-level temperature inversions (typically from the evening through early morning). These conditions result in reduced dispersion of vehicle emissions. Motor vehicles also exhibit increased CO emission rates at low air temperatures.

Toxic Air Contaminants

Although ambient air quality standards exist for criteria pollutants, no ambient standards exist for toxic air contaminants (TACs). Many pollutants are identified as TACs because of their acute or chronic health risks, including their potential to increase risks related to developing cancer. For TACs that are known or suspected carcinogens, CARB has consistently found that there are no levels or thresholds below which exposure is risk-free. Individual TACs vary greatly in the risk they present. At a given level of exposure, one TAC may pose a hazard that is many times greater than another. For certain TACs, a unit risk factor can be developed to evaluate cancer risk. For acute and chronic health risks, a similar factor, called a Hazard Index, is used to evaluate risk. In the early 1980s, CARB established a statewide comprehensive air toxics program to reduce exposure to air toxics. The Toxic Air Contaminant Identification and Control Act (AB 1807) created California's program to reduce exposure to air toxics (CARB 1999). The Air Toxics "Hot Spots" Information and Assessment Act (AB 2588) supplements the AB 1807 program by requiring a statewide air toxics inventory, notification of people exposed to a significant health risk, and facility plans to reduce these risks (CARB 1999).

In August 1998, CARB identified particulate emissions from diesel-fueled engines as TACs. In September 2000, CARB approved a comprehensive diesel risk reduction plan to reduce emissions from both new and existing diesel-fueled engines and vehicles. The goal of the plan is to reduce diesel PM10 emissions and the associated health risk by 75 percent in 2010 and by 85 percent by 2020. The plan identifies 14 measures that CARB will implement over the next several years. Since CARB measures are enacted before any phase of construction, the proposed project would be required to comply with applicable diesel control measures.

Existing Conditions

State Greenhouse Gas Emissions

Worldwide, California is the 12th to 16th largest emitter of carbon dioxide (CO_2) (CEC 2006) and responsible for approximately 2 percent of the world's CO_2 emissions (CEC 2006). Transportation is responsible for 41 percent of the state's GHG emissions, followed by the industrial sector (23 percent), electricity generation (20 percent), agriculture and forestry (8 percent), and other sources (8 percent) (CEC 2006). Emissions of CO_2 and nitrous oxide are byproducts of fossil fuel combustion, among other sources. Methane, a highly potent GHG, results from off-gassing associated with agricultural practices and landfills, among other sources. Sinks of CO_2 include uptake by vegetation and dissolution into the ocean. California GHG emissions in 2004 totaled approximately 492.1 million metric tons of CO_2e.[2]

Climate change could affect the natural environment in California in the following ways, among others:

- rising sea levels along the California coastline, particularly in San Francisco and the San Joaquin Delta due to ocean expansion;
- extreme heat conditions, such as heat waves and very high temperatures, which could last longer and become more frequent;
- an increase in heat-related human deaths and infectious diseases and a higher risk of respiratory problems caused by deteriorating air quality;
- reduced snow pack and streamflow in the Sierra Nevada, affecting winter recreation and water supplies;
- potential increase in the severity of winter storms, affecting peak streamflows and flooding;

[2] Greenhouse gas emissions other than carbon dioxide are commonly converted into carbon dioxide equivalents, which takes into account the differing global warming potential of different gases. For example, the Intergovernmental Panel on Climate Change (IPCC) finds that nitrous oxide has a Global Warming Potential (GWP) of 310 and methane has a GWP of 21. Thus, the emission of 1 ton of nitrous oxide and 1 ton of methane is represented as the emission of 310 tons and 21 tons of CO_2e, respectively. This allows for the summation of different greenhouse gas emissions into a single total.

- changes in growing season conditions that could affect California agriculture, causing variations in crop quality and yield; and
- changes in the distribution of plant and wildlife species due to changes in temperature, competition from colonizing species, changes in hydrologic cycles, changes in sea levels, and other climate-related effects.

These changes in California's climate and ecosystems are occurring at a time when California's population is expected to increase from 34 million to 59 million by 2040 (CEC 2006). As such, the number of people potentially affected by climate change as well as the amount of anthropogenic GHG emissions expected under a "business as usual" scenario are expected to increase. Changes similar to those noted above for California would also occur in other parts of the world, with regional variations regarding resources affected and vulnerability to adverse effects. GHG emissions in California are attributable to human activities associated with the industrial/manufacturing, utilities, transportation, residential, and agricultural sectors (CEC 2006) as well as natural processes.

Regional Context

The proposed project site is located within the Basin, an area of approximately 6,745 square miles bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. The Basin includes all of Orange County and the nondesert portions of Los Angeles, Riverside, and San Bernardino Counties, in addition to the San Gorgonio Pass area in Riverside County. The terrain and geographical location determine the distinctive climate of the Basin, which is a coastal plain with connecting broad valleys and low hills.

The Southern California region lies in the semi-permanent high-pressure zone of the eastern Pacific. As a result, the climate is mild, tempered by cool sea breezes. The usually mild climatological pattern is interrupted infrequently by periods of extremely hot weather, winter storms, or Santa Ana winds. The extent and severity of the air pollution problem in the Basin is a function of the area's natural physical characteristics (weather and topography) as well as man-made influences (development patterns and lifestyle). Factors such as wind, sunlight, temperature, humidity, rainfall, and topography all affect the accumulation and dispersion of pollutants throughout the Basin, making it an area of high pollution potential.

The greatest air pollution impacts throughout the Basin occur from June through September. This condition is generally attributed to the large amount of pollutant emissions, light winds, and shallow vertical atmospheric mixing. This frequently reduces pollutant dispersion, thus causing elevated air pollution levels. Pollutant concentrations in the Basin vary with location, season, and time of day. Ozone concentrations, for example, tend to be lower along the coast, higher in the near inland valleys, and lower in the far inland areas of the Basin and adjacent desert.

Over the past 30 years, substantial progress has been made in reducing air pollution levels in Southern California.

SCAQMD has published a Basin-wide air toxics study, *MATES II, the Multiple Air Toxics Exposure Study* (2000). The MATES II study represents one of the most comprehensive air toxics studies ever conducted in an urban environment. The study's aim was to determine the cancer risk from toxic air emissions throughout the Basin by conducting a comprehensive monitoring program, an updated emissions inventory of toxic air contaminants, and a modeling effort to fully characterize health risks for those living in the Basin. The study concluded that the average carcinogenic risk in the Basin is approximately 1,400 in 1,000,000. Mobile sources (e.g., cars, trucks, trains, ships, aircraft, etc.) represent the greatest contributors. Approximately 70 percent of all risk is attributed to diesel particulate emissions, approximately 20 percent to other toxics associated with mobile sources (including benzene, butadiene, and formaldehyde), and approximately 10 percent of all carcinogenic risk is attributed to stationary sources (which include industries and certain other businesses, such as dry cleaners and chrome plating operations). SCAQMD is in the process of updating the MATES II study with a MATES III study.

Local Area Conditions

Local Climate

Data from the Western Regional Climate Center's Long Beach climate monitoring station was used to characterize project vicinity climate conditions because it is closest to the proposed project site. The average project area high and low summer (August) temperatures are 80.6° Fahrenheit (F) and 62.5°F, respectively, while the average high and low winter (January) temperatures are 65.2°F and 45.6°F, respectively. The average annual rainfall is 12.60 inches.[3]

Existing Pollutant Levels at nearby Monitoring Station

SCAQMD has divided the Basin into air monitoring areas. It maintains a network of air quality monitoring stations throughout the Basin. The proposed project site is located in the South Los Angeles County Coastal Monitoring Area (i.e., Source Receptor Area [SRA] Number 4). The nearest monitoring station is the North Long Beach monitoring station, which is located within the City of Long Beach. Criteria pollutants monitored at this station include O_3, CO, NO_2, PM10, and PM2.5.

Monitoring data show the following pollutant trends: O_3 concentrations have stabilized somewhat in the past 3 years compared to the large reduction that occurred from 1990 to 2000 (see Table 3B-3). O_3 levels typically peak during the

[3] Western Regional Climate Center. Los Angeles Area. California Climate Summaries. Long Beach, California (045082). Available: http://www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca5082. Accessed: March 28, 2007.

summer and early fall months. Neither the state 1-hour O_3 standard nor the national 8-hour standard was exceeded during the 3-year reporting period. CO and NO_2 concentrations are low; no exceedances were recorded during the 3-year reporting period. Particulate (PM10 and PM2.5) concentrations are affected by meteorology and show some variability during the 3-year reporting period. The state 24-hour PM10 standard was exceeded four times in 2004 and 2005, while the national standard was not exceeded during the 3-year reporting period. The national PM2.5 standard was exceeded only once during 2004.

Existing Health Risk in the Surrounding Area

According to CARB cancer inhalation risk data, the proposed project area is within a cancer risk zone of approximately 500 to 750 in 1,000,000 (California Air Resources Board 2007c).[4] This is largely due to diesel particulates emitted from State Route 91, Interstate 405, and Interstate 110, which are within 1 mile of the project site to the north, south, and west, respectively.

Sensitive Receptors and Locations

Some population groups, such as children, the elderly, and acutely and chronically ill persons, especially those with cardio-respiratory diseases, are considered more sensitive to air pollution than others. Sensitive receptors within the project vicinity include on-campus uses such as the Child Development Center/Infant Toddler Center, California Academy of Mathematics and Science, Student Health Center, and Pueblo Dominguez campus dormitories. In addition, off-site residential uses are present immediately north, south, and west of the campus.

Proposed construction activity would occur several hundred feet away from the Child Development Center/Infant Toddler Center and Student Health Center uses but within a few hundred feet of the California Academy of Mathematics and Science campus and Pueblo Dominguez dormitory facilities. As such, the evaluation of localized impacts during construction activity will focus on these on-campus uses.

[4] California Air Resources Board. Cancer Inhalation Risk: Local Maps by Category, 2007. Available: <http://www.arb.ca.gov/toxics/cti/hlthrisk/cncrinhl/riskmapviewfull.htm>.

Table 3B-3. Air Quality Data from North Long Beach Monitoring Station (CARB 70072)

Pollutant Standards	2004	2005	2006
Ozone (O_3)			
State standard (1-hour average = 0.09 ppm)			
National standard (8-hour average = 0.08 ppm)			
Maximum concentration 1-hour period (ppm)	0.090	0.091	0.081
Maximum concentration 8-hour period (ppm)	0.074	0.069	0.058
Days state 1-hour standard exceeded	0	0	0
Days national 8-hour standard exceeded	0	0	0
Carbon Monoxide (CO)			
State standard (8-hour average = 9 ppm)			
National standard (8-hour average = 9 ppm)			
Maximum concentration 8-hour period (ppm)	3.37	3.51	3.36
Days state/national 8-hour standard exceeded	0	0	0
Nitrogen Dioxide (NO_2)			
State standard (1-hour average = 0.18 ppm)			
Maximum 1-hour concentration	0.121	0.136	0.102
Days state standard exceeded[a]	0	0	0
Suspended Particulates (PM10)			
State standard (24-hour average = 50 µg/m^3)			
National standard (24-hour average = 150 µg/m^3)			
Maximum state 24-hour concentration	72.0	66.0	—
Maximum national 24-hour concentration	72.0	66.0	51.0
Days exceeding state standard	4	4	—
Days exceeding national standard	0	0	0
Suspended Particulates (PM2.5)			
National standard (24-hour average = 35 µg/m^3)			
Maximum 24-hour concentration	66.6	53.8	58.5
Days exceeding national standard[b]	1	0	0

Notes:

[a] Number of exceedances based on CAAQS applicable during period shown (0.25 ppm). Standard was changed to 0.18 ppm in February 2007, to be applied to 2007.

[b] Number of exceedances based on NAAQS applicable during period shown (65 µg/m^3). Standard was changed to 35 µg/m^3 in November 2006, to be applied to 2007.

Source: California Air Resources Board, 2007b.

Impacts and Mitigation

Methodology

Construction

Mass daily combustion emissions, fugitive PM10 and PM2.5 emissions, and off-gassing emissions were compiled using URBEMIS 2007, which is an emissions estimation/evaluation model developed by CARB that is based, in part, on SCAQMD *CEQA Air Quality Handbook* guidelines and methodologies.

The URBEMIS 2007 model separates the construction process into three phases. Phase 1 is structure demolition, which generates fugitive dust emissions, combined with combustion exhaust emissions that result from on-site construction equipment, haul truck trips, and commuting workers.[5] Phase 2 is site preparation (e.g., grubbing and grading), which generates fugitive dust emissions that result from soil disturbance, combined with combustion exhaust emissions that result from on-site construction equipment, haul truck trips, and commuting workers. Phase 3 is building construction and finishing, which generates combustion exhaust emissions that result from on-site construction equipment, haul truck trips, and commuting workers, combined with fugitive off-gassing emissions that result from the application of architectural coatings and asphalt paving.

Estimates of construction equipment use, by phase, were compiled using data provided in the SCAQMD guidance document *Sample Construction Scenarios for Projects Less than Five Acres in Size* (2005). The construction impact analysis provided herein is based on the sample equipment scenario for a 5-acre project provided in said SCAQMD guidance document. A complete listing of the construction equipment by phase, construction phase duration assumptions, and changes to modeling default values used in this analysis is included within the URBEMIS 2007 printout sheets provided in the Air Quality appendix (Appendix J) to this report.

Operation

The URBEMIS 2007 software was also used to compile the mass daily emissions estimates from mobile and area sources that would occur during long-term project operation. In calculating mobile-source emissions, the URBEMIS 2007 default trip assumptions were applied to arrive at total vehicle miles traveled (VMT). Area-source emissions were compiled using URBEMIS 2007 default assumptions. Criteria pollutant emissions associated with the production and consumption of energy were calculated using emission factors from SCAQMD's *CEQA Air Quality Handbook* (appendix to Chapter 9).

[5] No buildings would be demolished in carrying out the proposed project. As such, estimates of demolition-period emissions are not included in this report.

Local area CO concentrations for roadways were evaluated using the CALINE 4 line-source dispersion model developed by the California Department of Transportation (Caltrans), combined with EMFAC2007 emission factors. The analysis of roadway CO impacts followed the protocol recommended by Caltrans and published in the document titled *Transportation Project-Level Carbon Monoxide Protocol* (1997). It is also consistent with procedures identified through SCAQMD's CO modeling protocol. All emissions calculation worksheets and air quality modeling output files are provided in the Air Quality appendix (Appendix J).

Toxic Air Contaminants Impacts (Construction and Operation)

Potential TAC impacts are evaluated by conducting a screening-level analysis followed by a more detailed analysis (i.e., dispersion modeling), if necessary. The screening-level analysis consists of reviewing the proposed project's description and site plan to identify any new or modified TAC emissions sources. If it is determined that the proposed project would introduce a new source, or modify an existing TAC emissions source, then downwind sensitive-receptor locations are identified, and site-specific dispersion modeling is conducted to determine proposed project impacts.

Climate Change/Greenhouse Gas Emissions (Construction and Operation)

Project-related GHG emissions were estimated using the following methodology: 1) the URBEMIS 2007 software was used to calculate project-related CO_2 emissions and 2) methane (CH_4) and nitrous oxide (N_2O) emissions were compiled using the calculation formulas provided in the California Climate Action Registry, General Reporting Protocol, Reporting Entity-Wide Greenhouse Gas Emissions, version 2.2.

Thresholds of Significance

Appendix G of the *State CEQA Guidelines* presents guidance for making significance determinations. Appendix G states that a project would normally have a significant effect on the environment if it would

- conflict with or obstruct implementation of the applicable air quality management plan,
- violate any air quality standard or contribute substantially to an existing or projected air quality violation,

- result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable federal or state ambient air quality standard (including the release of emissions that exceed quantitative thresholds for ozone precursors),
- expose sensitive receptors to substantial pollutant concentrations, or
- create objectionable odors affecting a substantial number of people.

The significance criteria established by the applicable air quality management district or air pollution control district, according to the *State CEQA Guidelines*, may be relied upon to make the determinations above.

Given SCAQMD's regulatory role in the Basin, the significance thresholds and analysis methodologies outlined in the SCAQMD *CEQA Air Quality Handbook* (as updated, per the SCAQMD web site), *Final Localized Significance Threshold Methodology* guidance document, and *Final Methodology to Calculate Particulate Matter (PM) 2.5 Significance Thresholds* guidance document were used to evaluate project impacts. Project GHG emissions of CO_2, CH_4, and N_2O are provided for informational purposes only, because quantitative GHG guidelines, including thresholds, have not been developed by SCAQMD.

Construction Emissions

According to criteria set forth in the SCAQMD *CEQA Air Quality Handbook and the Localized Significance Threshold Methodology for CEQA Evaluations* and *Particulate Matter (PM) 2.5 Significance Thresholds and Calculation Methodology* guidance documents, the project would have a significant impact related to construction emissions if any of the following were to occur.

- Regional emissions from both direct and indirect sources exceed any of the following SCAQMD prescribed threshold levels: (1) 75 pounds a day for reactive organic compounds (ROC), (2) 100 pounds per day for NOx, (3) 550 pounds per day for CO, (4) 150 pounds per day for PM10 or SOx, or (5) 55 pounds per day for PM2.5.
- Localized emissions from on-site construction equipment and site-disturbance activity exceed any of the following SCAQMD prescribed threshold levels: (1) 260 pounds per day for NOx, (2) 1,567 pounds per day for CO, (3) 42 pounds per day for PM10, or (4) 10 pounds per day for PM2.5.[6]

Operational Emissions

According to criteria set forth in the SCAQMD *CEQA Air Quality Handbook*, the project would have a significant impact with regard to operational emissions if any of the following were to occur.

[6] Derived from SCAQMD Localized Significance Threshold Tables – SRA 4 (South Los Angeles County Coastal), 5-acre site, 50-meter receptor distance.

- Regional emissions from both direct and indirect sources would exceed any of the following SCAQMD prescribed threshold levels: (1) 55 pounds a day for ROC, (2) 55 pounds per day for NOx, (3) 550 pounds per day for CO, (4) 150 pounds per day for PM10 or SOx, or (5) 55 pounds per day for PM2.5 (South Coast Air Quality Management District 1993 and 2006).
- Localized emissions from on-site sources exceed any of the following SCAQMD prescribed threshold levels: (1) 260 pounds per day for NOx, (2) 1,567 pounds per day for CO, (3) 10 pounds per day for PM10, or (4) 3 pounds per day for PM2.5.[7]
- The project would cause an exceedance of the California 1-hour or 8-hour CO standards of 20 or 9 parts per million (ppm), respectively, at an intersection or roadway within 0.25 mile of a sensitive receptor.[8]

Toxic Air Contaminants

According to guidelines provided in the SCAQMD *CEQA Air Quality Handbook*, the project would have a significant impact with respect to toxic air contaminants if

- on-site stationary sources emit carcinogenic or toxic air contaminants that individually or cumulatively exceed the maximum individual cancer risk of 10 in 1,000,000 (1.0×10^{-5}) or an acute or chronic hazard index of 1.0 (South Coast Air Quality Management District 1998);[9]
- hazardous materials associated with on-site stationary sources result in an accidental release of air toxic emissions or acutely hazardous materials, posing a threat to public health and safety; or
- the project would be occupied primarily by sensitive individuals within 0.25 mile of any existing facility that emits air toxic contaminants, which could result in a health risk from pollutants identified in District Rule 1401 (South Coast Air Quality Management District 1993).

Climate Change/Greenhouse Gas Emissions

No federal, state, or regional air quality agency has adopted a methodology or quantitative threshold that can be applied to evaluate the significance of an individual project's contribution to GHG emissions, such as the quantitative thresholds that exist for criteria pollutants. The increase in GHG emissions for this project during short-term construction and long-term operation would be a small fraction of the regional, statewide, and worldwide total inventory.

[7] Ibid.
[8] Where the CO standard is exceeded at an intersection, a project would result in a significant impact if the incremental increase due to the project is equal to or greater than 1.0 ppm for the California 1-hour CO standard or 0.45 ppm for the 8-hour CO standard.
[9] SCAQMD Risk Assessment Procedures for Rules 1401 and 212, November 1998.

Therefore, it is anticipated that project-related GHG emissions increases would be negligible. Nevertheless, all available mitigation measures to reduce project-related GHG emissions to the greatest extent feasible are prescribed herein.

Project Impacts

Near-Term (2017) Impacts

Potential Construction Impact: Construction Activities and Equipment Could Generate Pollutant Emissions

Regional Construction Impacts

Construction of the proposed project has the potential to create air quality impacts. Such impacts could result from the use of heavy-duty construction equipment on the project site, vehicle trips made by construction workers traveling to and from the project site, or the delivery of building materials to the project site. Combustion emissions, primarily NOx, would result from the use of on-site construction equipment, such as graders, wheeled loaders, and cranes. During the finishing phase of construction, the application of architectural coatings (i.e., paints) and the use of certain building materials could cause a release of ROC emissions.

The proposed project could result in the construction of approximately 2.1 million square feet of new academic facilities, student housing, and faculty housing. In addition, up to 300,000 square feet of existing academic and gymnasium/fitness center space would be renovated and modernized. ~~Also, a new 720,000-square-foot parking structure would be constructed.~~ A more detailed discussion of the proposed new facilities and renovation/modernization of existing facilities can be found in Chapter 2 (Project Description) of this EIR.

Overall, construction is anticipated to start in the fall of 2009 and conclude by 2017. However, in order to provide a conservative estimate of potential worst-case impacts, the impact analysis assumes that up to three projects would be completed within the first 2 years following entitlement. This assumption is conservative in that it concentrates a high level of construction activity at the earliest feasible date within the proposed project's overall development period.

Two points are of particular interest. First, construction emissions are directly related to the amount and intensity of construction activities (i.e., emissions increase as the amount of construction increases). Second, the emission factors for certain components of project construction (i.e., construction workers' trips and delivery vehicle trips) decrease over time in response to the introduction of greater numbers of vehicles that emit lower relative levels of pollutant emissions.

The quantity, duration, and intensity of construction activity would have a substantial effect upon the amount of construction emissions and the related pollutant concentrations occurring at any one time. As such, the emission forecasts provided herein reflect a specific set of conservative assumptions that were based on an expected construction scenario wherein a relatively large amount of construction occurs in a relatively intensive manner. Because of this conservative assumption, actual emissions could be less than those forecast. 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 and/or (2) a less intensive buildout schedule (i.e., fewer daily emissions occurring over a longer time interval). The construction equipment mix and duration for each construction stage is detailed in the URBEMIS 2007 printout sheets provided in the Air Quality appendix (Appendix J).

A conservative estimate of the project's worst-case construction emissions is provided in Table 3B-4. As shown therein, short-term emissions during construction are expected to exceed SCAQMD regional significance thresholds for NOx and ROC. As such, impacts would be significant without incorporation of mitigation measures.

Mitigation Measures

AQ-1 Use EPA Tier 2 emissions-compliant equipment or newer.

AQ-2 Use architectural coatings containing a low level of volatile organic compounds.

Residual Impacts

Implementation of mitigation measure AQ-1 would result in an average reduction of NOx emissions by 55 percent, ROC emissions by 77 percent, and combustion-source particulate emissions (PM10 and PM2.5) by 51 percent. Implementation of mitigation measure AQ-2 would result in a net ROC reduction of approximately 10 percent.

As shown in Table 3B-5, with implementation of mitigation measures AQ-1 and AQ-2, regional NOx and ROC emissions would be reduced, but only NOx emissions would be reduced to a level below the respective SCAQMD threshold. ROC emissions would remain above the threshold level. In addition, mass regional PM10 and PM2.5 emissions would be further reduced from their previous less-than-significant levels. Impacts related to ROC emissions would be significant and unavoidable.

Table 3B-4. Conservative Estimate of Regional Construction Emissions (pounds per day)

	ROC	NOx	CO	SOx	PM10[a]	PM2.5[a]	CO_2
Three Concurrent Projects							
Site Grading	18	135	78	< 1	54	18	11,139
Structure Erection/Finishing	147	144	126	< 1	12	9	17,151
Two Concurrent Projects							
Site Grading	12	90	52	< 1	36	12	7,426
Structure Erection/Finishing	98	96	84	< 1	8	6	11,434
Single Project							
Site Grading	6	45	26	< 1	18	6	3,713
Structure Erection/Finishing	49	48	42	< 1	4	3	5,717
Maximum Concurrent Project Emissions	147	144	126	< 1	54	18	17,151
Regional Significance Threshold	75	100	550	150	150	55	—
Exceed Threshold?	**Yes**	**Yes**	**No**	**No**	**No**	**No**	**N/A**

Notes:

URBEMIS 2007 output sheets and emissions calculation worksheets are included in Appendix J.

[a] Fugitive PM10 and PM2.5 emissions estimates take into account compliance with SCAQMD Rule 403 requirements for fugitive dust suppression, which require that no visible dust be present beyond the site boundaries. A copy of Rule 403 is provided in Appendix J.

Source: Jones & Stokes, 2007.

Local Construction Impacts

SCAQMD has developed a set of mass emissions rate look-up tables that can be used to evaluate localized impacts that may result from construction-period emissions. If the on-site emissions from proposed construction activities are below the Localized Significance Threshold (LST) emission levels found in the LST mass rate look-up tables for the project site's SRA, then project emissions would not have the potential to cause a significant localized air quality impact. When quantifying mass emissions for LST analysis, only emissions that occur on-site are considered. Consistent with SCAQMD LST guidelines, emissions related to off-site delivery/haul truck activity and employee trips are not considered in the evaluation of localized impacts.

The proposed project would entail construction at up to eight individual site locations. As mentioned previously under Sensitive Receptors and Locations, proposed construction activity would occur several hundred feet away from the Child Development Center/Infant Toddler Center and the Student Health Center but would occur within a few hundred feet of the California Academy of Mathematics and Science campus and Pueblo Dominguez dormitory facilities. As such, the evaluation of localized impacts during construction activity will focus on those on-campus uses located within a few hundred feet of proposed construction activity.

Table 3B-5. Conservative Estimate of Mitigated Regional Construction Emissions (pounds per day)

	ROC	NOx	CO	SOx	PM10[a]	PM2.5[a]	CO_2
Three Concurrent Projects							
Site Grading	3	60	78	< 1	51	15	11,139
Structure Erection/Finishing	117	69	126	< 1	6	6	17,151
Two Concurrent Projects							
Site Grading	2	40	52	< 1	34	10	7,426
Structure Erection/Finishing	78	46	84	< 1	4	4	11,434
Single Project							
Site Grading	1	20	26	< 1	17	5	3,713
Structure Erection/Finishing	39	23	42	< 1	2	2	5,717
Maximum Concurrent Project Emissions	117	69	126	< 1	51	15	17,151
Regional Significance Threshold	75	100	550	150	150	55	—
Exceed Threshold?	**Yes**	**No**	**No**	**No**	**No**	**No**	**N/A**

Notes:

URBEMIS 2007 output sheets and emissions calculation worksheets are included in Appendix J.

[a] Fugitive PM10 and PM2.5 emissions estimates take into account compliance with SCAQMD Rule 403 requirements for fugitive dust suppression, which require that no visible dust be present beyond the site boundaries. A copy of Rule 403 is provided in Appendix J.

Source: ICF Jones & Stokes, 2007.

A conservative estimate of the project's construction-period on-site mass emissions is presented in Table 3B-6. As shown therein, the worst-case maximum emissions levels for all criteria pollutants would remain below their respective SCAQMD LST significance threshold. As such, localized impacts that may result from construction-period air pollutant emissions would be less than significant. No mitigation measures are necessary.

Mitigation Measures

No mitigation is necessary.

Table 3B-6. Conservative Estimate of Localized Construction Emissions (pounds per day)

Construction Phase	NOx	CO	PM10[a]	PM2.5[a]
Site Grading	20	24	14	4
Structure Erection/Finishing	20	26	2	2
Localized Significance Threshold	260	1,567	42	10
Exceed Threshold?	**No**	**No**	**No**	**No**

Notes:

URBEMIS 2007 output sheets and emissions calculation worksheets are included in Appendix J.

[a] Fugitive PM10 and PM2.5 emissions estimates take into account compliance with SCAQMD Rule 403 requirements for fugitive dust suppression, which require that no visible dust be present beyond the site boundaries. A copy of Rule 403 is provided in Appendix J.

Source: ICF Jones & Stokes, 2007.

Toxic Air Contaminants

The greatest potential for TAC emissions would be related to diesel particulate emissions from heavy equipment operations during site grading activities. SCAQMD does not consider diesel-related cancer risks from construction equipment to be an issue due to the short-term nature of construction activities. Construction activities associated with the proposed project would be sporadic, transitory, and short-term in nature. The assessment of cancer risk is typically based on a 70-year exposure period. Because exposure to diesel exhaust would be well below the 70-year exposure period, construction of the proposed project is not anticipated to result in an elevated cancer risk to exposed persons due to the short-term nature of construction. As such, project-related toxic emission impacts during construction would not be significant.

Mitigation Measures

No mitigation is necessary.

Operational Impacts

Potential Impact: Operation of the Proposed Project Could Generate Pollutant Emissions

Regional Operational Impacts

Regional air pollutant emissions associated with project operations would result from energy demands and the operation of on-road vehicles. Pollutant emissions associated with energy demands (i.e., the generation of electricity and natural gas

consumption) are classified by SCAQMD as regional stationary-source emissions. Electricity is considered an area source because it is produced at various locations in and outside the Basin. Because it is not possible to isolate where electricity is produced, these emissions are considered, conservatively, as occurring within the Basin and regional in nature. Criteria pollutant emissions associated with the production and consumption of energy were calculated using emission factors from SCAQMD's *CEQA Air Quality Handbook* (appendix to Chapter 9).

Mobile-source emissions were calculated using the URBEMIS 2007 emissions inventory model, which multiplies an estimate of daily VMT by applicable EMFAC2007 emissions factors.[10] The URBEMIS 2007 model output data and worksheets for calculating regional operational daily emissions are provided in Appendix J. As shown in Table 3B-7, the project's net regional emissions would exceed regional SCAQMD thresholds for CO, NOx, ROC, and PM10. Therefore, regional emissions from operations would result in a significant long-term regional air quality impact. Mitigation measures are prescribed below.

Table 3B-7. Estimate of Operational Emissions (pounds per day)

	ROC	NOx	CO	SOx	PM10	PM2.5	CO_2e
Mobile Source	69	83	643	1	187	36	$25.1e^5$
Area Source	36	9	10	< 1	< 1	< 1	$11.5e^3$
Stationary Source	1	35	7	2	1	1	$31.9e^3$
Total Project	106	127	660	4	188	37	$25.5e^5$
SCAQMD Daily Significance Threshold	55	55	550	150	150	55	—
Exceed Significance Threshold?	**Yes**	**Yes**	**Yes**	**No**	**Yes**	**No**	**N/A**

Notes:

URBEMIS 2007 output and energy emissions calculation worksheets are provided in Appendix J.

CO_2e = carbon dioxide equivalent.

Source: ICF Jones & Stokes, 2007.

Mitigation Measures

Applicable operations-period mitigation measures recommended by SCAQMD in its *CEQA Air Quality Handbook* are provided below.

Mobile Sources

AQ-3 Synchronize traffic lights on streets affected by development.

AQ-4 Contribute or dedicate land for off-site bicycle trails to link the facility to designated bicycle commuting routes.

[10] Daily VMT estimate derived by applying URBEMIS 2007 default trip generation and length estimates (per land use) to the proposed project land uses.

AQ-5 Provide preferential parking spaces for carpools and vanpools, and provide a minimum of 7 feet 2 inches of vertical clearance in parking facilities for vanpool access.

AQ-6 Provide on-site child care and after-school facilities or contribute to off-site development within walking distance.

AQ-7 Construct on-site or off-site bus turnouts, passenger benches, or shelters.

Stationary Sources

AQ-8 Use solar or low-emission water heaters.

AQ-9 Use central water heating systems, where appropriate.

AQ-10 Use energy-efficient appliances.

AQ-11 Provide shade trees to reduce building heating/cooling needs, where appropriate.

AQ-12 Use energy-efficient and automated controls for air conditioners.

AQ-13 Use double-pane glass windows.

AQ-14 Use energy-efficient low-sodium parking lot lights.

AQ-15 Use lighting controls and energy-efficient lighting.

AQ-16 Orient buildings to the north for natural cooling and include passive solar design (e.g., day lighting).

AQ-17 Use light-colored roof materials to reflect heat.

AQ-18 Increase walls and attic insulation beyond Title 24 requirements.

Residual Impacts

Implementation of the mitigation measures presented above would reduce mobile-source ROC emissions by 6 percent and NOx, CO, PM10, and PM2.5 emissions by almost 7 percent. Mitigated operational emissions are presented in Table 3B-8, below. As shown therein, with mitigation incorporated, ROC, NOx, CO, and PM10 emissions remain above their respective daily significance thresholds. Therefore, impacts would be significant and unavoidable.

Local Operational Impacts

Within an urban setting, vehicle exhaust is the primary source of CO. Consequently, the highest CO concentrations are generally found close to congested intersections. Under typical meteorological conditions, CO concentrations tend to decrease as the distance from the emissions source (i.e., congested intersection) increases. For purposes of providing a conservative

Table 3B-8. Estimate of Mitigated Operational Emissions (pounds per day)

	ROC	NOx	CO	SOx	PM10	PM2.5	CO_2e
Mobile Source	65	77	600	1	174	34	$25.1e^5$
Area Source	36	9	10	< 1	< 1	< 1	$11.5e^3$
Stationary Source	1	23	5	2	1	1	$31.9e^3$
Total Project	102	109	615	4	175	35	$25.5e^5$
SCAQMD Daily Significance Threshold	55	55	550	150	150	55	—
Exceed Significance Threshold?	**Yes**	**Yes**	**Yes**	**No**	**Yes**	**No**	**N/A**

Notes:
URBEMIS 2007 output and energy emissions calculation worksheets are provided in Appendix J.
CO_2e = carbon dioxide equivalent.
Source: ICF Jones & Stokes, 2007.

worst-case impact analysis, CO concentrations are typically analyzed at congested intersection locations. If impacts are less than significant in areas close to congested intersections, impacts will also be less than significant at more distant sensitive-receptor locations.

Traffic during the operational phase of the proposed project would have the potential to create local area CO impacts. To ascertain the proposed project's potential to generate localized air quality impacts, the traffic impact analysis for the project (The Mobility Group 2007) was reviewed to determine the potential for the creation of localized CO hot spots at congested intersection locations. SCAQMD recommends a hot spot evaluation of potential localized CO impacts when vehicle-to-capacity ratios are increased by 2 percent or more at intersections with a level of service (LOS) of C or worse.

The traffic impact analysis identified 27 key intersection locations along routes that accommodate much of the traffic traveling within the proposed project vicinity. Of the 27 study intersection locations, the traffic analysis shows that 14 intersections could create a localized CO hot spot.

Local area CO concentrations were projected using the CALINE 4 traffic pollutant dispersion model. The analysis of CO impacts followed the protocol recommended by Caltrans in its *Transportation Project-Level Carbon Monoxide Protocol* (1997). It is also consistent with the procedures found in SCAQMD's CO modeling protocol, with all four corners of each intersection analyzed to determine whether project development would result in a CO concentration that exceeds federal or state CO standards.

The proposed project's AM and PM 1-hour and 8-hour CO levels for buildout year 2017 are presented in Table 3B-9. As shown therein, the project would not have a significant impact on 1-hour or 8-hour local CO concentrations resulting from mobile-source emissions.

Table 3B-9. Project Buildout (2017) – Local Area Carbon Monoxide Dispersion Analysis

Intersection	Peak Period[a]	Maximum 1-Hour 2017 Base Concentration (ppm)[b]	Maximum 1-Hour 2017 with-Project Concentration (ppm)[c]	Significant 1-Hour Concentration Impact?[d]	Maximum 8-Hour 2017 Base Concentration (ppm)[e]	Maximum 8-Hour 2017 with-Project Concentration (ppm)[f]	Significant 8-Hour Concentration Impact?[d]
Victoria St. at the Interstate 110 SB Ramps	AM	6.3	6.4	No	4.7	4.8	No
	PM	6.2	6.2	No	4.7	4.7	No
Victoria St. at the Interstate 110 NB Ramps	AM	5.9	6.0	No	4.5	4.5	No
	PM	6.3	6.3	No	4.7	4.7	No
Victoria St. at Figueroa Blvd.	AM	6.1	6.1	No	4.6	4.6	No
	PM	6.2	6.3	No	4.7	4.7	No
Victoria St. at Main St.	AM	5.9	5.9	No	4.5	4.5	No
	PM	6.1	6.1	No	4.6	4.6	No
State Route 91 EB Ramps at Albertoni St.	AM	6.0	6.0	No	4.5	4.5	No
	PM	6.1	6.1	No	4.6	4.6	No
Avalon Blvd. at Albertoni St.	AM	5.8	5.9	No	4.4	4.5	No
	PM	6.0	6.1	No	4.5	4.6	No
Avalon Blvd. at Victoria St.	AM	6.0	6.2	No	4.5	4.7	No
	PM	6.4	6.5	No	4.8	4.9	No
Avalon Blvd. at University Dr.	AM	5.9	6.2	No	4.5	4.7	No
	PM	6.0	6.4	No	4.5	4.8	No
Avalon Blvd. at Del Amo Blvd.	AM	6.1	6.1	No	4.6	4.6	No
	PM	6.4	6.4	No	4.8	4.8	No
Avalon Blvd at the Interstate 405 NB Ramps	AM	6.2	6.2	No	4.7	4.7	No
	PM	7.1	7.2	No	5.3	5.4	No
Central Ave. at Artesia Blvd. WB	AM	6.1	6.1	No	4.6	4.6	No
	PM	6.1	6.1	No	4.6	4.6	No
Central Ave. at Artesia Blvd. EB	AM	6.2	6.2	No	4.7	4.7	No
	PM	6.2	6.3	No	4.7	4.7	No
Central Ave. at Victoria St.	AM	5.9	6.0	No	4.5	4.5	No
	PM	5.9	6.0	No	4.5	4.5	No
Central Ave. at Beachey Pl.	AM	5.7	5.8	No	4.3	4.4	No
	PM	5.6	5.8	No	4.3	4.4	No

Notes:

CALINE4 dispersion model output sheets and EMFAC2007 emission factors are provided in Appendix J.

NB= northbound; SB = southbound' EB = eastbound; WB = westbound; ppm = parts per million.

[a] Peak-hour traffic volumes are based on the traffic impact analysis prepared for the proposed project by The Mobility Group, 2007.

[b] SCAQMD 2017 1-hour ambient background concentration (5.1 ppm) plus 2017 base traffic CO 1-hour contribution.

[c] SCAQMD 2017 1-hour ambient background concentration (5.1 ppm) plus 2017 with-project traffic CO 1-hour contribution.

[d] The state standard for the 1-hour average CO concentration is 20 ppm, and the 8-hour average concentration is 9.0 ppm.

[e] SCAQMD 2017 8-hour ambient background concentration (3.9 ppm) plus 2017 base traffic CO 8-hour contribution.

[f] SCAQMD 2017 8-hour ambient background concentration (3.9 ppm) plus 2017 with-project traffic CO 8-hour contribution.

Source: South Coast Air Quality Management District, 2007b.

Because significant impacts would not occur at the intersections located adjacent to sensitive receptors with the highest traffic volumes, no significant impacts would be expected to occur at any other locations in the study area because the conditions yielding CO hot spots would not be worse than those occurring at the analyzed intersections. Consequently, the sensitive receptors included in this analysis would not be significantly affected by CO emissions generated by the increased in traffic that would occur under the proposed project. Because the proposed project would not exceed or exacerbate an existing ambient air quality standard, the localized operational air quality impacts would be less than significant. No mitigation measures are necessary.

With respect to the project's on-site mass emissions, Table 3B-10 shows that on-site operations-period emissions would be below SCAQMD's localized significance thresholds. Impacts from emissions of these criteria pollutants would be less than significant.

Table 3B-10. Estimate of Operations-Period Localized (on-site) Emissions

	NOx	CO	PM10	PM2.5
CSU – Dominguez Hills [a]				
On-site Area-source Emissions	9	10	< 1	< 1
SCAQMD Daily Significance Threshold (pounds/day)[b]	260	1,559	10	3
Exceed Significance Threshold?	**No**	**No**	**No**	**No**

Notes:

[a] On-site emissions calculated using the URBEMIS 2007 emissions model (area-source emissions). Model output sheets are provided in Appendix J.

[b] The project site is located in SCAQMD SRA No. 4. These Localized Significance Thresholds are based on the site location SRA, distance to the nearest sensitive-receptor location from the project site (100 meters), and the project area (5 acres).

Source: ICF Jones & Stokes, 2007.

Mitigation Measures

No mitigation is necessary.

Long-Term (2040) Impacts

No long-term construction projects are under consideration. As such, no construction activity-related impacts on air quality are anticipated. With respect to the proposed project's long-term operational emissions, regional mass emissions of ROC, NOx, CO, and PM10 would still exceed their respective SCAQMD daily significance thresholds. Since the long-term projects are defined in concept only, it is difficult to quantitatively assess the magnitude of the impacts. Long-term plans are contingent upon the availability of funding and

supporting enrollment levels. In the future, if and when individual long-term projects are proposed, the impacts on air quality will be analyzed in appropriate environmental documents.

Unavoidable Significant Adverse Impacts

Impacts related to short-term ROC emissions during construction would be significant and unavoidable. Impacts related to long-term ROC, NOx, CO, and PM10 emissions would be significant and unavoidable.

Climate Change/Greenhouse Gas Emissions

Global climate change is a caused by combined worldwide GHG emissions, and mitigating global climate change will require worldwide solutions. GHGs play a critical role in the earth's radiation budget by trapping infrared radiation emitted from the earth's surface, which could have otherwise escaped to space. Prominent GHGs contributing to this process include water vapor, CO_2, N_2O, CH_4, ozone, and certain hydro- and fluorocarbons. This phenomenon, known as the "greenhouse effect," keeps the earth's atmosphere near the surface warmer than it would be otherwise and allows for successful habitation by humans and other forms of life. Increases in these gases lead to more absorption of radiation and warm the lower atmosphere further, thereby increasing evaporation rates and temperatures near the surface. Emissions of GHGs in excess of natural ambient concentrations are thought to be responsible for the enhancement of the greenhouse effect and contributing to what is termed "global warming," a trend of unnatural warming of the earth's natural climate. Climate change is a global problem, and GHGs are global pollutants, unlike criteria air pollutants (such as ozone precursors) and TACs, which are pollutants of regional and local concern.

The proposed project's impact on GHG emissions during construction and operations is presented below. As shown, the relative quantity of project-related GHG emissions during short-term construction and long-term operations is negligible in comparison to statewide and worldwide daily emissions. The proposed project's amount of emissions, without considering other cumulative global emissions, would not be large enough to cause substantial climate change directly. Thus, project emissions, in isolation, are considered less than significant. However, climate change is a global cumulative impact, and thus the proper context for analysis of this issue is not a project's emissions in isolation but rather as a contribution to cumulative GHG emissions, which is discussed below.

Table 3.B-11 presents an estimate of project-related GHG emissions of CO_2, CH_4, and N_2O in the form of CO_2e. Because quantitative GHG guidelines, including thresholds, have not been developed by the SCAQMD, these emissions are provided for informational purposes only. According to a recent white paper by the Association of Environmental Professionals, "an individual project does not generate enough GHG emissions to significantly influence global climate change.

Table 3.B-11. Estimate of Project-Related Greenhouse Gas Emissions (pounds per day)[a]

	CO_2e
California Statewide Average Daily Emissions (2004)	**2,972,314,499**
Project Emissions	
Maximum Concurrent Construction-Period Emissions (Table 3B-5)	**17,151**
Operations-Period Emissions (Table 3B-8)	
Mobile Source	2,510,000
Stationary Source	11,500
Area Source	31,900
Total Operations-Period Emissions	**2,553,400**
SCAQMD Daily Significance Threshold	N/A
Exceed Significance Threshold?	**NA**

Notes:
[a] URBEMIS 2007 output and energy emissions calculation worksheets are provided in Appendix J.
Source: ICF Jones & Stokes 2008.

Global climate change is a cumulative impact; a project participates in this potential impact through its incremental contribution combined with the cumulative increase of all other sources of GHG emissions." Project-related impacts are expected to be less than significant because climate change would not occur directly from project emissions.

Construction-Period Emissions

The proposed project's worst-case GHG emissions during construction would be approximately 17,151 CO_2e pounds per day. This amount represents approximately 0.00058 percent of total statewide daily GHG emissions.

Existing CARB regulations (Title 13 of the California Code of Regulations, Sections 2480 and 2485), which limit idling of diesel-fueled commercial motor vehicles, would help to limit GHG emissions associated with project-related construction vehicles. In addition, CARB's proposed Early Action Measures (pursuant to the California Global Warming Solutions Act of 2006) include other emission-reduction measures for diesel trucks and diesel off-road equipment. CARB will review and adopt Early Action Measures by January 1, 2010; equipment used for construction of the project after 2010 could be subject to these requirements. Once such measures go into effect, construction contractors would be subject to these requirements.

Operations-Period Emissions

Vehicular trip generation and energy demands related to the proposed new development would result in direct and indirect emissions of GHG emissions. GHG emissions during long-term operations would total approximately 2,553,400 CO_2e pounds per day. This amount represents approximately 0.086 percent of total statewide daily GHG emissions.

As stated earlier, no federal, state, or regional air quality agency has adopted a methodology or quantitative threshold that can be applied to evaluate the significance of an individual project's contribution to GHG emissions, such as the ones that exist for criteria pollutants.

Consistency with Air Quality Management Plan

The proposed project is consistent with the City of Carson General Plan. As discussed in Section 3J, Land Use, development of the proposed project would be compatible with surrounding uses. The master plan proposes construction of new or expanded academic, athletic, and housing facilities, all of which are consistent with, and not substantially different from, existing facilities on campus. Additionally, the new and expanded facilities would serve both the campus and the surrounding community.

Because the proposed project is consistent with the local general plan, pursuant to SCAQMD guidelines, the proposed project is considered consistent with the region's AQMP. As such, proposed project-related emissions are accounted for in the AQMP, which is crafted to bring the Basin into attainment for all criteria pollutants. Accordingly, the proposed project would be consistent with projections in the AQMP, thus resulting in a less-than-significant impact.

Cumulative Impacts

With respect to the proposed project's construction- and operations-period air quality emissions and cumulative Basin-wide conditions, SCAQMD has developed strategies to reduce the criteria pollutant emissions outlined in the AQMP pursuant to federal CAA mandates. As such, the proposed project would comply with SCAQMD Rule 403 requirements, among other SCAQMD requirements, and implement all feasible mitigation measures. In addition, the proposed project would comply with adopted AQMP emissions control measures. Per SCAQMD rules and mandates, as well as the CEQA requirement to mitigate significant impacts to the extent feasible, these same requirements (i.e., Rule 403 compliance, the implementation of all feasible mitigation measures, and compliance with adopted AQMP emissions control measures) would also be imposed on construction projects Basin-wide, which would include each of the related projects mentioned previously.

As stated earlier, construction-period ROC regional mass emissions and operations-period ROC, NOx, CO, and PM10 mass emissions associated with the proposed project are already projected to result in a significant impact on air quality. As such, when combined with foreseeable future development projects, cumulative impacts on air quality during proposed project construction would be significant and unavoidable.

Section 3C
Biological Resources

Introduction

This section examines current biological resources occurring in the vicinity of the campus. Potential impacts of the proposed project on those biological resources are presented below along with possible mitigation measures.

Setting

Regulatory Setting

Federal, state, and local regulations related to biological resources that apply to the proposed project are discussed below.

Federal

Clean Water Act

The Clean Water Act (CWA) provides guidance for the restoration and maintenance of the chemical, physical, and biological integrity of the nation's waters. Section 401 requires that an applicant for a federal license or permit that allows activities resulting in a discharge to waters of the United States obtain state certification that the discharge complies with provisions of the CWA. The regional water quality control boards administer the certification program in California. Section 402 establishes a permitting system for the discharge of any pollutant (except dredged or fill material) into waters of the United States.

Section 404 establishes a permit program, administered by the U.S. Army Corps of Engineers (USACE), regulating the discharge of dredged or fill material into waters of the United States (including wetlands). Implementation regulations by USACE are found at 33 Code of Federal Regulations (CFR) Parts 320–330. Guidelines for implementation are referred to as Section 404 (b)(1) guidelines, which were developed by the EPA in conjunction with USACE (40 CFR Part 230). The guidelines allow the discharge of dredged or fill material into aquatic systems only if there is no practicable alternative with less adverse impacts.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) makes it unlawful at any time, by any means, or in any manner to pursue, hunt, take, capture, or kill migratory birds. The law applies to the removal of nests occupied by migratory birds during the breeding season. Migratory birds, as defined under this act, are most native birds in North America, with a few exceptions (e.g., galliformes and wrentit). Permitted activities are allowed under U.S. Fish and Wildlife Service (USFWS) regulations for hunting and preventing or minimizing risks to human safety.

Federal Endangered Species Act

Species listed as endangered and/or threatened by the USFWS under the federal Endangered Species Act (ESA) are protected under Section 9 of federal ESA, which forbids any person to "take" an endangered or threatened species. "Take" is defined in Section 3 of the act as any action to "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or to attempt to engage in any such conduct." The U.S. Supreme Court ruled in 1995 that the term "harm" includes destruction or modification of habitat. Sections 7 and 10 of this act may authorize "incidental take" for an otherwise lawful activity (a development project, for example) if it is determined that the activity would not jeopardize the species' survival or recovery. Section 7 applies to federalized projects where a species on the federal list is present and there is a federal nexus such as the need for a federal Clean Water Act Section 404 permit or the use of federal funds. Section 10 applies when a species on the federal list is present but no federal nexus is present.

State

California Fish and Game Code, Sections 1600–1616

Under these sections of the California Fish and Game Code, project proponents (public or private) are required to notify CDFG prior to any project that would divert, obstruct, or change the natural flow, bed, channel, or bank of any river, stream, or lake. Preliminary notification and project review generally occur during the environmental process. When an existing fish or wildlife resource may be substantially adversely affected, CDFG is required to propose reasonable project changes to protect the resource. These modifications are formalized in a Streambed Alteration Agreement.

Porter-Cologne Water Quality Control Act

Under the state Porter-Cologne Water Quality Control Act (Porter-Cologne), the State Water Resources Control Board (SWRCB) and regional boards assert jurisdiction over many discharges into waters of the state. Where resources are

subject to both state and federal regulations, Porter-Cologne compliance is coordinated with Clean Water Act Section 401 certification. Activities affecting waters of the state that are not subject to federal regulation under the Clean Water Act may require issuance of individual Waste Discharge Requirements (WDRs) or coverage under the General Waste Discharge Requirements (Water Quality Order No. 2004-0004-DWQ) for small-volume fill-and-dredge projects.

Dischargers whose construction project disturbs 0.4 hectare (1 acre) or more of soil or whose project disturbs less than 0.4 hectare (1 acre) but is part of a larger common plan of development that in total disturbs 0.4 hectare (1 acre) or more are required to obtain coverage under the General Permit for Discharges of Stormwater Associated with Construction Activity (Construction General Permit, 99-08-DWQ). Construction activity subject to this permit includes clearing, grading, and disturbances to the ground such as stockpiling or excavation but does not include regular maintenance activities performed to restore the original line, grade, or capacity of the facility.

California Fully Protected Species

The State of California first began to designate species as "fully protected" prior to the creation of the California Endangered Species Act (CESA). Lists of fully protected species were initially developed to provide protection to those animals that were rare or faced with possible extinction; this included fish, mammals, amphibians and reptiles, birds, and mammals. Most fully protected species have since been listed as threatened or endangered under CESA and/or the federal ESA. The regulations that implement the Fully Protected Species Statute (Fish and Game Code Section 4700) provide that fully protected species may not be taken or possessed at any time. Furthermore, CDFG prohibits any state agency from issuing incidental take permits for fully protected species, except for necessary scientific research.

California Endangered Species Act

The California Endangered Species Act establishes a policy to conserve, protect, restore, and enhance threatened or endangered species and their habitats. CESA mandates state agencies not to approve projects that would jeopardize the continued existence of threatened or endangered species if reasonable and prudent alternatives are available that would avoid jeopardy. For projects that affect both a state and a federal listed species, compliance with the federal ESA will satisfy CESA if CDFG determines that the federal incidental take authorization is "consistent" with CESA under Fish and Game Code Section 2080.1. For projects that would result in the take of only state-listed species, the project proponent must apply for a take permit under Section 2081(b).

California Fish and Game Code

California Fish and Game Code sections 3503, 3503.5, 3505, 3800, and 3801.6 protect all native birds, birds of prey, and nongame birds, including eggs and nests, that are not already listed as fully protected and which occur naturally within the state.

Environmental Setting

ICF Jones & Stokes biologist Marisa Flores conducted a biological survey of the project site on April 23, 2007. The survey was conducted to identify the biological resources occurring on campus and determine the potential for impacts on those biological resources from implementation of the proposed project. The study area consisted of the proposed project footprint (e.g., proposed building locations) and an approximately 100-foot buffer (see Figure 3C-1).

The plant and animals observed and/or detected during the biological survey were recorded and are listed in Appendix A. Taxonomy and nomenclature used in this report follow Hickman (1993) for plants, Collins and Taggart (2002) for native herpetiles (amphibians, turtles, and reptiles), AOU (1998) and supplements (AOU 2000, 2002, 2003, 2004) for birds, and Jones et al. (1997) for mammals.

Prior to the site visit, a search was conducted of the California Natural Diversity Database (CNNDB) and the California Native Plant Society (CNPS) Rarefind Inventory for the U.S. Geological Survey (USGS) Torrance 7.5-minute quadrangle map (1981) and the USGS Long Beach 7.5-minute quadrangle map (1981) to identify special-status wildlife and plant species that have been reported in the area. Additional species that are known to occur in the region were identified based on professional knowledge, experience with prior projects in the area, ICF Jones & Stokes' internal databases, and a variety of published and unpublished scientific literature.

A complete list of special-status species, including the English name, scientific name, current regulatory status, and likelihood of occurrence, as well as applicable comments, is provided in Appendix B. Definitions of the terms used for likelihood of occurrence are also provided in Appendix B, including the criteria for such judgments.

Judgments regarding the conditions, habitats, and resources identified in the study area or determined to have the potential to occur in the study area are based on a complex and carefully evaluated array of information, including (1) published and unpublished information on local and regional ecosystems, as well as an identification and evaluation of resources; (2) extensive personal and professional experience and training; and (3) careful observations made during the site visit.

CSUDH is located within a highly urbanized setting. The study area is composed of both developed and undeveloped areas (see Figure 3C-1). The developed areas include campus buildings and associated landscaping, parking lots, and infrastructure. Undeveloped lands in the study area are composed of vacant parcels; agriculture uses, including a geranium nursery and disked fields (east of Birchknoll Drive); and a native landscape project (west of Birchknoll Drive). The vacant land adjacent to the east side of the extended education complex contains ruderal vegetation and a depression that retains water seasonally.

Physical Conditions

Topography

CSUDH is within the Dominguez Hills, with elevations on the campus ranging from 30 to 140 feet above mean sea level. No natural topography is present.

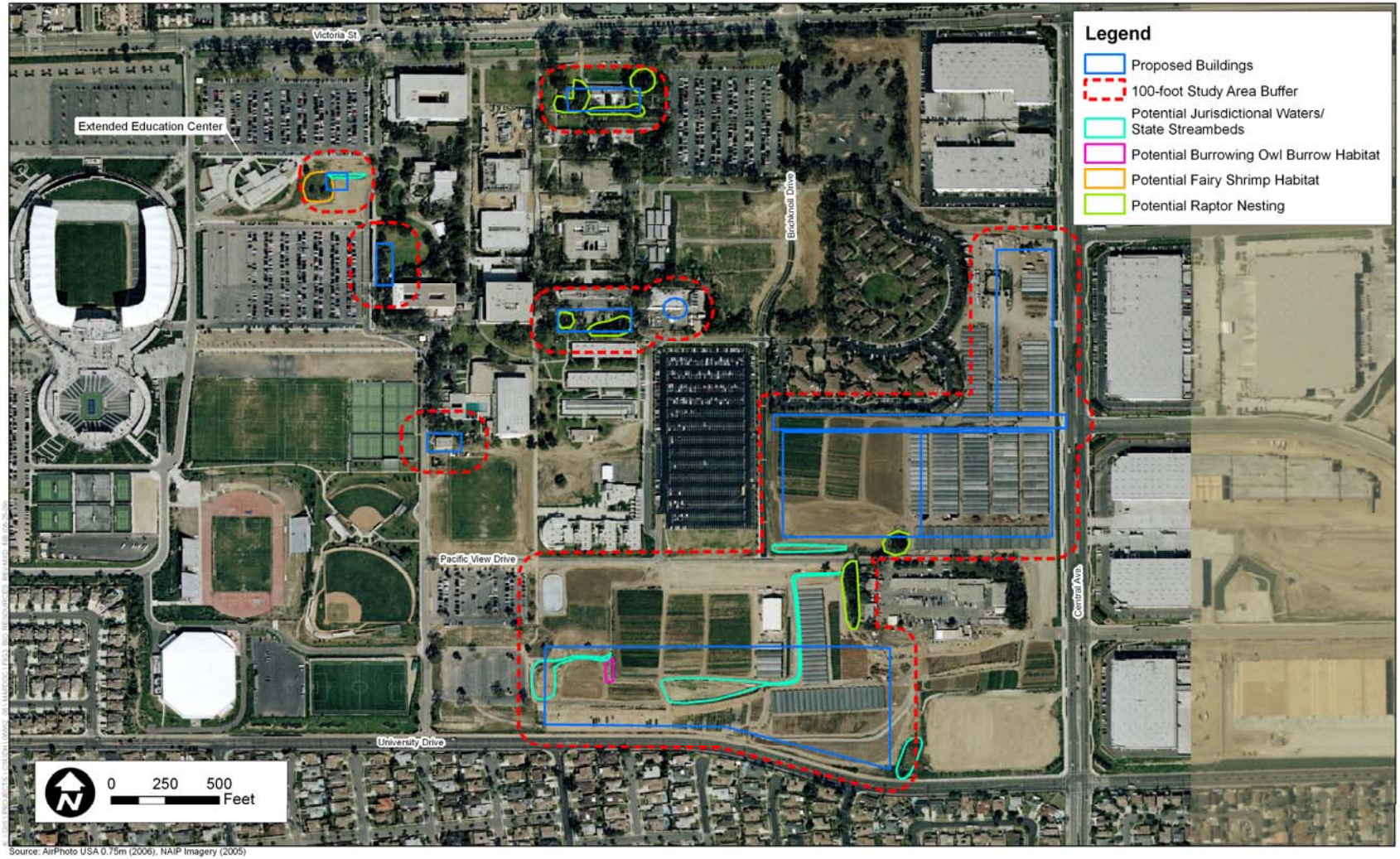
Soils

The soils supporting the geranium nursery consist mainly of fill dirt with gravel. The rest of the campus contains the following soil types: sands, fine sands and fine sandy loams, sandy loams, silty loams, and clay loams. Please refer to Section 3G, Geology and Soils, of this EIR for a full description of the soils on the campus.

Hydrology

Five features that transport water occur within the study area (see Figure 3C-1). Two of the features appear to be associated with carrying runoff water from the nursery. These features end in small detention basins; however, overflow water is allowed to leave the detention basins via overflow pipes. The feature north of Pacific View Drive and east of Birchknoll Drive is a channel that transports water into the area of the native landscape project across the street. A man-made channel was created to transport water collecting within a depression adjacent to the extended education complex (PCR Services Corporation [PCR] 2006). The final feature occurs in the southwest corner of the study area, a man-made channel that appears to carry runoff into a storm drain under University Drive.

Figure 3C-1: Biological Resources



Natural Vegetation Communities and Plants

Sensitive Natural Plant Communities

Sensitive natural plant communities are not located within the study area. The developed areas of the campus display various species of mature eucalyptus trees and ornamental pine trees. Undeveloped areas of the study area contain mostly ruderal nonnative vegetation. The dominant species observed in the undeveloped areas were short-pod mustard (*Hirschfeldia incana*), radish (*Raphanus sativus*), fennel (*Foeniculum vulgare*), castor-bean (*Ricinus communis*), rip-gut brome (*Bromus diandrus*), and Russian thistle (*Salsola tragus*). The plants observed in the study area are listed in Appendix A. Efforts have been made by CSUDH to replant native species in the southwest corner of the study area (Thomlinson pers. comm.).

A depression that retains water during the wet season (late fall through early spring) occurs on the vacant lot adjacent to the extended education complex. The depression was created as a result of past construction on the lot, which receives fill dirt from various construction activities on campus (PCR 2006). Vegetation occurring within the depression includes eucalyptus and pine trees and a small patch of mulefat (*Baccharis salicifolia*), which is not a vernal pool indicator plant. The depression, which is highly disturbed, is not considered part of a vernal pool or a sensitive natural community.

The agricultural field north of Pacific View Drive, while not a sensitive natural plant community, provides potential foraging habitat for raptors. The field is sparsely vegetated with ruderal nonnative plants such as those listed above as occurring in undeveloped areas on campus. The prey base appears low, which is likely the result of the routine disking of the field; this reduces the amount of food items that would attract small mammals. The nursery area south of Pacific View Drive also provides potential foraging opportunities for raptors. The prey base appears to be moderate (e.g., California ground squirrel [*Spermophilus beecheyi*]) because there is more vegetation to support small mammals and birds.

Special-Status Plant Species

No special-status plant species were observed in the study area at the time of the site visit, and no special-status plants are expected to occur. A full review of the potential for the occurrence of special-status plants on campus was performed, and the findings are presented in Appendix B. Conclusions were based on the species' requirements for a particular combination of soil, hydrology, habitat, and elevation range as well as disturbance tolerance. Campus conditions and resources were also considered.

Animals

Wildlife on the campus is typical of an urban area. The dominant bird species observed consisted of house finch (*Carpodacus mexicanus*), mourning dove (*Zenaida macroura*), European starling (*Sturnus vulgaris*), killdeer (*Charadrius vociferus*), barn swallow (*Hirundo rustica*), cliff swallow (*Petrochelidon pyrrhonota*), Bullock's oriole (*Icterus bullockii*), American crow (*Corvus brachyrhynchos*), and song sparrow (*Melospiza melodia*). Mammals noted were limited to California ground squirrel, Botta's pocket gopher (*Thomomys bottae*), raccoon (*Procyon lotor*), and black-tailed jackrabbit (*Lepus californicus*). Only one reptile, western fence lizard (*Sceloporus occidentalis*), was observed. A list of the wildlife observed in the study area can be found in Appendix A.

Special-Status Animal Species

Special-status animal species were evaluated for occurrence potential in the study area based on CNDDB search results and professional knowledge of species occurring in the region. The species with less-than-reasonable potential to occur on the project site, and the rationale for such judgments, can be found in Appendix B. These species are not discussed in this section.

The following special-status animals were determined to have potential for occurring on the project site and are listed in Appendix B: vernal pool fairy shrimp (*Branchinecta lynchi*), San Diego fairy shrimp (*B. sandiegonensis*), white-tailed kite (*Elanus leucurus*), sharp-shinned hawk (*Accipiter striatus*), Cooper's hawk (*A. cooperii*), merlin (*Falco columbarius)*, burrowing owl (*Athene cunicularia*), loggerhead shrike (*Lanius ludovicianus*), and San Diego black-tailed jackrabbit (*Lepus californicus bennettii*). Special-status species observed within the study area or considered to have potential to occur are discussed below.

Special-status animal species observed in the study area during the biological survey were limited to an individual San Diego black-tailed jackrabbit. This species was observed in the agricultural field north of Pacific View Drive.

An unconfirmed observation of fairy shrimp within the seasonally wet depression was reported to school officials during the 2004–2005 winter season (PCR 2006). PCR conducted protocol wet-season (late fall through early spring) and dry-season (spring through fall) fairy shrimp surveys in the depression beginning in October 2005. Insufficient inundation occurred during the wet-season survey (2005–2006) for fairy shrimp to emerge. The dry-season surveys (2005) found five cysts belonging to the genus *Branchinecta* but none of the cysts hatched when they were hydrated. The genus *Branchinecta* contains both special-status and common fairy shrimp species. The results of the fairy shrimp survey indicate that three species have potential for occurrence, San Diego fairy shrimp (federal endangered species list), vernal pool fairy shrimp (federal endangered species list), and a non-special-status species, versatile fairy shrimp (*Branchinecta lindahli*).

The CSUDH campus is scattered with mature eucalyptus and ornamental pine trees, some of which may be removed by proposed project implementation. These trees could provide potential nesting habitat (see Figure 3C-1) for raptors that occur in the region (e.g., red-tailed hawk) as well as special-status raptors with potential to occur in the study area (e.g., Cooper's hawk).

Approximately 2 years ago, a burrowing owl was detected by faculty in the southwestern area of the proposed project site (Thomlinson pers. comm.) (see Figure 3C-1 for potential burrowing owl habitat). During the 2007 site visit conducted by ICF Jones & Stokes, ground squirrel burrows were observed along a berm in this area. Burrowing owls were not observed during the site visit, and no sign (i.e., scat, feathers, tracks) of the species was found. However, burrowing owls are a migrant species, migrating between wintering and breeding grounds. Although the species was not observed during the 2007 site visit, potential remains for burrowing owls to occur on the proposed project site due to the presence of potential foraging and burrow habitat.

Loggerhead shrike is a state species of special concern. While not observed during biological survey, this species is judged to have a high potential to occur on the proposed project site given the suitable areas for nesting and foraging adjacent to the open agricultural field.

Impacts and Mitigation

Thresholds of Significance

The proposed project would result in a significant impact on biological resources if it would

- have a substantial adverse effect, either directly or indirectly or through habitat modification, on any species identified as being a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations or by CDFG or USFWS;
- have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by CDFG or USFWS;
- have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act through direct removal, filling, hydrological interruptions, or other means;
- interfere substantially with the movement of any native resident migratory fish or wildlife species or use of established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites;

- conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- conflict with the provisions of any local policies or ordinances protecting biological resources, an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or any other approved local, regional, or state Habitat Conservation Plan.

Project Impacts

Near-Term (2017) Impacts

Potential Impact: The Proposed Near-Term Projects Could Affect Habitat for Fairy Shrimp

The campus development proposed for the vacant lot adjacent to the extended education complex may result in the removal of a seasonally wet depression that provides habitat for species in the genus *Branchinecta*. Such action could have a substantial adverse effect, either directly or through habitat modifications, on a species identified as being a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations or by CDFG or USFWS. Therefore, the potential impact would be considered significant and would require mitigation. In addition, if San Diego fairy shrimp and/or vernal pool fairy shrimp are present, the potential impact would trigger "take" considerations under the federal ESA because these species are on the federal endangered and threatened lists, respectively.

Mitigation Measures

3C-1a **Avoidance.** If feasible, the footprint of the proposed extended education complex addition should be altered to avoid any direct impacts on the seasonally wet depression or its watershed. This includes avoidance of grading activities, construction, and/or material laydown. If avoidance is infeasible, mitigation measure 3C-1b shall be incorporated.

3C-1b **Consultation under the Federal ESA.** If San Diego fairy shrimp and/or vernal pool fairy shrimp are present within the proposed project footprint, consultation with USFWS under the federal ESA shall be initiated. Prior to approval of grading or improvement plans, permits or approvals (i.e., take authorization) shall be obtained from USFWS for potential impacts on species on the federal lists. Consultation under the federal ESA will identify conservation measures to be implemented to ensure significant adverse impacts do not occur.

Residual Impact

The impact would be less than significant after incorporation of mitigation.

Potential Impact: Construction of the Near-Term Projects Could Result in Removal of Mature Trees and Thereby Affect Nesting Raptors

Near-term projects may result in the removal of mature trees on campus that provide potentially suitable nesting habitat for several species of raptors observed or considered to have the potential to occur within the study area. Raptor and migratory bird nests are considered sensitive biological resources and, if established on-site, could be affected by proposed project activities (e.g., noise, the presence of people, lighting, etc.). The breeding season varies somewhat between species, but all species conduct their nesting cycle at some point between January 15 and August 31. Nests are less sensitive outside of the breeding season when they are not in active use; however, raptors often use the same nest sites for many years. Therefore, the loss of inactive nests is considered an adverse effect. Grading in the vicinity of active nests during the breeding season could impede the use of raptor and migratory bird breeding sites. Such an impact could interfere substantially with the movement of native resident wildlife species or use of established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites. Therefore, these impacts would be considered significant and would require mitigation.

Mitigation Measures

3C-2 **Raptor Nesting Preconstruction Survey.** Thirty days prior to the commencement of construction (if between January 15 and August 31), a qualified biologist shall perform a raptor nesting survey. This shall consist of a single visit to ascertain whether there are active raptor nests within 300 feet of the limits of disturbance. This survey shall also identify the species of nesting raptor and, to the degree feasible, the nesting stage (e.g., incubation of eggs, feeding of young, near fledging). Nests shall be mapped but not by a global positioning system (GPS) because encroachment may cause nest abandonment. If active nests are found, construction shall not occur within 300 feet of the nest until the nesting attempt has been completed or abandoned occurs due to non-project-related reasons.

Residual Impact

The impact would be less than significant after incorporation of mitigation.

Potential Impact: Construction of the Near-Term Projects Could Remove Foraging Habitat for Burrowing Owls

Burrowing owls have been reported on campus by university faculty along a berm just east of the nursery where potential burrows occur (Thomlinson pers. comm.) (see Figure 3C-1). However, burrowing owls or burrowing owl signs

(i.e., scat, tracks, feathers) were not observed within the study area. According to the CNDDB, the nearest known population of burrowing owls found in the area occurred in Playa del Rey, near Ballona Creek, in 1981 (CDFG 2007). However, potential exists for the species to utilize resources on the proposed project site (i.e., burrows and foraging habitat). If it is determined that burrowing owls do occur within the study area, the proposed project could result in impacts on burrowing owls through removal of habitat. Such impacts could have a substantial adverse effect, either directly or through habitat modifications, on a species identified as being a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations or by CDFG or USFWS. In addition, grading in the vicinity of active nests during the breeding season could impede the use of breeding sites. Such an impact could interfere substantially with the movement of native resident wildlife species or use of established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites. Therefore, these impacts would be considered significant and would require mitigation.

Mitigation Measures

3C-3a Burrowing Owl Focused Survey. A focused survey for burrowing owls shall be performed following California Burrowing Owl Consortium (CBOC 1997) guidelines. A survey for burrows and owls shall be conducted by walking through suitable habitat and areas within approximately 500 feet of the project impact zone where legally accessible. Burrows shall be mapped, and any observations of burrowing owls shall be recorded. If access to the 500-foot buffer is restricted, a visual survey of the area for burrows and burrowing owls is required.

Burrowing owls shall be surveyed by visiting the site on four separate occasions. If burrowing owls are observed during the surveys, mitigation measure 3C-3c shall be implemented. If no burrowing owls are observed, mitigation measure 3C-3b shall be implemented.

3C-3b Preconstruction Burrowing Owl Survey. Thirty days prior to the commencement of construction, a preconstruction burrowing owl survey shall be performed. This shall consist of a single survey with the focused intent of determining whether burrowing owls are still absent from the study area. If no burrowing owls are observed/detected, additional mitigation is not required. If burrowing owls are observed, mitigation measure 3C-3c shall be implemented.

3C-3c Passive Relocation. Thirty days prior to the commencement of construction, a preconstruction burrowing owl survey shall be performed. This shall consist of a single survey with the focused intent of determining whether burrowing owls still occur within the study area. If the species is present outside the breeding season (September 1 through February 28), passive relocation shall be performed by a qualified biologist. No permits are necessary for this work. Prior to passive relocation of the birds from occupied burrows, potentially suitable

burrows within the study area shall be collapsed so that the birds being passively relocated do not occupy a nearby burrow. At least 48 hours will pass between the start of passive relocation and the collapse of the occupied burrows. This will ensure that the birds are gone.

If the species is found to be present and it is within the breeding season (March 1 through August 31), construction shall not occur within 300 feet of the active burrows until it has been confirmed by a qualified biologist that the nesting effort has been completed. At that time, passive relocation can be employed as described above.

Residual Impact

The impact would be less than significant after incorporation of mitigation.

Potential Impact: Construction of the Near-Term Projects Could Affect Wetlands and Jurisdictional Waters

Water features identified within the study area (see Figure 3C-1) may be regulated by one or more of the following resource agencies: USACE, CDFG, or the RWQCB. These potential jurisdictional resources are located within an area planned for development of faculty and staff housing. Impacts on wetlands or other waters regulated by USACE, CDFG, and/or the RWQCB could be potentially significant under CEQA and would require permits/approvals from the regulating agency or agencies and implementation of appropriate measures to reduce impacts to a level below significant.

Mitigation Measures

3C-4a **Resource Agency Coordination.** Prior to initiating detailed site plans for the faculty and staff housing complex, the applicant shall coordinate with USACE, CDFG, and the RWQCB to determine whether any or all of these agencies would regulate the water features on-site. If none of these agencies takes jurisdiction over these features, additional mitigation will not be required. However, if one or more of these agencies take jurisdiction over these features, mitigation measure 3C-4b shall be incorporated.

3C-4b.1 **Avoidance.** If USACE, CDFG, and/or the RWQCB takes jurisdiction over the water features on-site, the proposed faculty and staff housing complex shall be designed to avoid any direct impacts on regulated waters, if feasible. This includes avoidance of grading activities, construction, and/or material laydown within these areas. If avoidance is infeasible, mitigation measure 3C-4b.2 shall be incorporated.

3C-4b.2 Replacement of Wetland/Water Functions and Values. If avoidance of regulated waters is not feasible, the applicant shall develop a compensatory mitigation plan to ensure no net loss of wetland/water functions and values. The plan shall be developed through coordination with the appropriate agencies (USACE, CDFG, and/or the RWQCB) during the permitting processes with these agencies. The plan shall include criteria for evaluating the success of the mitigation plan as well as contingency plans in the event that the plan does not meet all success criteria.

Residual Impact

The impact would be less than significant after incorporation of mitigation.

Long-Term (2040) Impacts

While focused biological surveys were not conducted outside the study area for near-term projects, the results of surveys conducted of the study area, a review of aerial photographs, and knowledge of the area indicate that biological resources within the potential impact areas for long-term projects are anticipated to be similar to those occurring within the impact areas for the near-term projects discussed above. As such, impacts on sensitive biological resources resulting from potential long-term projects are anticipated to be similar to those discussed above for near-term projects. Project-level analysis of individual projects would be required prior to construction to identify specific impacts on sensitive biological resources and appropriate mitigation measures.

Unavoidable Significant Adverse Impacts

No unavoidable significant adverse impacts on biological resources would occur due to campus development.

Cumulative Impacts

If burrowing owls are located within the proposed impact area, the project has the potential to result in a significant cumulative impact on burrowing owls, which are thought to be extirpated from the Los Angeles area. After mitigation, the project-level impacts on burrowing owls would be reduced to less than significant.

While the proposed project has the potential to result in impacts on fairy shrimp on the federal list, cumulative impacts are not anticipated because impacts on species on the federal list would require consultation with USFWS under the

federal ESA, which would identify conservation measures to ensure that cumulative impacts do not occur. However, this assumes that there would be no net loss of habitat for fairy shrimp on the federal list.

While the proposed project has the potential to result in impacts on jurisdictional wetlands and other waters, cumulative impacts are not anticipated because impacts on jurisdictional wetlands and other waters would require permits/approval from the regulating agency or agencies (e.g., USACE, CDFG, RWQCB), which would include mitigation requirements that would ensure cumulative impacts do not occur.

Because the majority of the proposed project area and surrounding areas is currently developed or disturbed, the proposed project is not anticipated to result in additional cumulative impacts on biological resources beyond those discussed above.

Section 3D
Historical Resources

Introduction

This section provides information on the historical resources on the campus and the impacts of the new master plan projects on these resources.

Historical Setting

The present site of California State University, Dominguez Hills is located on the former Rancho San Pedro, the first land grant in California. In 1784, Governor Pedro Fages granted 74,748 acres to Juan Jose Dominguez, 31,629 acres of which were later partitioned to become Rancho Los Palos Verdes and granted to the Sepulveda family in 1846. The remaining 43,119 acres of Rancho San Pedro included land, to the south, that would become present-day San Pedro, Long Beach, Terminal Island, and Wilmington. To the north, the rancho extended to what is now Compton; to the west, Redondo Beach (Clary 1966).

After the death of Juan Jose Dominguez, the rancho passed to his nephew, Cristobal Dominguez, and then to Cristobal's son, Manuel, executor of the estate. The rancho was partitioned among Cristobal's six children in 1855, with Manuel retaining 28,746 acres after buying out some of his siblings. In 1858, Manuel Dominguez became the first to make a claim with the California Land Commission for approval of his grant. The rancho was patented to him in 1858 by the United States, becoming the first United States patent of any of the Spanish or Mexican land grants (Clary 1966). At his death in 1882, at nearly 80, Manuel Dominguez retained ownership of the entire rancho, "a remarkable achievement not duplicated by any of his contemporaries, most of whom lost all their lands and died in straitened circumstances, if not in actual want" (Clary 1966). Consequently, Manuel Dominguez became known as one of the "great cattle owners of Southern California and a leading judicial, military, and political figure of his time" (Queenan 1983).

Six daughters survived Manuel Dominguez, each inheriting one-sixth of the rancho property. The fourth daughter, Maria Victoria Dominguez, married George Henry Carson and resided at the Dominguez hacienda (Clary 1966). In 1910, Victoria Dominguez de Carson hosted the Dominguez Air Meet, featuring pioneers of aviation, on her property (Henstell 1980). The air meet was one of

the first large-scale air shows to take place on the West Coast. Early airplanes from around the world converged at Dominguez Hills and performed exciting aerial exhibitions, drawing large crowds from around Southern California. Widely considered the introduction of aviation to the Los Angeles region, the event helped lay the foundation for the aerospace industry that would later play a significant role in the economy of Southern California (City of Carson 2007).

Campus History

As the population of Southern California grew significantly in the 1950s and 1960s, there came a growing demand for institutions of higher education in the region, and South Los Angeles was no exception. In 1960, California Governor Pat Brown provided state funds for a bill that proposed the development of a state college in the South Bay region of Los Angeles County. The school would originally be known as South Bay State College. While many South Bay communities vied to have the college located within their city limits, the California State College system's board of trustees selected the community of Palos Verdes as a preliminary site for the school.

During the first academic year (1965–1966), the school was located on the second floor of the California Federal Bank building, on the Palos Verdes peninsula. To accommodate the needs of the growing college, the college moved to its present location in Dominguez Hills in 1966, near the site of historic Rancho San Pedro. Following the move, the college was then renamed California State College, Dominguez Hills. In 1977, after the endorsement of the California Postsecondary Education Commission, the school's name was changed to California State University, Dominguez Hills. Today, CSUDH has an enrollment of more than 13,000 students and one of the most ethnically diverse campuses in the United States (CSUDH 2007a; Grenier 1987).

A. Quincy Jones Master Plan

In 1964, architect A. Quincy Jones designed the master plan for the CSUDH campus. Working with college planners, Jones projected forward 30 years, anticipating a student population of 20,000 by 2002. Jones' vision was articulated in the master plan's planning concepts:

> One of the basic concepts of the master plan is to implement the academic plan through the physical plan insofar as it is possible.... By placing the buildings in proximity to each other, rather than spread them, and by relating each of the schools to the library and other student center facilities in such a way as to encourage positively the crossing through one to get to the other, the plan is serving as one of the forces that affects the daily lives of the students at Dominguez Hills in more than a casual manner" (CSUDH 1967).

However, not all of Jones' designs in the master plan were developed. According to the 2009 CSUDH Master Plan, Jones' vision remains on campus in the core area buildings, including the Cain Educational Resources Center, the social and behavioral science building, La Corte Hall, and the natural sciences and mathematics building. The buildings feature

- concrete construction with waffle slab roofs;
- three-stories, entered at the middle level;
- an articulation of exterior forms and the deliberate creation of architecturally rhythmic elements;
- the use of garden-level patios;
- the continuation of exterior pedestrian circulation paths through the interior of the buildings; and
- the construction of academic space underneath pedestrian paths and the central plaza.

Other buildings on campus still preserve the "modern and contemporary spirit that the original A. Quincy Jones plan intended for the campus." Original Jones landscape elements also remain, including the canopy of coral trees and the campus' eucalyptus trees that line Victoria Street (AC Martin Partners 2006).

A. Quincy Jones: Master Architect

The 2009 CSUDH Master Plan recognized A. Quincy Jones as a master architect in the modernist idiom. A. Quincy Jones (1913–1979) was a Los Angeles-based architect and educator who, over the course of his career, sought to reinvent the house and redefine the way people lived in postwar America. His pioneering work included the Mutual Housing Association (1946–1950), the Case Study #24 tract home, and Eichler Homes (1951–1964). These examples helped set a standard for affordable, modern homes that rose beyond the level of previously seen tract developments to become well-planned works of art that incorporated outdoor landscaping (Buckner 2002).

A. Quincy Jones was born in Kansas City, Missouri. While still a child, he relocated with his grandparents to Gardena, California. Here, his awareness of nature grew as he explored this agricultural and rural area. He developed a relationship with the Kobata family, which owned a nursery and had the only other children in the area. This impressed upon him the value of care and respect for the environment and introduced him to a Japanese aesthetic of beauty that influenced his later work (Buckner 2002).

Jones studied architecture at the University of Washington where mentor Lionel H. Pries trained him to see architecture as a problem-solving challenge, not simply a matter of historical styles. He opened his own practice in Los Angeles in 1945 and partnered with Frederick Emmons from 1951 to 1969. His career included teaching at USC where he led the school of architecture from 1975 to 1978 (Buckner 2002).

Figure 3D-1: CSUDH campus at night, showing the social and behavioral sciences building, garden-level area, with the natural sciences and mathematics building on the left and the campus library in background. View from east side of campus. n.d. Courtesy CSUDH Archives.

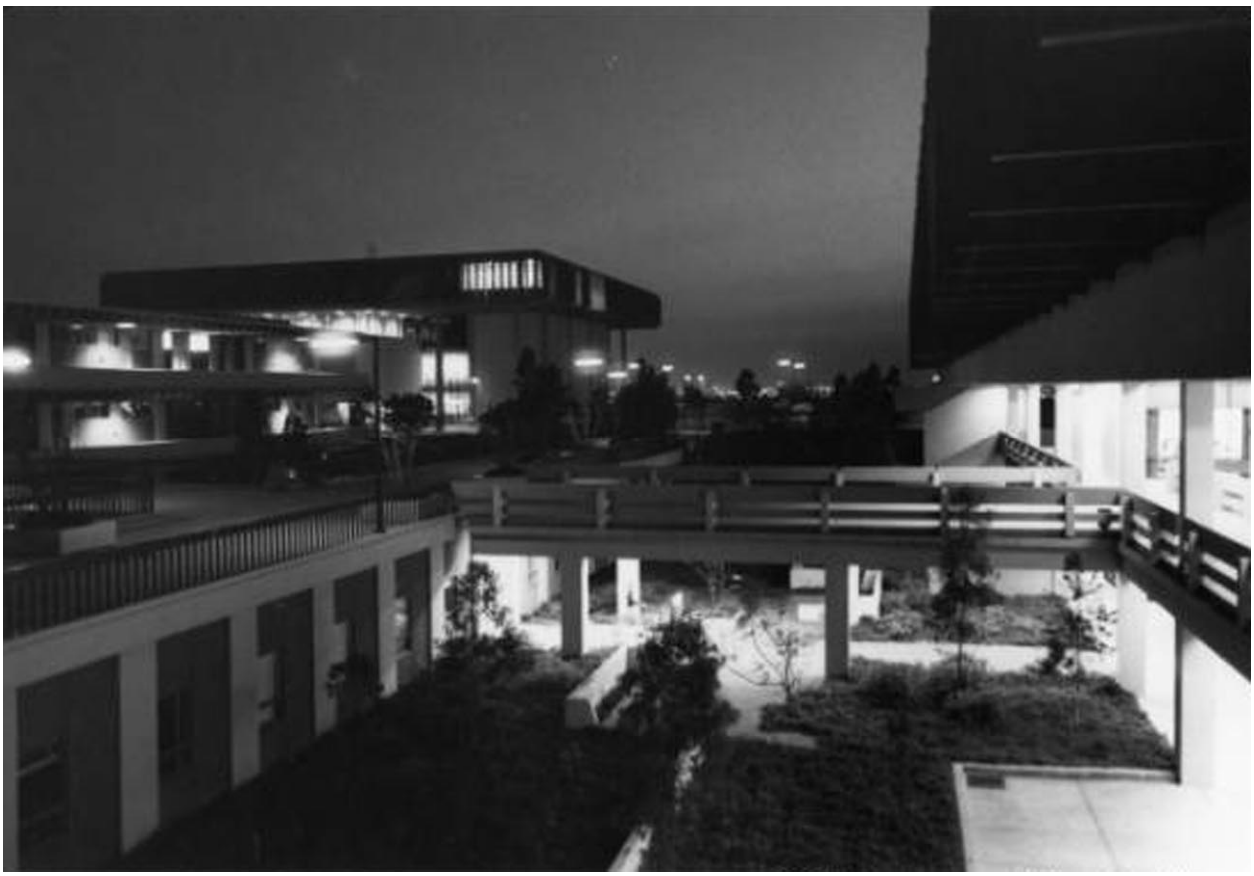


Figure 3D-2: Natural sciences and math building, with library in background, circa 1980. Courtesy CSUDH Archives.

Figure 3D-3: Cain Library. Courtesy CSUDH Archives, n.d.

Jones considered all of his projects, whether commercial, residential, civic, or educational, as a means to create a lifestyle. He researched users' needs before designing a project. In addition, he was a strong proponent of organized community planning and worked closely with landscape architects to take the entire site into consideration when designing a project. For example, the Mutual Housing Association project in the Santa Monica Mountains was innovative for its use of greenbelt planning, including reduced lot sizes to free up land for a community center, park, and nursery school. Breaking with tradition, most of the homes were one-story post-and-beam structures featuring an open floor plan and transparent walls to extend the visual boundaries of the structure and meld indoors and out (Buckner 2002).

Historical Resources on Campus

A cultural resources literature and records search was conducted at the South Central Coastal Information Center on April 9, 2007, pertaining to the CSUDH Master Plan and a radius of 0.5 mile surrounding the proposed project site. In addition, the California Points of Historical Interest, the California Historical Landmarks, the California Register of Historical Resources, the National Register of Historic Places, and the California State Historic Resources Inventory were reviewed as well as historic 15-minute USGS topographic maps (Redondo and Downey) for the above-referenced project.

The results of the literature and records search revealed that the proposed project site has not been previously surveyed for cultural resources. However, in 2000, an archaeological record search and survey of 80 acres was conducted for the National Training Center, which is associated with the Home Depot Center, located on the west side of the campus. No historical resources were identified within a 1-mile radius during that survey (Bonner 2000). A cultural resources inventory of the City of Carson was conducted in 1976, but the survey did not include the CSUDH campus (Eggers 1977).

A visit to the proposed project site occurred on April 3, 2007, at which time a reconnaissance survey was conducted. The area visited, which included the historic core of the campus, the Small College Complex, and the Cain Library, was inspected for architectural resources.

Results of the identification effort indicate that there is one potentially significant historical architectural resource that may be affected by the proposed master plan, the Cain Library. No other architectural resources would be affected.

The Small College Complex was also evaluated for its historical significance. However, it was determined that it would not meet the significant architectural resources criteria.

Small College Complex

The buildings of the Small College Complex are designated as Initial Buildings on the A. Quincy Jones master plan, meaning that they probably date from the late 1960s, prior to the construction of major campus facilities such as the Cain Library, natural sciences and mathematics, and social and behavioral sciences buildings. Although they may have been designed as temporary structures of straightforward, relatively inexpensive construction, the buildings do possess some architectural merit and call to mind the Medical Surge facilities designed by Jones on the University of California, Irvine campus (1970). They are identified by their stacked 8- by 8-inch concrete masonry unit/post-and-beam construction; glulam truss, wood-beam-supported flat roofs; individual steel frame, horizontally divided window sashes or ribbon windows tucked under the roof eaves; and wooden trellis sunshades.

When considered on the basis of architectural design, the Small College Complex does not appear to reach the threshold of exceptional significance normally considered in assessing properties that are less than 50 years old. Its buildings express only one component of the larger master plan envisioned by the architect (the overall plan has not been implemented). The buildings are attractive in design and thoughtfully sited and planned but appear to have been envisioned as temporary structures that would serve the campus for only the 30-year period of the 1964 master plan. Given the modest design characteristics of its buildings, the attractive sense of place conveyed by the Small College Complex is more a function of thoughtful site planning and landscaping rather than an expression of the architectural merit of the individual buildings that make up the complex. For these reasons, to reach the threshold of exceptional significance, the Small College Complex would need to be associated with historical events or patterns of events of transcendent historical significance or possess strong associations with individuals of transcendent historical significance. Known historical associations do not appear to meet such criteria.

The programmatic function of the Small College Complex is pertinent, nonetheless, in assessing it in terms of historical significance. In the retrospective exhibition mounted by CSUDH entitled "A. Quincy Jones: A Tribute" (January 1980), architectural historian Esther McCoy wrote that the Small College Complex was "integral" to the university's educationally innovative efforts to serve a student body drawn from a broad economic and ethnic mix by creating a smaller scale academic environment, limited to 500 students, set within the larger university setting.

Considered from a campus planning standpoint, the affected buildings strongly convey the pedagogic function of the Small College Complex. Its buildings are grouped into modified quadrangles and form a readily discernable, architecturally cohesive grouping of one-story International Style Modern structures. The grouping formed by Buildings 1 through 5 complements a second grouping located to the south and staggered in plan to the east composed of Buildings 6 through 13. Both groupings are connected by a strong north/south axis that extends through a larger courtyard framed by the buildings making up the Small College Complex, terminating at the College of Education (Building 14). From there, the Small College Complex is directly linked along a diagonal pathway to the Loker Student Union building and Cain Library at the core of the CSUDH campus, demonstrating that the complex is fully integrated within the campus in both planning and pedagogical terms.

Cain Library Educational Resource

Constructed in 1970–1971, the Cain Library was one of the earliest permanent buildings on the CSUDH campus, a significant example of A. Quincy Jones' architectural work from the last decade of his practice and a noteworthy manifestation of his innovative, cost-effective campus planning philosophy in response to the challenges posed by the conversion of the site from an oil field to a university.[11]

[11] Buckner, Cory. 2002. *A. Quincy Jones.* Los Angeles: Phaidon Books, pp. 262–263.

As part of the body of work of A. Quincy Jones, the Cain Library is a potentially significant historical resource for purposes of CEQA if it is determined eligible for the California Register of Historical Resources under Criterion G. Criterion G pertains to resources that are less than 50 years old, but sufficient time has passed to understand the resource's historical significance. A fair argument can be made that sufficient study has been completed on A. Quincy Jones as an architect, planner, and design theorist to assign him a place of great importance in the architectural history of mid-20th-century California. Moreover, Jones had a preeminent role in formulating the campus master plan and designing the buildings on the CSUDH campus. That involvement extended over a period of approximately 15 years.

After the CSU trustees decided, in 1965, to build the campus in what is now the City of Carson, Jones and Frederick Emmons were selected to serve as the master architects.[12] Between 1965 and the time of his death in 1979, even when other architects (Daniel Dworsky, Carey K. Jenkins, etc.) were designing some of the individual buildings, Jones served as consulting architect. He was the June 14, 1975, commencement speaker at the university, and in 1980, Jones was honored posthumously by CSUDH with a sculpture designed by artist Clare Falkenstein and a gallery exhibit curated by architectural historian Esther McCoy (the exhibition catalogue was published in 1980 by CSUDH). Considered together, these accomplishments ensure Jones an enduring and significant place in the history of CSUDH.

Impacts and Mitigation

Methodology

Cultural resources management work conducted as part of the proposed project shall comply with CEQA statutes and the *State CEQA Guidelines*, which direct lead agencies to first determine whether the resource is a "historically significant" cultural resource. Generally, a cultural resource shall be considered by the lead state agency to be historically significant if it meets any of the following criteria for listing in the California Register of Historical Resources:

- the resource is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
- the resource is associated with the lives of persons important in our past;

[12] Frederick Emmons partnered with A. Quincy Jones in the firm of Jones & Emmons from early 1951 up until the time of his retirement in 1969.

- the resource 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
- the resource has yielded, or may be likely to yield, information important in prehistory or history.

The cited statutes and guidelines specify how cultural resources are to be managed in the context of various projects, such as the proposed project. In sum, regulations require archival and field surveys to be conducted and identified cultural resources inventoried and evaluated in prescribed ways. Prehistoric and historical resources deemed historically significant must be considered in project planning and development.

Therefore, if potentially significant historical resources are discovered during implementation of the proposed project, those resources must be inventoried and evaluated to ascertain whether they meet the criteria for listing in the California Register of Historical Resources.

Thresholds of Significance

For the purposes of this EIR, and in accordance with Section 21084.1 of CEQA, the proposed project would have a significant adverse environmental impact if it

- causes a substantial or potentially substantial adverse change in the significance of a historical resource.

Project Impacts

Near-Term (2017) Impacts

Potential Impact. The Proposed Cain Library Remodeling Could Affect the Character-Defining Features of the Cain Library, a Significant Historic Resource

A review of the remodeling plans for the Cain Library finds that the proposed project would not significantly compromise the design integrity of the existing facility. The external façades, which are vitally important in defining the building with respect to architectural design and campus planning, would remain unchanged. There would be no significant impacts on historic resources.

Mitigation Measures

No mitigation is necessary.

Long-Term (2040) Impacts

Potential Impact. The Proposed Long-Term Projects Have the Potential to Affect the Character-Defining Features of Significant Historic Resources on Campus

Since long-term projects are only conceptually defined at this point, it is difficult to assess their impact on existing historic resources on campus. It is assumed that proposed projects would follow the intent of the master plan, which is for all designs to be sympathetic to existing buildings and the overall campus layout. Nonetheless, when the long-term projects are better defined and architectural plans have been developed, an analysis of project impacts on historic resources on campus is recommended.

Mitigation Measures

No mitigation is necessary.

Unavoidable Significant Adverse Impacts

No unavoidable significant adverse impacts on historical resources would occur.

Cumulative Impacts

The study area for the historical resources cumulative impacts analysis includes the campus and an area within an approximate 1.5-mile radius. No impacts on historic resources have been identified as a result of the proposed project. A review of the plans for the Cain Library addition finds that the proposed project would not significantly compromise the design integrity of the existing Cain Library. Although substantial in size, the addition has been conceived as a visually discrete structure, physically separated from the original library except for a glass-enclosed bridge of neutral design. The proposed structure would be sympathetic to the existing library in massing but designed in a boldly differentiated contemporary style. The Cain Library addition is proposed for the south side of the existing library. This is the rear of the building and its least significant façade in terms of architectural expression. By contrast, the north façade (and the sight lines to it from the northeast and northwest) is vitally important in defining the building with respect to architectural design and campus planning.

None of the related projects described in Table 2-3 would affect historic resources on campus. Consequently, the proposed project would not contribute to a significant cumulative impact on historic resources.

Section 3E
Archaeological Resources

Introduction

This section discusses potential impacts on archaeological resources at the campus resulting from the proposed master plan.

Setting

Existing Setting

The CSUDH campus is located in southern Los Angeles County, in the City of Carson. The campus is situated near the top of the Dominguez Hills. The topography of the campus is characterized by changes in grade, with elevations that range from approximately 30 feet near the southwestern corner of the campus to 140 feet in the northeastern corner of the campus. The grade changes have been incorporated into the design of the buildings and open spaces, creating multilevel patios, berms, and sunken courtyards.

Historically, Laguna Dominguez was located immediately west and south of the campus. The network of marshes and wetlands would have contained a variety of riparian and freshwater plants. The wetlands covered an estimated 600 acres in the dry season. The laguna was surrounded by tules, cattails, and other swamp growth. Today, the drainage has been channelized, and no native plants occur in the immediate vicinity of the campus (Bonner 2000; Gillingham 1961). Dominguez Channel is located to the west of the proposed project area, and Compton Creek and the Los Angeles River are located to the east. The proposed project area is depicted on the USGS 7.5-minute Torrance topographic map in Township 3 South, Range 14 West, in an unsectioned portion of the San Pedro Rancho.

Cultural Setting

The prehistoric occupation of Southern California is divided chronologically into four temporal phases or horizons (Moratto 1984). Horizon I, or the Early Man Horizon, began at the first appearance of people in the region

(approximately 12,000 years ago) and continued until about 5000 B.C. Although little is known about these people, it is assumed that they were semi-nomadic and subsisted primarily on game.

Horizon II, also known as the Millingstone Horizon or Encinitas Tradition, began around 5000 B.C. and continued until about 1500 B.C. The Millingstone Horizon is characterized by widespread use of milling stones (manos and metates), core tools, and few projectile points or bone and shell artifacts. This horizon appears to represent a diversification of subsistence activities and a more sedentary settlement pattern. Archaeological evidence suggests that hunting became less important and that reliance on collecting shellfish and vegetal resources increased (Moratto 1984).

Horizon III, the Intermediate Horizon or Campbell Tradition, began around 1500 B.C. and continued until about A.D. 600–800. Horizon III is defined by a shift from the use of milling stones to increased use of mortar and pestle, possibly indicating a greater reliance on acorns as a food source. Projectile points become more abundant and, together with faunal remains, indicate increased use of both land and sea mammals (Moratto 1984).

Horizon IV, the Late Horizon, which began around A.D. 600–800 and terminated with the arrival of Europeans, is characterized by dense populations; diversified hunting and gathering subsistence strategies, including intensive fishing and sea mammal hunting; extensive trade networks; use of the bow and arrow; and a general cultural elaboration (Moratto 1984).

The proposed project area is situated in a region that was inhabited by the Gabrielino. The total area of the Gabrielino mainland territory exceeded 1,500 square miles and included the San Fernando Valley, the San Gabriel Valley, and the Los Angeles-Santa Ana River Plain. The Gabrielino inhabited the watersheds of the Los Angeles, San Gabriel, and Santa Ana Rivers; several smaller intermittent streams in the Santa Monica and Santa Ana Mountains; all of the Los Angeles Basin; and the coastal strip from Aliso Creek in the south to Topanga Creek in the north. This Native American group also occupied the islands of Santa Catalina, San Clemente, and San Nicholas (Bean and Smith 1978). At the time of Spanish contact, the Gabrielino were one of the wealthiest, most populous, and most powerful Native American groups in Southern California. They were credited with an elaborate material culture and expert craftsmanship in quarrying and manufacturing steatite (soapstone) objects and constructing the plank canoe. The reader is referred to Bean and Smith (1978), Kroeber (1925), and McCawley (1996) for further information regarding the Gabrielino.

The proposed project area is located within the Rancho San Pedro, also known as Rancho Dominguez, the first land grant given under Spanish domination of California. In 1784, Governor Pedro Fages made this concession to Juan Jose Dominguez. The grant totaled some 75,000 acres. Much of Rancho San Pedro was considered worthless property, being swampy or sand dunes. The majority was used for raising cattle and other livestock (Bonner 2000).

Dominguez Hill, consisting of more than 4,000 acres, was considered almost worthless due to its aridity. During most of the 19th century, the hill remained uninhabited (Bonner 2000; Gillingham 1961). All of the original home sites of the several families that inhabited Dominguez Hill were built on or near the northeast brow of the hill. This was influenced by the location of two small creeks that supplied drinking water. These streams drained a series of small lakes and marshes that existed during most of the 19th century and flowed nearly year-round. After 1912, when water became available, Dominguez Hill was first devoted to grain farming, followed by truck farming and raising flowers along the hill's southwest flank (Bonner 2000; Gillingham 1961).

In 1921, drilling for oil was initiated on the northwest side of the hill. This involved lands then owned by the Hellman interest, the Carson Estate Company, Dominguez Estate Company, and Maria de los Reyes de Francesca, a Dominguez heir. The first producing well came in on September 1, 1923. Oil leases were granted to both Shell Oil and the Union Oil Company. The two original wells, located west of Central Avenue and immediately north of Victoria Street, were still in production in 1960 (Bonner 2000; Gillingham 1961). Following the success of the initial oil wells, additional wells were sunk south of Victoria Street. In time, more than 350 wells were drilled, spread over an area of approximately 1,200 acres (Bonner 2000; Gillingham 1961).

During this same period, more than 200 acres were planted in lemon groves maintained by the Dominguez Estate Company and the Del Amo interests. As late as the 1960s, limited agricultural activities were still carried out by various lessees, principally on the west side of Dominguez Hill. Over the ensuing four decades, the property was developed for industrial and residential uses (Bonner 2000; Gillingham 1961).

In the 1960s, stockholders of the Dominguez Estate Company voted to liquidate the firm and sell off much of the property. Unsold acreage was retained by a limited partnership. Among the purchasers was the State of California. In 1965, the Board of Trustees of the California State Colleges voted to construct a new campus on the west side of Dominguez Hill (Bonner 2000; Gillingham 1961).

Impacts and Mitigation

Methodology

Record Search

A cultural resources literature and record search was conducted for the CSUDH Master Plan at the South Central Coastal Information Center on April 9, 2007. The search included a review of all recorded archaeological sites within a 0.5-mile radius of the proposed project site as well as a review of cultural resource reports on file. The California Points of Historical Interest, California

Historical Landmarks, California Register of Historical Places, National Register of Historic Places, and California State Historic Resources Inventory were also reviewed. Additionally, historical 15-minute USGS topographic maps (Redondo 1896 and 1942 and Downey 1896 and 1942) were reviewed for the above-referenced project.

The results of the literature and records search revealed that the proposed project area has not been previously surveyed for cultural resources. However, in 2000, an archaeological record search and survey of 80 acres was conducted for the National Training Center, which is associated with the Home Depot Center, located on the west side of the campus (Bonner 2000). No cultural resources were identified during this survey. A cultural resources inventory of the City of Carson was conducted in 1976, but the survey did not include the CSUDH campus (Eggers 1977).

No archaeological resources have been recorded within the proposed project site or within a 0.5-mile radius of the site. However, one previously recorded archaeological site (19-000794) is located outside of the 0.5-mile search radius, approximately 0.75 mile northwest of the current proposed project site.

Site 19-000794 was identified during the 1976 City of Carson cultural resources inventory. This prehistoric site measured approximately 394 feet by 213 feet in surface extant. Test excavations indicated that the site was virtually intact, with the potential to yield valuable scientific data. A total of 671 objects were recovered from the site, which included stone tools, projectile points, ground stone fragments, flakes, and marine shell and bone. The data suggested that the site represented a temporary camp and workshop during the Late Prehistoric Period (Bonner 2000; Eggers 1977). The site has since been filled; a residential community has been developed in the area.

The 1896 edition of the Redondo 15-minute USGS topographic map depicts the project area as open land with few roads or structures. There are tributaries throughout the area that accumulate in a marsh/slough just south of the proposed project site. The communities of Howard Summit, Rosecrans, Strawberry Park, Gardena, Moneta, and Belvidere are shown along the Redondo railroad route that originates in the coastal town of Redondo.

The 1942 edition of the Redondo 15-minute USGS topographic map depicts the dramatic development that occurred in the City of Los Angeles and shows its encroachment into the proposed project area. The proposed project area still contains relatively open land, but there are more roads and structures. Laguna Dominguez is shown as well as Dominguez Channel. Oil wells and fields are depicted in the surrounding area, with the Shell Oil Tank Farm, Union Oil Tank Farm, and Union Oil Refinery located to the south of the proposed project area. The Redondo railroad line has been replaced by the Pacific Electric line, and the Port of Los Angeles has been fully developed.

The 1896 edition of the Downey 15-minute USGS topographic map depicts the communities of Compton, Dominguez, Cerritos, Watson Crossing, and Thenard Junction along the Southern Pacific Railroad's San Pedro branch line. Other communities shown are Bixby, Signal Hill, Los Cerritos, Seabright, Long Beach, and Alamitos Beach at San Pedro Bay. Dominguez Hill is shown with only a few roads in the area. There are tributaries branching off from the meandering Compton Creek and Los Angeles River that travel southward to Watson Lakes and, eventually, the wetland area depicted along the coast and to the west of Long Beach.

The 1942 edition of the Downey 15-minute USGS topographic map depicts the encroachment of the developing cities of Compton to the north of the proposed project area and Long Beach to the south. The proposed project area is still contains relatively open lands, but there are more roads, structures, and oil wells. Watts Junction is illustrated to the north, with the communities of Dominguez and Watson Crossing located along the north–south Pacific Electric line. The Los Angeles River has been channelized, and San Pedro Bay has been developed.

Native American Consultation

The Native American Heritage Commission (NAHC) was contacted regarding the proposed project on April 4, 2007. A response from the NAHC on April 9, 2007, indicated that no sacred lands are recorded in the Sacred Lands files. The NAHC also provided a list of Native American groups and individuals who might have knowledge of cultural resources in the proposed project area (Appendix C). Seven of these groups and individuals were contacted by letter on April 13, 2007. No responses have yet been received.

Survey Findings

A visit to the proposed CSUDH project site occurred on April 3 and 12, 2007. The proposed CSUDH project areas were inspected for cultural resources by conducting an archaeological reconnaissance survey. These areas included the Grand View Geranium Gardens, which is located within the proposed project area and designated for surface parking (Lot 8) (Map Reference F), and student and faculty/staff housing (Map References G and I). Other areas that were inspected for cultural resources included the two locations proposed for the science and health professions laboratory building (Map Reference C), the extended education complex (Map Reference A), the southeast campus site development/infrastructure area (Map Reference D), ~~parking structure on lot 7 (Map Reference E),~~ the new campus entrance from Central Avenue (Map Reference E), and the proposed ~~Loker Student Union building addition (fitness~~ recreation center (Map Reference B). No archaeological resources were located during these inspections. There are known disturbances throughout the proposed project site. The geranium nursery and farm operation has been on campus since 1999. There is a system of utility tunnels underneath the campus core that was

constructed between 1969 and 1972, and there are approximately 13 to 16 capped oil wells throughout the campus. Please see the aerial map, Figure 3E-1, for the locations of the areas surveyed.

Map Reference Areas

New Science and Health Professions Laboratory Building (Map Reference C)

Two locations have been proposed for a four-story, 150,000-square-foot science and health professions laboratory building. The first proposed location is in the north-central part of the campus and currently occupied by buildings. It was observed during the survey that the proposed location is partly paved but also landscaped with ornamental vegetation and trees. There was no ground surface visibility, and no cultural resources were observed during the survey of this area. The second proposed location for the science and health professions laboratory building is south of the existing natural sciences and math building. It was observed during the survey that the proposed location is partly paved but also landscaped with ornamental vegetation and trees. There was no ground surface visibility, and no cultural resources were observed during survey of this area.

Extended Education Complex (Map Reference A)

A 22,000-square-foot addition is planned for the extended education complex, which houses the College of Extended and International Education. The addition would be located to the east of the existing extended education complex.

It was observed during the survey that the area proposed for the addition has a bare soil surface surrounded by a paved pedestrian pathway to the north and east, a parking lot to the south, and the extended education building to the west. There is a ditch running in an east–west direction with a berm on the south side. Three trees are roped off at the west end of the ditch by a yellow chain, blocking access to a potential fairy shrimp habitat. Ground surface visibility was approximately 100 percent; however, no cultural resources were observed during the survey of this area.

Student Housing (Map Reference I)

Two areas east and southeast of the existing Pueblo Dominguez student housing area, approximately 18.3 acres, have been designated for future student housing. Currently, student housing is proposed along Central Avenue. It would provide a total of 798,280 gsf of floor space.

Figure 3E-1: Aerial Map

It was observed during the survey that the area proposed for student housing is currently being used by the Grand View Geranium Gardens. Portions of the project area are under cultivation; other sections are paved or have hard, packed earth with gravel to support the structures and farm equipment associated with the nursery. Ground surface visibility varied between 0 and 100 percent. No cultural resources were observed during survey of this area.

Southeast Campus Site Development/Infrastructure (Map Reference D)

A single-story, 3,500-square-foot cogeneration facility is proposed and would be located within the existing central plant. The facility would be accessed from Pacific View Drive at Central Avenue.

It was observed during the survey that the site proposed for the cogeneration facility is in a developed area, with a maintenance building, a paved lot, and landscaping. There was no ground surface visibility, and no cultural resources were observed during survey of this area.

~~Parking Structure on Lot 7 (Map Reference E)~~

~~A 2,400-space, five-level, 720,000-square-foot parking structure is proposed for the northern half of existing parking lot 7.~~

~~It was observed during the survey that the site proposed for the five-level parking structure is within an existing surface parking lot, with paved roads to the north, east, and west. There was no ground surface visibility, and no cultural resources were observed during survey of this area.~~

New Campus Entrance from Central Avenue (Map Reference E)

A new entrance and access road from Central Avenue is tentatively proposed at Beachey Place that would connect to the existing east–west circulation system on the campus.

It was observed during the survey that the site proposed for the new entrance and access road is located between a vacant Grand View Geranium Gardens field to the south and a fenced area for existing student housing to the north. The eastern section of the proposed project area is disturbed from nursery operations, and the western area appears to be disturbed from current student housing and landscaping. Ground surface visibility was variable, and no cultural resources were observed during survey of this area.

~~Loker Student Union Building Addition – Fitness Center (Map Reference B)~~

~~A 40,000-square-foot addition is proposed for the existing Loker Student Union building. The addition would be located west of the existing building.~~

~~It was observed during the survey that the proposed project site is a grass-covered landscaped lot. There was no ground surface visibility, and no cultural resources were observed during survey of this area.~~

Recreation Center (Map Reference B)

A 110,400 gsf recreation center is proposed near the existing gymnasium and playfields.

It was observed during the survey that the proposed project site is a grass-covered landscaped lot. There was no ground surface visibility, and no cultural resources were observed during the survey of this area.

La Corte Hall Addition and Renovation (Map Reference H)

A four-story addition to La Corte Hall (Building 40), with 47,000 additional square feet of space, or 72,000 gsf, is proposed. The proposed improvements would include some limited remodeling to transition from the existing fine arts building to the new addition. The project would provide studio space for sculpting and painting, lecture areas, as well as appropriate support space.

It was observed during the survey that the proposed project site is landscaped with ornamental vegetation and trees. There was no ground surface visibility, and no cultural resources were observed during the survey of this area.

Parking Lot 8 (Map Reference F)

A 750- to 1,000-space surface parking lot, Lot 8, is proposed in proximity to Lot 7. For the long term, the parcel is designated for student housing; therefore, the parking lot would be incorporated into the proposed student housing complex in the future.

The lot located at the corner of Pacific View Drive and Birchknoll Drive is an open dirt field that appears to have been recently disked. The soil is a soft medium-brown color. The field was inspected by conducting a zigzag pedestrian survey to ensure that maximum coverage was achieved. Ground surface visibility varied between 0 and 100 percent. No cultural resources were observed during the survey of this area.

Thresholds of Significance

For the purposes of this EIR, and in accordance with Section 21084.1 of CEQA, the proposed project would have a significant adverse environmental impact if it

- causes a substantial or potentially substantial adverse change in the significance of an historical resource.

Cultural resources management work conducted as part of the proposed project shall comply with the CEQA statutes and the *State CEQA Guidelines*, which direct lead agencies to first determine whether an archaeological site is a "historically significant" cultural resource. Generally, a cultural resource shall be considered by the lead state agency to be historically significant if the resource meets any of the following criteria for listing in the California Register of Historical Resources:

- the resource is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
- the resource is associated with the lives of persons important in our past;
- the resource 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
- the resource has yielded, or may be likely to yield, information important in prehistory or history.

The cited statutes and guidelines specify how cultural resources are to be managed in the context of projects, such as the proposed project. In sum, the regulations require archival and field surveys to be conducted and identified cultural resources to be inventoried and evaluated in prescribed ways. Prehistoric and historical resources deemed historically significant must be considered in project planning and development. Therefore, if potentially significant archaeological resources are discovered during implementation of the proposed project, those resources must be inventoried and evaluated to ascertain whether they meet the criteria for listing in the California Register of Historical Resources.

Project Impacts

Near-Term (2017) Projects

Construction Impacts

As stated in the Survey Findings section above, the archaeological reconnaissance survey of the proposed CSUDH project area failed to identify the presence of prehistoric or historical archeological resources. The majority of the proposed

project areas are developed and disturbed, containing structures, paved roads, paved parking lots, pedestrian walkways, and landscaping. Capped oil wells and utility tunnels under the campus core indicate disturbance below the surface as well. The only past CSUDH archaeological research, surveys, and monitoring was that conducted for the Home Depot Center by Bonner in 2000.

The proposed project is located east of the 2000 Home Depot Center study area; there is no evidence that the eastern portion of the campus has ever been surveyed and monitored for cultural resources. Given the probability of intact soil deposits below the Grand View Geranium Gardens lots, archaeological monitoring is recommended for the proposed student housing (Map Reference ~~G~~I) and faculty and staff housing (Map Reference ~~H~~G) project areas within these lots.

Potential Impact: Ground-Disturbing Activities Could Damage Previously Unidentified Buried Cultural Resource Sites

Buried cultural resources could be inadvertently unearthed during ground-disturbing activities, resulting in demolition of, or substantial damage to, significant cultural resources. This impact would be considered potentially significant. This potentially significant impact on buried or unidentified cultural resources could be avoided or reduced by implementing the mitigation measures below.

Mitigation Measures

AR-1 Archaeological monitoring by a qualified archaeologist is recommended for the Grand View Geranium Gardens site, which is where the proposed student and faculty/staff housing projects would be located. If buried cultural resources, such as flaked or ground stone, historic debris, building foundations, or non-human bone, are inadvertently discovered during ground-disturbing activities, work will stop in that area and within 100 feet of the find until a qualified archaeologist can assess the significance of the find and, if necessary, develop appropriate treatment measures. Treatment measures typically include development of avoidance strategies, capping with fill material, or mitigation of impacts through data recovery programs such as excavation or detailed documentation. If during cultural resources monitoring the qualified archaeologist determines that the sediments being excavated are previously disturbed or unlikely to contain significant cultural materials, the qualified archaeologist can specify that monitoring be reduced or eliminated.

AR-2 If cultural resources are discovered during construction activities, the construction contractor will verify that work is halted until appropriate site-specific treatment measures, such as those listed above, are implemented.

Residual Impact

Implementation of the mitigation measures above would reduce impacts to less-than-significant levels.

Potential Impact. Excavation Activities Could Damage Previously Unidentified Human Remains

Buried human remains could be inadvertently unearthed during excavation activities, which could result in damage to the human remains. This potentially significant impact on human remains could be avoided or reduced to a less-than-significant level by implementation of the following mitigation measure.

Mitigation Measures

AR-3 If human remains of Native American origin are discovered during ground-disturbing activities, the construction contractor will comply with state laws, which fall within the jurisdiction of the California Native American Heritage Commission (Public Resources Code Section 5097) relating to the disposition of Native Americans. According to California Health and Safety Code, six or more human burials at one location constitute a cemetery (Section 8100), and disturbance of Native American cemeteries is a felony (Section 7052). Section 7050.5 requires that excavation be stopped in the vicinity of discovered human remains until the coroner can determine whether the remains are those of a Native American. If the remains are determined to be Native American, the coroner must contact the California Native American Heritage Commission to determine the most likely living descendant(s). The most likely living descendant shall determine the most appropriate means of treating the human remains and any associated grave artifacts and shall oversee disposition of the human remains and associated artifacts by the project archaeologists.

Residual Impact

Implementation of the mitigation measure above would reduce impacts to less-than-significant levels.

Operational Impacts

No operational impacts on archaeological resources would occur as a result of the near-term projects.

Long-Term (2040) Impacts

Previous surveys conducted at the campus have revealed that the potential for finding archaeological resources is low. Nonetheless, it is expected that any construction projects proposed in the long-term, between 2017 and 2040, would

comply with standard mitigation measures for unanticipated discovery, as proposed for the 2017 near-term projects. No long-term operational impacts on archaeological resources would occur.

Unavoidable Significant Adverse Impacts

No cultural resources are known to be present at the proposed project site, and the potential for their discovery is moderate. Implementation of the mitigation measures identified above would reduce impacts on other archaeological resources to a less-than-significant level.

Cumulative Impacts

The geographic scope of the area affected by potential cumulative archaeological impacts is defined by the cultural setting and ethnographic territory of the prehistoric and historic peoples who occupied this area of Southern California. As discussed above, this region of Los Angeles County was part of the territory of the Gabrielino people. Related projects in the proposed project area and other development in the county could result in the progressive loss of, as yet, unrecorded archaeological resources. This loss, without proper mitigation, would be an adverse cumulative impact.

Construction activities associated with related projects could contribute to the progressive loss of archaeological resources and result in significant cumulative impacts under CEQA. The proposed project could also disturb or destroy archaeological resources that may exist in the proposed project area, a potentially significant impact. Thus, the combined effects of the proposed and related projects could result in significant cumulative impacts on archaeological resources. The proposed project includes mitigation that would reduce potential impacts to a less-than-significant level. Similar measures may be implemented for related projects that also have the potential to affect archaeological resources. Consequently, the incremental effects of the proposed project and related projects, after mitigation, would not contribute to an adverse or cumulatively considerable impact on archaeological resources under CEQA.

Section 3F
Paleontological Resources

Introduction

This section discusses the potential impacts on paleontological resources that could result from development of the proposed project. Paleontological resources are fossilized remains of ancient environments, including fossilized bone, shell, and plant parts; impressions of plant, insect, or animal parts preserved in stone; and preserved tracks of insects and animals. Paleontological resources are best preserved in fine sedimentary rocks such as limestone and siltstone but are also found in metamorphosed sedimentary rock such as shale and other geologic units. Paleontological resources are valued for the information they yield about the history of the earth and its past ecological settings. In addition, fossils provide important chronological information that is used to interpret geological processes and regional history.

Paleontological information from various sources has been reviewed to determine the likelihood of encountering significant paleontological resources at the campus. The results of this review are presented below.

Setting

Geological Setting

The campus is located within the Los Angeles Basin, a broad, level expanse of land, more than 800 square miles in area, that extends from Cahuenga Peak south to the Pacific coast and from Topanga Canyon southeast to the vicinity of Aliso Creek. Prior to historical settlement of the area, the plain was characterized by extensive inland prairies and a lengthy coastal strand, with elevations approximately 500 feet above mean sea level (amsl). The Los Angeles plain is traversed by several large watercourses, most notably the Los Angeles, Rio Hondo, San Gabriel, and Santa Ana rivers. Marshlands fed by freshwater or saltwater also once covered many portions of the area. To the west, the coastal region encompasses approximately 375 square miles of varied terrain. West of Topanga Canyon the terrain is rugged; the steep, westward slopes of the Santa Monica Mountains reach 1,000 feet or more in elevation, except where stream-cut ravines and canyons drain onto narrow beaches at the water's edge. From

Topanga Canyon southward to the Palos Verdes Peninsula, a distance of roughly 22 miles, the coast is flat and level; extensive marshlands once existed near the mouth of Ballona Creek in the area now known as Playa del Rey. The terrain becomes rugged once again as the coast follows Palos Verdes Peninsula for a distance of approximately 12 miles before reaching San Pedro Bay, which in prehistoric times was characterized by extensive mud flats and sand bars (Hamilton et al. 2004; McCawley 1996).

The CSUDH campus is located in southern Los Angeles County, in the City of Carson, southwest of the intersection of Central Avenue and Victoria Street. The CSUDH campus is situated near the top of the Dominguez Hills, which contain surficial deposits of older Quaternary alluvium. The topography of the campus is characterized by changes in grade, with elevations that range from approximately 30 feet near the southwestern corner of the campus to 140 feet in the northeastern corner of the campus. The grade changes have been incorporated into the design of the buildings and open spaces, creating multilevel patios, berms, and sunken courtyards.

Historically, Laguna Dominguez was located immediately west and south of the campus. The network of marshes and wetlands would have contained a variety of riparian and freshwater plants. The wetlands covered an estimated 600 acres in the dry season. The slough was surrounded by tules, cattails, and other swamp growth. Today, the drainage has been channelized; no native plants occur in the immediate vicinity of the campus (Bonner 2000; Gillingham 1961). Dominguez Channel is located to the west of the proposed project area, and Compton Creek and the Los Angeles River are located to the east. The proposed project area is depicted on the USGS 7.5-minute Torrance topographic map in Township 3 South, Range 14 West, in an unsectioned portion of the San Pedro Rancho.

Regulatory Setting

Significant paleontological resources are defined as fossils or assemblages of fossils that are unique, unusual, rare, uncommon, or important in defining a particular time frame or geologic strata or that add to an existing body of knowledge in specific areas, either in local formations or regionally. Paleontological remains are accepted as nonrenewable resources that are significant to our culture and, as such, protected under provisions of the Antiquities Act of 1906 and subsequent related legislation, policies, and enacting responsibilities.

In the State of California, fossil remains are considered to be limited, nonrenewable, and sensitive scientific resources. These resources are afforded protection under the following legislation (California Office of Historic Preservation 1983):

- CEQA;
- 13 Public Resources Code Section 21000 et seq. Requires public agencies and private interests to identify the potential adverse impacts and/or environmental consequences of their proposed project(s) on any object or site important to the scientific annals of California (Division 1, Public Resources Code Section 5020.1(b));

- Guidelines for the Implementation of CEQA (as amended January 1, 1999); and
- *State CEQA Guidelines* Section 15064.5(a)(3). Provides protection for historical (or paleontological) resources by requiring that they be identified and mitigated as historical resources under CEQA. The *State CEQA Guidelines* define historical resources broadly to include any object, site, area, or place that a lead agency determines to be historically significant.

Literature Review

ICF Jones & Stokes requested a search of the vertebrate paleontology records at the Los Angeles County Natural History Museum (LACM) for the California State University, Dominguez Hills Master Plan project area and surroundings. A letter was received from the LACM in response on April 11, 2007. As indicated in the letter (see Appendix D), a search of the vertebrate paleontology records identified a vertebrate fossil locality that may lie within the proposed project boundaries as well as nearby localities with the same or similar sedimentary deposits as those that occur in the proposed project area (McLeod pers. comm.).

According to the LACM records, the proposed project area contains surficial deposits of older Quaternary alluvium. The vertebrate fossil locality, LACM 1643, situated either within the campus or on the southern boundary and east of Avalon Boulevard, approximately at the intersection of University Drive and Annalee Avenue, produced a fossil mammoth skeleton at a depth of 8 to 10 feet below the surface. The next closest vertebrate fossil locality in these older Quaternary deposits is LACM 3382, situated northeast of the proposed project area. This site is on the northeast side of the Dominguez Hills, east of Wilmington Avenue and just north of Artesia Boulevard. It produced another specimen of fossil mammoth, *Mammuthus*, at a depth of only 5 feet below the surface (McLeod pers. comm.).

Impacts and Mitigation

Thresholds of Significance

Paleontologically sensitive sedimentary units are those units with a high potential for containing significant paleontological resources (i.e., rock units within which vertebrate fossils or significant invertebrate fossils have been determined by previous studies to be present or likely to be present). These units include, but are not limited to, sedimentary formations that contain significant paleontological resources anywhere within their geographical extent as well as sedimentary rock units temporally or lithologically suitable for the preservation of fossils. Determinations of paleontologic sensitivity must therefore consider not only the potential for yielding abundant vertebrate fossils but also the potential for production of a few significant fossils, large or small, vertebrate or invertebrate, which may provide new and significant data on fossils types, species changes over

time, or geologic strata. Areas that may contain datable organic remains older than the recent era and areas that may contain unique new vertebrate deposits, traces, and/or trackways must also be considered paleontologically sensitive.

Fossils can be considered to be of significant scientific interest if one or more of the following criteria apply.

- The fossils provide data on the evolutionary relationships and developmental trends among organisms, both living and extinct.
- The fossils provide data useful in determining the age(s) of the rock unit(s) or sedimentary stratum, including data important in determining the depositional history of the region and the timing of geologic events therein.
- The fossils provide data regarding the development of biological communities or interaction between paleobotanical and paleozoological biotas.
- The fossils demonstrate unusual or spectacular circumstances in the history of life.
- The fossils are in short supply and/or in danger of being depleted or destroyed by the elements, vandalism, or commercial exploitation and are not found in other geographic locations.

According to CEQA, a project that may cause a substantial adverse change in the significance of a historical (or paleontological) resource is a project that may have a significant effect on the environment (CEQA, revised 1998, Section 15064.5(b)). CEQA further states that a substantial adverse change in the significance of a resource means the physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance would be materially impaired. For purposes of this EIR and in accordance with Appendix G of the *State CEQA Guidelines*, the proposed project would have a potentially significant effect on the environment if it directly or indirectly destroyed a unique paleontological resource or site.

Project Impacts

Near-Term (2017) Impacts

Construction Impacts

Potential Impact: Ground-Disturbing Activities Could Damage Previously Unidentified Buried Paleontological Resources

Within the existing boundaries of CSUDH, the majority of the proposed project area is situated on older Quaternary alluvium. Excavations in undisturbed older Quaternary deposits exposed throughout the proposed project area have a good

chance of uncovering significant vertebrate fossils, even at depths as shallow as 5 feet below the surface. The destruction of any unique fossil resources on the proposed project site would result in a significant impact under CEQA.

The following measures shall be implemented to ensure that potential impacts on any unique paleontological resources that may be present would be reduced to a level of insignificance.

Mitigation Measures

PR-1 A qualified paleontologic monitor shall monitor all excavation in areas identified as likely to contain paleontological resources. These areas are defined as all areas within the proposed CSUDH project area where planned excavation will exceed depths of 5 feet. The qualified paleontologic monitor shall retain the option to reduce monitoring if, in his or her professional opinion, sediments being monitored are previously disturbed. Monitoring may also be reduced if the potentially fossiliferous units, previously described, are not found to be present or, if present, are determined by qualified paleontologic personnel to have a low potential to contain fossil resources.

PR-2 The monitor shall be equipped to salvage fossils and samples of sediments as they are unearthed to avoid construction delays and shall be empowered to temporarily halt or divert equipment to allow removal of abundant or large specimens.

PR-3 Recovered specimens shall be prepared to a point of identification and permanent preservation, including washing of sediments to recover small invertebrates and vertebrates.

PR-4 Specimens shall be curated into a professional, accredited museum repository with permanent retrievable storage.

PR-5 A report of findings, with an appended itemized inventory of specimens, shall be prepared. The report and inventory, when submitted to the county, will signify completion of the program to mitigate impacts on paleontological resources.

Residual Impact

Implementation of the mitigation measures above would reduce impacts to less-than-significant levels.

Operational Impacts

No operational impacts on paleontological resources would occur due to near-term projects.

Long-Term (2040) Impacts

Within the existing boundaries of CSUDH, the majority of the campus is situated on older Quaternary alluvium. Excavations in undisturbed older Quaternary deposits throughout the campus have a good chance of uncovering significant vertebrate fossils, even at depths as shallow as 5 feet below the surface. It is expected that any master plan projects proposed in the long-term, between 2017 and 2040, would comply with standard avoidance and mitigation measures pertaining to discovery of unidentified buried paleontological resources during construction. Therefore, with incorporation of avoidance and mitigation measures, a less-than-significant impact would occur.

Unavoidable Significant Adverse Impacts

There would be no unavoidable adverse impacts on paleontological resources after implementation of the mitigation measures specified above.

Cumulative Impacts

Construction activities associated with the proposed project could contribute to the progressive loss of paleontological resources and result in adverse cumulative impacts. The proposed project could also disturb or destroy paleontological resources that may exist on the site, an adverse impact. Thus, the project could result in adverse cumulative impacts on paleontological resources. However, mitigation measures have been identified that would avoid or reduce potential project-related impacts. These measures include monitoring, recovery, treatment, and deposit of fossil remains in a recognized repository. Similar measures may also be implemented for other related projects that have the potential to affect paleontological resources. Consequently, the incremental effects of the proposed project, after mitigation, would not contribute to an adverse cumulative impact on paleontological resources.

Section 3G
Geology and Soils

Introduction

This section discusses potential impacts on geology and soils at the campus resulting from the proposed master plan.

Setting

Environmental Setting

The CSUDH campus is located in the north-central portion of the City of Carson, approximately 0.5 mile south of State Route 91 and approximately 2 miles east of Interstate 110. The campus is situated in an area that is generally flat but with some hills, which slope downward toward Dominguez Channel, approximately 1 mile southwest of the proposed project site (CSUDH 2006a). Elevations on the proposed project site range from 30 feet amsl near the southwestern part of the campus to 140 feet amsl in the northeastern area (USGS 1981).

Most of the campus has been developed with academic facilities, student housing, athletic facilities, roadways, and parking facilities. Approximately 32 acres of the campus to the south and southeast are undeveloped and leased for geranium farming (CSUDH 2004a).

Regional Geology

The campus is located at the northern end of the Peninsular Ranges geomorphic province, which extends from Baja California to the Los Angeles Basin south of the Santa Monica Mountains. It is characterized by elongated northwest-trending mountain ranges separated by straight-sided sediment-floored valleys. The geologic units of the northern end of the Peninsula Ranges province consist of Jurassic and Cretaceous age basement rocks, which are overlain by up to 32,000 feet of marine and nonmarine sedimentary strata, ranging in age from the late Cretaceous to the Holocene epochs.

The campus is located on the western edge of the Dominguez Hills region. These hills, which lie immediately west of the Alameda Street corridor between State Route 91 and Del Amo Boulevard, consist of an elliptical northwest-trending anticlinal dome (convex upward). The Dominguez Hills represent the central portion of the Newport-Inglewood fault zone.

Soils/Geologic Formations

According to the City of Carson General Plan, the soil types on the campus consist of sands, fine sands, fine sandy loams, sandy loams, silty loams, and clay loams. The depth of these soils is approximately 60 inches, with sandy loam at a depth of 18 to 60 inches. These soil types all have a low to moderate erosion potential. Sandy loam has a high shrink-swell potential, which could cause lateral spreading or expansion. Table 3G-1 shows the different geologic formations in the Dominguez Hills area.

Table 3G-1: Stratigraphic Column of the Dominguez Hills Area

Age	**Formation**	**Thickness** (feet)[a]	**Description**
Upper Pleistocene	Lakewood	175	Reddish-brown sand and silt, chiefly nonmarine in origin.
Lower Pleistocene	San Pedro	495	Unconsolidated to semi-consolidated gravel, sand, silt, and clay; chiefly marine, beach, and lagoonal deposits.
Upper Pliocene	Pico	2,238	Semiconsolidated sand, silt, clay, and some gravel, chiefly of marine origin in the upper half; olive- to dark-brown massive claystone and siltstone and fine to coarse gray sand, all of marine origin in the lower half.
Lower Pliocene	Repetto	1,561	Fine to coarse gray sand, sand, occasionally pebbly brown sandy siltstone, and claystone, all of marine origin.
Miocene	Puente	4,723	Alternating dark- to olive-brown sandy micaceous siltstone and shale, fine to coarse gray sand, sand, and schist-bearing conglomerate.
Cretaceous	Catalina	[b]	Greenish, grayish, or bluish serpentine, talc, or schist.

[a] Plus or minus.
[b] The Catalina schist is basement rock for which thickness is not determined.

Source: City of Carson, 2004.

Groundwater

The elevation of the campus ranges from approximately 30 feet amsl to approximately 140 feet amsl. Groundwater in the vicinity of the proposed project area is encountered at approximately 25 feet below ground surface (bgs).

The depth to the first aquifer is approximately 140 feet bgs. There is no record of significant groundwater contamination in the vicinity of the proposed project area (Property Conditions Consultants 2000).

Seismicity

Alquist-Priolo Earthquake Hazard Zones identify the locations at which significant ground rupture is expected to occur. The nearest Alquist-Priolo Earthquake Hazard Zone to the campus is the Avalon-Compton fault/Regional Shear Zone. The Avalon-Compton fault/Regional Shear Zone is located immediately east of Avalon Boulevard and north of the Artesia Freeway. The campus is approximately 0.8 mile south of this fault zone (Los Angeles County 1990). The Avalon-Compton fault can be traced approximately 4 miles southeasterly from the south Rosecrans Hills to the north flank of the Dominguez Hills (City of Carson 1995).

The Newport-Inglewood fault is a 45-mile segment of a fault zone that extends from northwestern Los Angeles to south of San Diego. The major fault segments include, from south to north, the Reservoir Hill, Northeast Flank, Cherry Hill, and Avalon-Compton fault/Regional Shear Zone (City of Carson 1995). Historically, the Avalon-Compton fault/Regional Shear Zone has had moderate to high seismic activity, with numerous earthquakes greater than Richter magnitude 4.0. The Newport-Inglewood fault system is estimated to be capable of generating an earthquake with a Richter magnitude of 6.5 to 7.0. Because of the area's unstable subbase of sandy soil, Carson, as well as the entire South Bay area, is regarded as one of the most severe shock areas in the Los Angeles area (City of Carson 1996).

The U.S. Geological Survey and California Department of Conservation, Division of Mines and Geology (now the California Geological Survey), published, in various studies, data regarding the potential effects of a large earthquake on the Newport-Inglewood fault. These studies consider it likely that secondary ground deformation would occur within the Newport-Inglewood fault zone. Ground warping and minor ground rupture from secondary faulting is also expected at other locations within the fault zone, though these locations cannot be precisely known (City of Carson 1990).

Subsidence

In the City of Carson, subsidence would generally occur where development has been placed on top of landfills. Areas where landfill activities have occurred may be subject to the generation of organic gases associated with decomposition, which may possibly experience differential settlement as portions of the ground surface collapse inward. However, the campus is not located on a present or former landfill. It is located within the Dominguez Oil Field, and there is no documented ground subsidence associated with the Dominguez Oil Field (City of Carson 2000).

Subsidence can also occur as a secondary potential effect of seismic activity. However, the potential for ground subsidence in the proposed project area is low due to moderately compacted underlying soils. No surface rupture is known to have occurred on the campus within the last 10,000 years (City of Carson 1990).

Liquefaction

Liquefaction is a process by which water-saturated granular soils transform to a liquid state when exposed to a sudden shock or strain. The Newport-Inglewood fault zone is a potential source of ground stress that could cause liquefaction in areas of high groundwater. Groundwater at the proposed project site occurs at a depth of 25 feet bgs. Therefore, the potential for liquefaction is low. According to the State of California Seismic Hazard Zones map, the campus is not located within a liquefaction zone (California Department of Conservation, Division of Mines and Geology, 1999).

Landslides and Mudflows

Landslides and mudflows are associated with slopes that are unstable. The campus is not located in an area that is susceptible to landslides, nor does it have a history of landslides (Los Angeles County 1990). Slope instability in the City is limited to the slopes adjacent to the flood control channels that intersect the City (City of Carson 2000).

Volcanoes, Seiche, and Tsunami

The proposed project area is not located in an area that is at risk of volcanic impacts. The nearest volcanic areas are located several hundred miles to the north.

Seiche is a wave that oscillates in enclosed bodies of water and caused by seismic or atmospheric disturbances. Since there are no enclosed bodies of water on or around the campus, the potential for seiche is low.

A tsunami is a spontaneous water wave. Tsunamis are usually caused when hundreds of square miles, occasionally more than 1,000 square miles, of submerged continental shelf or slope are rapidly displaced vertically during a large earthquake. The proposed project area is 4 miles inland and ranges between 30 and 140 feet amsl. Therefore, inundation by tsunami is not likely.

Regulatory Setting

A number of state and local regulations apply to geologic hazards and engineering geologic practice. The following paragraphs summarize key regulatory provisions.

State and Regional Regulations

The Alquist-Priolo Act

Principal state guidance relating to geologic hazards is contained in the Alquist-Priolo Act (Public Resources Code Section 2621 et seq.) and in the Seismic Hazards Mapping Act of 1990 (Public Resources Code Sections 2690–2699.6). The Alquist-Priolo Act prohibits the location of most types of structures for human occupancy across active traces of faults in earthquake fault zones, as shown on maps prepared by the state geologist, and regulates construction in corridors along active faults.

The Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act of 1990 focuses on hazards related to strong ground shaking, liquefaction, and seismically induced landslides. Under its provisions, the state is charged with identifying and mapping areas at risk of strong ground shaking, liquefaction, landslides, and other corollary hazards. The maps are to be used by cities and counties in preparing their general plans and adopting land use policies to reduce and mitigate potential hazards to public health and safety.

Safety Element of the City of Carson General Plan

The Safety Element of the City of Carson General Plan was approved and adopted in July 2004. The Safety Element is an official guide for the city council, government agencies, and individuals to identify and understand potential hazards confronting the City of Carson. The Safety Element evaluates natural and man-made hazards that have the potential to endanger the welfare and safety of the general public and aims to reduce the potential risk of death, injury, property damage and the economic and social dislocation resulting from them. One of these areas of concern is geologic and seismic hazards. The Safety Element describes the goals and policies designed to reduce the impacts of geologic hazards. These are listed below.

Goal SAF-1: Minimize the risk of injury, loss of life, and property damage caused by earthquake hazards.

Policy SAF-1.1: Continue to require all new development to comply with the most recent City building code seismic design standards.

Impacts and Mitigation

Thresholds of Significance

For the purposes of this EIR and in accordance with Appendix G of the *State CEQA Guidelines*, the proposed project would result in a significant effect under CEQA if it exposes people or structures to 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 or seismically related ground failure, including liquefaction;
- landslides;
- substantial soil erosion or loss of topsoil;
- location on a geologic unit or soil that is unstable or that would become unstable as a result of the proposed project and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse;
- location on expansive soil, as defined in Table 18-1-B of the Uniform Building Code, or corrosive soils, creating substantial risks to life or property.

Project Impacts

Near-Term (2017) Impacts

Construction Impacts

Impacts during construction would be limited primarily to soil erosion and slope stability.

Potential Impact: Construction Activities Could Result in Soil Erosion

As a result of grading and excavation activities during construction, soils on the proposed near-term project sites would be exposed to wind and water erosion. The implementation of industry-standard stormwater pollution-control best management practices (BMPs) would reduce soil erosion impacts to a less-than-significant level. Erosion control measures implemented as part of the BMPs would include the placement of sandbags around basins; use of proper grading techniques; appropriate sloping, shoring, and bracing of the proposed

construction site; and covering or stabilizing topsoil stockpiles. Industry-standard stormwater BMPs can be found in the State of California Stormwater Best Management Practices Handbook under "Construction Activity." No mitigation beyond compliance with these measures is necessary.

Mitigation Measures

No mitigation is necessary.

Potential Impact: Construction Activities Could Result in Slope Instability

According to the California Division of Mines and Geology, large-scale deep-seated landslides are unlikely, but there is the potential for localized sloughing of near-vertical slopes and overhangs as well as the toppling of soil columns during construction (City of Carson 2000). Surface runoff, groundwater seepage, and earthquakes were considered contributors to the weakening and toppling of temporary slopes and the reduction of soil shear strength.

In general, the geologic and seismic hazards described above could be mitigated by employing sound engineering practices in the design and construction of the proposed master plan facilities.

To minimize hazards to construction workers from unstable temporary slopes and ensure that no adverse impacts would occur, mitigation measures GEO-1 and GEO-2 would be implemented by the construction contractor(s).

Mitigation Measures

GEO-1 A geotechnical investigation shall be performed by qualified, licensed professionals before final design of any structures, and recommendations provided in the report shall be implemented, as appropriate.

GEO-2 Design and construction of structures for the proposed project shall conform to all applicable provisions and guidelines set forth in the 2007 California Building Code (CBC), Title 24, Part 2, Volume 2. The CBC is based on the 2006 UBC and sets forth regulations concerning proper earthquake design and engineering.

Residual Impact

Less-than-significant impact.

Operational Impacts

Potential Impact: Risk of Life or Property Due to Ground Rupture

No active faults are located on the campus (State of California Special Studies Zones, Torrance quadrangle map). The nearest Alquist-Priolo Earthquake Hazard Zone is the Avalon-Compton fault/Regional Shear Zone, located immediately east of Avalon Boulevard and north of the Artesia Freeway. The proposed project site is approximately 0.8 mile south of this fault zone. Therefore, the potential for surface rupture is low, and ground rupture due to faulting is not considered a significant hazard at the campus. With the incorporation of mitigation measures GEO-1 and GEO-2, the potential for risk to life or property due to ground rupture is further reduced.

Mitigation Measures

See mitigation measures GEO-1 and GEO-2.

Residual Impact

Less-than-significant impact.

Potential Impact: Risk of Life or Property Due to Strong Ground Shaking

As with most of Southern California, the campus is located within an active seismic area. The campus may experience severe seismic shaking in the event of an earthquake on any of several faults in the area, including the Newport-Inglewood fault (CSUDH 2004b). The hazard posed by strong ground motion would be a potentially significant impact but one that could be mitigated. To ensure all impacts are less than significant, mitigation measures GEO-1 and GEO-2 shall be implemented.

Mitigation Measures

See mitigation measures GEO-1 and GEO-2.

Residual Impact

Less-than-significant impact.

Potential Impact: Risk of Life or Property Due to Landslides

According to the California Division of Mines and Geology, the proposed project site is not located within a mapped landslide hazard zone (California Department of Conservation, Division of Mines and Geology 1999). In addition, the proposed project site is relatively flat, with only a few areas that slope. As such, the risk of landslides is not considered a significant hazard.

Mitigation Measures

No mitigation is necessary.

Potential Impact: Risk of Life or Property Due to Subsidence

According to the City of Carson General Plan, the proposed project area is not located on a present or former landfill. It is located within the Dominguez Oil Field. However, there is no documented ground subsidence associated with the Dominguez Oil Field. Therefore, there is no potential for ground subsidence, and no impact would occur.

Mitigation Measures

No mitigation is necessary.

Potential Impact: Risk of Life or Property Due to Liquefaction

For liquefaction to occur, three simultaneous conditions must coexist: loose to medium-dense granular soils, saturation of the soils by groundwater, and strong ground shaking. According to the California Division of Mines and Geology, the site is not located within a mapped liquefaction hazard zone (California Department of Conservation, Division of Mines and Geology 1999). Therefore, there is no potential for liquefaction. No impacts would occur.

Mitigation Measures

No mitigation is necessary.

Potential Impact: Risk of Lateral Spreading

The Dominguez Hills formation contains a sandy loam layer, which has a high shrink-swell potential that could cause lateral spreading or expansion. As such, there is the potential for lateral spreading. However, the near-term projects included in the master plan would be built with proper foundations as specified by a qualified civil engineer and the Uniform Building Code. Therefore, no significant impacts would occur as a result of the proposed project.

Mitigation Measures

No mitigation necessary.

Residual Impact

Less-than-significant impact.

Potential Impact: Unsuitable Soil Conditions

Soil characteristics and the potential for corrosion, compaction, and expansion all have a bearing on the design of buildings and infrastructure. Soils on campus are known to be expansive. However, a geotechnical investigation would be conducted prior to construction of the proposed facilities to determine the potential for soil expansion.

To ensure that no significant impacts result from unstable soil conditions, mitigation measure GEO-3 is proposed.

Mitigation Measures

GEO-3 The geotechnical investigation for the proposed facilities should fully document the presence and extent of corrosive, expansive, or loose compactable soil. Appropriate mitigation shall be designed using the collected data. Mitigation options could include the following: removal of unsuitable subgrade soils and replacement with engineered fill, installation of cathodic protection systems to protect buried metal utilities, use of coated or nonmetallic pipes (i.e., concrete or PVC) that are not susceptible to corrosion, construction of foundations using sulfate-resistant concrete, support of structures on deep-pile foundation systems, densification of compactable subgrade soils with in situ techniques, and placement of moisture barriers above and around expansive subgrade soils to help prevent variations in soil moisture content.

Residual Impact

Less-than-significant impact.

Long-Term (2040) Impacts

Construction and operation of improvements proposed for the long term (i.e., between 2017 and 2040) would result in geologic hazards similar to those discussed for near-term projects. With incorporation of sound engineering, best management practices, and geotechnical investigations prior to construction, risks from geologic hazards would be minimized.

Unavoidable Significant Adverse Impacts

No unavoidable significant adverse geological impacts would result due to the proposed project.

Cumulative Impacts

The proposed project would mitigate geology-, soils-, and seismic-related impacts to a less-than-significant level. Proposed structures would be built in accordance with the building codes of California. Geologic hazards would be mitigated on an individual basis through sound engineering and adherence to geotechnical construction and operational standards. It is assumed that related projects would similarly comply with the applicable building codes, thereby reducing the potential for risks to life and property due to geologic hazards. The proposed project would not contribute to adverse cumulative impacts on unique geologic features, and it would not contribute to a cumulative increase in the risks posed by seismic hazards.

Section 3H

Hazards and Hazardous Materials

Introduction

This section discusses the proposed project's potential to expose the public to hazards related to existing conditions within the campus or its surroundings or new hazards created as a result of the proposed master plan. Specifically, this section focuses on the potential for the release of hazardous materials (e.g., asbestos and lead paint), hazards relating to underground storage tanks (USTs), and historic oil drilling operations (and associated methane levels) within the CSUDH campus.

The information in this section has been gathered from a site visit (April 2007), research of applicable regulations, and information provided in the Phase I Environmental Site Assessment performed by Property Condition Consultants for the Home Depot Center project and CSUDH campus in October 2000.

Setting

Regulatory Setting

Hazardous substances are defined by state and federal regulations to protect public health and the environment. Hazardous materials have certain chemical, physical, or infectious properties that cause them to be considered hazardous. Hazardous substances are defined in the federal Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), Section 101(14), and also in the California Code of Regulations (CCR), Title 22, Chapter 11, Article 2, Section 66261.

For this analysis, soil that is excavated from a site containing hazardous materials would be considered a hazardous waste if it exceeded specific CCR Title 22 criteria. Remediation (cleanup and safe removal/disposal) of hazardous wastes found at a site is required if excavation of such materials is performed; it may also be required if certain other activities are proposed. Even if soil or groundwater at a contaminated site does not have the characteristics required to be defined as hazardous waste, remediation of the site may be required by regulatory agencies subject to jurisdictional authority. Cleanup requirements are determined on a case-by-case basis by the agency taking lead jurisdiction.

Federal

The federal Toxic Substances Control Act (1976) and the Resource Conservation and Recovery Act of 1976 (RCRA) established a program administered by EPA for regulating the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA was amended in 1984 by the Hazardous and Solid Waste Act (HSWA), which affirmed and extended the "cradle to grave" system of regulating hazardous wastes. The use of certain techniques for the disposal of some hazardous wastes was specifically prohibited by HSWA.

The federal Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as the Superfund, was enacted by Congress on December 11, 1980. This law provided broad 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, assigned liability to persons responsible for releases of hazardous waste at these sites, and established a trust fund to provide for cleanup when no responsible party could be identified. CERCLA also enabled 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 (NPL). CERCLA was amended by the Superfund Amendments and Reauthorization Act (SARA) on October 17, 1986.

State

The California Hazardous Waste Control Law (HWCL) is administered by the California Environmental Protection Agency (Cal-EPA) to regulate hazardous wastes. While the HWCL is generally more stringent than the RCRA, until EPA approves the California program, both state and federal laws apply in California. The HWCL lists 791 chemicals and about 300 common materials that may be hazardous; establishes criteria for identifying, packaging, and labeling hazardous wastes; prescribes management controls; establishes permit requirements for treatment, storage, disposal, and transportation; and identifies some wastes that cannot be disposed of in landfills.

Hazardous substances are defined by state and federal regulations to protect public health and the environment. Hazardous substances are defined under CERCLA, Section 101(14), and also in CCR, Title 22, Chapter 11, Article 2, Section 66261, which provides the following definition:

> A hazardous material is a substance or combination of substances which, because of its quantity, concentration, or physical, chemical or infectious characteristics, may either (1) cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness or (2) pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported or disposed of or otherwise managed.

According to Title 22 (Chapter 11, Article 3, CCR), substances having a characteristic of toxicity, ignitability, corrosivity, or reactivity are considered hazardous. Hazardous wastes are hazardous substances that no longer have a practical use, such as material that has been abandoned, discarded, spilled, or contaminated or is being stored prior to proper disposal.

Toxic substances may cause short-term or long-lasting health effects, ranging from temporary effects to permanent disability or death. For example, toxic substances can cause eye or skin irritation, disorientation, headache, nausea, allergic reactions, acute poisoning, chronic illness, or other adverse health effects if human exposure exceeds certain levels (the level depends on the substance involved). Carcinogens (substances known to cause cancer) are special classes of toxic substances. Examples of toxic substances include most heavy metals, pesticides, and benzene (a carcinogenic component of gasoline). Ignitable substances are hazardous because of their flammable properties; gasoline, hexane, and natural gas are examples of ignitable substances. Corrosive substances are chemically active and can damage other materials or cause severe burns upon contact; examples include strong acids and bases such as sulfuric (battery) acid or lye. Reactive substances may cause explosions or generate gases or fumes; explosives, pressurized canisters, and pure sodium metal (which reacts violently with water) are examples of reactive materials.

Other types of hazardous materials include radioactive and biohazardous materials. Radioactive materials and wastes contain radioisotopes, which are atoms with unstable nuclei that emit ionizing radiation to increase their stability. Radioactive waste mixed with chemical hazardous waste is referred to as "mixed waste." Biohazardous materials and wastes include anything derived from living organisms. They may be contaminated with disease-causing agents, such as bacteria or viruses.

Hazardous Material Worker Safety

The California Occupational Safety and Health Administration (Cal-OSHA) is the primary agency responsible for worker safety in the handling and use of chemicals in the workplace. Cal-OSHA standards are generally more stringent than federal regulations. The employer is required to monitor worker exposure to listed hazardous substances and notify workers of exposure (8 CCR, Sections 337–340). The regulations specify requirements for employee training, availability of safety equipment, accident-prevention programs, and hazardous substance exposure warnings.

Local

Los Angeles County

The Los Angeles County Department of Public Works (DPW), Environmental Programs Division (EPD), prepares and administers the Los Angeles County Integrated Waste Management Plan and Hazardous Waste Management Plan, which provide direction for proper management of all waste generated within the county. As the county's lead agency, the EPD advises the Los Angeles County Board of Supervisors on all waste management issues. The division implements numerous programs to meet state-mandated solid waste reduction goals, including recycling, composting, source reduction, household hazardous waste management, public education, etc. The EPD regulates USTs in unincorporated areas and more than 76 cities to protect groundwater resources. This program is the largest in the state, encompassing some 10,000 USTs at more than 2,500 sites. Site remediation plans are reviewed and approved to clean up contamination caused by leaking USTs. The EPD also regulates industrial waste management systems at 5,000 generator sites and permits and inspects industrial waste discharges into more than 3,000 miles of local sewers within unincorporated areas and 38 contract cities. The EPD responds as a support unit to reported incidents involving existing and/or potential discharges of contaminants or toxic materials/waste into DPW drainage facilities.

City of Carson

The City of Carson has adopted a Safety Element (2004) component to its general plan. The guiding principle of the Safety Element is to promote safety throughout the community in order to enhance the livability, business environment, and positive image of the community while reducing the effects of crime and environmental hazards. The Safety Element identifies and evaluates potential hazards, including natural and man-made, that exist within the City and aims to reduce the potential risks that could result from such hazards. The Safety Element contains goals, policies, and implementation actions to reduce the impacts of these hazards.

Existing Site Conditions

The campus is located in the north-central portion of the City of Carson, approximately 0.5 mile south of State Route 91 and approximately 2 miles east of Interstate 110. The campus is situated in an area that is somewhat hilly and gently sloping to the southwest toward the Dominguez Channel, approximately 1 mile southwest of the proposed project site (CSUDH 2006a). According to the 1981 USGS Torrance quadrangle map (7.5-minute series), the proposed project site consists of hills, drainages, and a series of slopes and terraces with a general elevation of approximately 30 feet amsl near the southwestern part of the campus to 140 feet amsl in the northeastern corner of the campus.

Approximately two-thirds of the proposed project site is developed with academic facilities, student housing, athletic facilities, roadways, and parking facilities. Of the remaining undeveloped area, approximately 32 acres to the south and southeast are leased to a commercial geranium nursery (CSUDH 2006a).

Phase I Environmental Site Assessment

Any hazardous substance evaluation must include both activities on the property and an analysis of nearby hazards that might affect the site through migratory subsurface contamination, waste disposal procedures, or hazardous material transportation across the area. For this reason, the Phase I Environmental Site Assessment was conducted for the Home Depot Center as well as the entire CSUDH campus and adjacent off-campus properties within a 1-mile radius (CSUDH 2000).

The Phase I Environmental Site Assessment included a search of government databases and existing and historic permits for the site; interviews with current occupants of the Home Depot Center, the CSUDH campus, and neighboring sites; reviews of aerial photographs; reviews of supporting documents from regulatory agencies; and a physical survey of the Home Depot Center site and the CSUDH campus. Portions of the Phase I Environmental Site Assessment report as well as further research regarding existing conditions and the site visit are incorporated in this section.

Groundwater

The campus lies within the Coastal Plain of the Los Angeles groundwater basin and the West Coast groundwater subbasin, commonly known as the West Coast Basin. It is bounded on the north by the Ballona Escarpment, an abandoned erosional channel of the Los Angeles River; on the east, by the Newport-Inglewood fault zone; and on the south and west by the Pacific Ocean and the consolidated rocks of the Palos Verdes Hills (DWR 2005). The surface of the subbasin is crossed on the south by the Los Angeles River, through the Dominguez Gap, and the San Gabriel River, through the Alamitos Gap, both of which flow into San Pedro Bay. Average precipitation through the subbasin is 12 to 14 inches.

As described in Section 3G, Geology and Soils, groundwater is encountered in the project vicinity at 25 feet below ground surface. Although there is the potential to encounter groundwater during construction, no contaminated groundwater has been reported beneath the proposed project area (Property Condition Consultants 2000).

Hazardous Materials

Within the campus, hazardous materials are stored and utilized as part of maintenance operations conducted on the campus. These include waste oil, filters, paints, and solvents, all of which appeared to be stored and utilized properly at the time of the Phase I Environmental Site Assessment and at the time of the ICF Jones & Stokes site visit in April 2007. A hydraulic vehicle hoist is located within the maintenance area and appears to be in good condition, with no leaks or significant stains in its vicinity. No indications of improper hazardous materials use or storage or hazardous waste storage were found on the CSUDH campus. Neither septic tanks nor cesspools are known to exist on the CSUDH campus. According to the CSUDH 2006 Annual Report, electronic waste (i.e., computers, monitors, and keyboards), batteries, and used oil produced on campus are disposed of by property disposal services. In 2006, 11.63 tons of computers, monitors, and keyboards were sent to an e-waste recycling company to be destroyed or dismantled (CSUDH 2006). In 2006, 0.36 ton of used oil produced from campus maintenance vehicles was sent to a recycling company, with 0.76 ton of "other" hazardous waste being disposed of as well. Currently, the campus recycling program collects electric cart batteries and AA, AAA, and D batteries and sends them to a hazardous materials collections center.

Polychlorinated Biphenyls

The campus has several transformers; however, no polychlorinated biphenyls (PCBs) are known to be present. These transformers appeared to be in satisfactory condition and are relatively new (constructed within the past 5 years) (Sharp pers. comm.). No PCB-related contamination issues on the campus are known.

Pesticides

The Grand View Geranium Gardens presently occupies approximately 30 acres in the southern and eastern portions of the campus to cultivate geraniums and other ornamental plants. The nursery uses common household pesticides, herbicides, fungicides and fertilizers, which can be purchased at most garden supply stores. There are no reported pesticide contamination problems associated with the soil or groundwater in the vicinity of the proposed project (Property Conditions Consultants 2000). A copy of the most recent Grand View Geranium Gardens Pesticide Use Record is included in Appendix E for review.

Asbestos and Lead Paint

Since most of the existing academic-core campus buildings were constructed prior to 1980, the potential exists for asbestos-containing material (ACM) and lead-based paints to be present within the buildings. ACM is likely to exist in

any of the older buildings on the CSUDH campus. Building materials suspected of having asbestos content may include floor tiles and linoleum, plaster, pipe insulation, wallboard, ceiling tiles, acoustic ceiling spray, and roofing materials. These materials were observed to be in good condition at the time of the 2000 inspection (Property Conditions Consultants 2000).

CSUDH produces an Annual Notification of the Presence of Asbestos memorandum for the campus (a copy of the most recent memorandum from January 2006 is provided in Appendix F). The memorandum was prepared by the CSUDH environmental compliance specialist and lists the locations on campus where potential ACM is located and where ACM has been removed during recent renovation projects.

Underground Storage Tanks

No USTs are located within the campus. However, former USTs were removed in 1999 from the maintenance area of the campus. Moderate levels of soil contamination were noted at the time of removal. Overall, nominal contamination was found during removal, and the contaminated soil was excavated and appropriately disposed of (Property Conditions Consultants 2000). At the time of the removal in 1999, the USTs were replaced by three aboveground storage tanks (ASTs), located in the vicinity of the former USTs. The current ASTs store gasoline and diesel for the maintenance vehicles on campus. They are double walled and stored within a concrete overflow containment area. Since no unresolved issues regarding USTs occur on campus, there is no potential for impacts due to the proposed master plan.

Oil Well Hazards

The campus is located within an historic oil-producing region, the Dominguez Oil Field. According to the California Department of Conservation, Division of Oil, Gas, and Geothermal Resources (DOGGR), the Dominguez Oil Field is situated on a northwest-striking anticlinal structure along the Newport-Inglewood line of folds. Oil-producing formations can first be found approximately 3,000 feet below the ground surface. The first oil well in the Dominguez Hills was dug in 1921, with oil production beginning in 1923 in the area west of Central Avenue, immediately north of Victoria Street. With the discovery of oil, some 1,200 acres were eventually developed for oil extraction and production.

The proposed project site and the Dominguez Oil Field are located approximately 10 miles southeast of the Los Angeles City Methane Seepage District, an area of documented methane hazards. According to DOGGR, the Dominguez Oil Field is not an area of concern regarding methane or hydrogen sulfide hazards.

DOGGR records indicate five abandoned oil wells beneath the Home Depot Center and none beneath the campus. However, according to the 1965 Avalon Property Easement Map for the Dominguez Estate Company, 24 abandoned oil well sites are located beneath the campus (see Figure 3H-1, Historic Oil Well Locations, or the campus easement map showing the original wells and gas lines located on campus). These wells have all been capped and abandoned under the direction of DOGGR (California Department of Conservation 2007).

At present, no pits, ponds, or lagoons are located within the campus. However, it is possible that oil industry holding basins and settling pits may have existed on the campus in the past.

Fire Hazard

According to the Los Angeles County General Plan Safety Element maps, the proposed project site is not in a designated wildland fire hazard area, nor is it adjacent to any wildlands such that people or structures would be exposed to risk of loss, injury, or death involving wildland fires (Los Angeles County 1990). Therefore, potential hazards resulting from wildland fire hazards would be negligible.

Impacts and Mitigation

Methodology

The principal environmental impact involving hazardous waste is the mobilization of contaminants, resulting in the exposure of workers and the general public (e.g., excavation and handling of contaminated soil and removal and handling of ACM). Hazardous materials in the construction area may require special handling because hazardous waste can create an exposure risk to workers and the general public during excavation and transport. Contaminated soil exceeding regulatory limits for construction backfill would require on-site treatment or transport to off-site processing facilities. Contaminated soil removed from the construction area must be transported according to state and federal regulations and be replaced by import soil approved for backfill. Similar issues pertain to contaminated groundwater.

Existing and past land use activities were studied because they are potential indicators of hazardous material storage and use at individual sites. For example, many industrial sites, historic and current, are known or suspected to have soil or groundwater contamination from hazardous substances. Other hazardous materials sources include leaking USTs, surface runoff, migration of contaminated groundwater plumes from contaminated sites, and the application of pesticides and herbicides on agricultural land.

Figure 3H-1: Historic Oil Well Locations

The primary issues when identifying potential environmental contamination are the health and safety of workers and public exposure to hazardous materials during construction and waste handling. Potential impacts on air quality and traffic during waste transport must also be considered. Where encountered, contaminated soil may qualify as hazardous waste and thus require handling and disposal according to local, state, and federal regulations.

Thresholds of Significance

For the purposes of this EIR, and in accordance with Appendix G of the *State CEQA Guidelines*, the project would have a significant impact on the environment if it

- creates a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
- creates 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;
- emits hazardous emissions or involves handling hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school; and
- is 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, would create a significant hazard to the public or environment.

Project Impacts

Near-Term (2017) Impacts

Construction Impacts

Potential Impact: Potential to Encounter Previously Unknown Sources of Soil Contamination

Construction Hazards

Activities related to hazardous materials handling during construction of the near-term projects include refueling and servicing construction equipment on-site or removing and exporting contaminated soils from the site. These activities would be short-term or one-time events and subject to federal, state, and local health and safety requirements; consequently, no significant impacts are anticipated. Regulatory compliance would ensure that construction of the proposed project would not result in the release of any known toxins or contaminants on the campus or adjacent to the campus.

Pesticides

The present use of common pesticides, fertilizers, herbicides, and fungicides at Grand View Geranium Gardens and for campus maintenance operations would not result in a significant impact. There are no reported pesticide contamination problems related to soil or groundwater in the vicinity of the campus; therefore, no impacts are anticipated. In the unlikely event that pesticide-related contamination is discovered during construction, it would be remediated prior to project operation in accordance with all applicable regulatory standards.

Discolored Soils

According to the Phase I Environmental Site Assessment, some discolored soils were found commingled with native soils in the geranium fields at the southeast corner of the campus. These fields are currently undeveloped. It is believed that these soils came from imported fill and not contaminated native soils because no contamination sources (either existing of historic) are located in the vicinity. In the unlikely event that soil contamination is discovered within the campus, the affected soils would be removed and disposed of in accordance with applicable regulatory standards. Additionally, the Phase I Environmental Site Assessment identified no concerns regarding the migration of subsurface contamination from off-site sources. Therefore, no significant impacts are anticipated. Mitigation measures HM-1 and HM-2 are proposed to ensure that any contaminated soil encountered during construction is appropriately handled.

Mitigation Measures

HM-1 During excavation for any proposed structures related to the master plan, the contractor shall observe the exposed soil for visual evidence of contamination. If visual contamination indicators are observed during excavation or grading activities, all work shall stop, and an investigation shall be designed and performed to verify the presence and extent of contamination at the site. A qualified and approved environmental consultant shall perform the review and investigation. Results shall be reviewed and approved by the Los Angeles County Fire Department Health Hazardous Materials Division or DTSC prior to construction. The investigation shall include collecting samples for laboratory analysis and quantifying contaminant levels within the proposed excavation and surface disturbance areas. Subsurface investigation shall determine appropriate worker protection and hazardous material handling and disposal procedures appropriate for the subject site. Any soil sampling conducted in areas previously used for agriculture shall comply with DTSC's Interim Guidance for Sampling Agricultural Fields for School Sites (August 2002).

HM-2 Areas with contaminated soil determined to be hazardous waste shall be excavated by personnel who have been trained through the Occupational Safety and Health Administration-recommended 40-hour safety program (29 CFR 1910.120), with an approved plan for excavation, control of

contaminant releases to the air, and off-site transport or on-site treatment. Health and safety plans prepared by a qualified and approved industrial hygienist shall be developed to protect the public and all workers in the construction area. Health and safety plans shall be reviewed and approved by the appropriate agencies, such as the Los Angeles County Fire Department Health Hazardous Materials Division or DTSC.

Potential Impact: Potential for Soil or Groundwater Contamination Due to Improper Storage or Use of Hazardous Materials

Construction Activities

During construction operations, hazardous materials such as vehicle fuels, oils, and other vehicle maintenance fluids would be used and stored in construction staging yards. Accidental spills of hazardous materials during construction activities could cause soil or groundwater contamination, a potentially significant impact. Improperly maintained equipment could leak fluids during construction, resulting in soil contamination, a potentially significant impact. Implementation of mitigation measures HM-3 and HM-4 would ensure that potential impacts are less than significant.

Hazardous Waste

Hazardous waste (waste oil, filters, paints, solvents) stored at the maintenance area south of the physical plant are disposed of by a licensed waste hauler. Since regulatory requirements are being followed, no impacts related to the handling of hazardous waste are anticipated.

The hydraulic hoist located in the maintenance area of the campus could cause local contamination if leaks are present. However, any contamination would be localized and limited to the immediate vicinity of the hydraulic hoist. No near-term projects are proposed at the physical plant or the maintenance area to the south. Therefore, no significant impacts related to hazardous waste handling or contamination are anticipated.

Groundwater

Several academic buildings and a ~~parking structure~~ recreation center are proposed as part of the master plan. During construction of these structures, groundwater may be encountered. As described in Section 3G, Geology and Soils, groundwater is encountered in the vicinity at 25 feet below ground surface. Although the potential for encountering groundwater is low, appropriate testing to determine the presence of groundwater would be conducted prior to construction. A detailed groundwater report would be provided through a geotechnical study. No significant impacts are anticipated.

Mitigation Measures

HM-3 An environmental training program shall be established to communicate environmental concerns and appropriate work practices, including spill prevention, emergency response measures, and proper best management practices implementation, to all field personnel. The training program shall emphasize site-specific physical conditions to improve hazard prevention (e.g., identification of potentially hazardous substances) and shall include a review of all site-specific plans.

A Hazardous Substance Control and Emergency Response Plan shall be prepared, which shall include measures for quick and safe cleanup of accidental spills. This plan shall be submitted with the grading permit application. It shall prescribe hazardous-materials handling procedures for reducing the potential for a spill during construction, and shall include an emergency response program to ensure quick and safe cleanup of accidental spills. The plan shall identify areas where refueling and vehicle maintenance activities and storage of hazardous materials, if any, will be permitted. These directions and requirements shall also be reiterated in the project Stormwater Pollution Prevention Plan.

HM-4 Oil-absorbent material, tarps, and storage drums shall be used to contain and control any minor releases. Emergency spill supplies and equipment shall be kept adjacent to all work areas and staging areas and shall be clearly marked. Detailed information for responding to accidental spills and handling any resulting hazardous materials shall be provided in the project's Hazardous Substances Control and Emergency Response Plan.

HM-5 If groundwater is expected to be encountered, the contractor shall test and characterize the groundwater prior to construction. The contractor shall comply with all applicable regulations and permit requirements for construction dewatering. This may include laboratory testing, treatment of contaminated groundwater, or other disposal options. The results of groundwater testing shall be included in a Phase II Environmental Site Assessment.

Residual Impact

Implementation of mitigation measures HM-3,HM-4, and HM-5 would ensure that impacts from the use and storage of hazardous materials during construction activities would be less than significant.

Potential Impact: Potential to Encounter Abandoned or Capped Oil Wells

The campus is located within an historic oil-producing region, specifically the Dominguez Oil Field. The proposed project area and the Dominguez Oil Field are approximately 10 miles southeast of the Los Angeles City Methane Seepage District, an area of documented methane hazards. According to DOGGR, the Dominguez Oil Field is not an area of concern with respect to methane or hydrogen sulfide hazards.

Historically, numerous oil wells were in operation on the proposed project site; 24 wells on campus were capped and abandoned under the direction of DOGGR. However, in areas located in and around oil wells, methane may exist and could potentially pose a significant risk if it were to reach the area near the ground surface in sufficient concentrations to cause asphyxiation or explosion and/or fire. If encountered or exposed during construction, oil field gas or volatile organic compounds (VOCs) could pose a hazard to construction workers or other persons in the vicinity of the construction site.

Consistent with standard practices and procedures for development on top of abandoned oil wells, DOGGR would inspect the wells beneath the campus as well as any unmapped or "wildcat" wells encountered during grading and excavation for the proposed buildings to determine if re-abandonment procedures are required. DOGGR may also require venting and/or collection systems to be incorporated into the design of the proposed project if enclosed structures are built over abandoned wells (see mitigation measures). Since methane was not detected in significant levels on-site, no impacts related to methane gas are anticipated. However, abandoned oil wells could result in a potentially significant impact unless mitigation is implemented.

Mitigation Measures

HM-6 Prior to any construction, a geotechnical study would be performed to determine if any abandoned oil wells are within the proposed building or parking lot footprints.

HM-7 During the earthwork phase of construction, any known abandoned oil wells or wells discovered during the geotechnical study located beneath the proposed project site shall be exposed to allow DOGGR to examine the well heads, assess any potential for methane, and determine if re-abandonment of any wells will be required. Additionally, any wildcat wells encountered during earthwork shall also be subject to investigation and potential re-abandonment requirements.

HM-8 The development of any enclosed structures over an abandoned oil well may require any or all of the following measures, as determined by DOGGR: passive venting systems (horizontal piping designed to collect vapors and vent them to the surface or above the structure) installed

under new enclosed structures, vapor barriers installed under new enclosed structures, or active venting systems (horizontal piping or vertical wells attached to a blower and designed to capture vapors within a specified radius of soil and vent them to the surface or above the structure) installed under new enclosed structures.

Potential Impact: Potential for Encountering Lead-Based Paint or Asbestos-Containing Materials during Renovation or Demolition Activities

The potential exists for encountering ACM and lead-based paint during renovation or demolition of existing buildings. Some lead-based paint may be located under the several coats of paint that cover some of the original doors of these buildings. Most of the ACMs have been removed from campus buildings, although some ACMs are still listed in the annual asbestos memorandum (Appendix F). Damaged ACMs could pose a potential threat to building occupants as well as construction workers during renovation work if the material were to become airborne. Any demolition occurring on campus is required to conform to the California Health and Safety Code and SCAQMD Rule 1403. This is a potentially significant impact but one that can be mitigated.

Mitigation Measures

HM-9 Prior to renovation or demolition of any buildings on campus, the CSUDH environmental compliance specialist from the Office of Environmental Health and Occupational Safety shall conduct a survey to determine the presence or absence of ACM and lead-based paints. Abatement of asbestos and lead-based paint shall be conducted in accordance with SCAQMD Rule 1403 and DTSC's Interim Guidance, Evaluation of School Sites with Potential Soil Contamination as a Result of Lead from Lead-Based Paint, Organochlorine Pesticides from Termiticides, and Polychlorinated Biphenyls from Electrical Transformers (June 9, 2006), prior to any demolition or construction activities.

Operational Impacts

Potential Impact: Routine Maintenance Activities on the Campus and Operation of the Proposed Laboratories Would Involve Use of Hazardous Materials

During normal operations, the proposed project would not involve the use of substantial quantities of hazardous materials or generate emissions above and beyond the levels of current uses. Minor vehicle maintenance and general maintenance activities occur along the south side of the physical plant building.

The wastes associated with these activities include oil, filters, paints, and solvents. Approximately ten 55-gallon drums of new and used vehicle fluids are stored within the maintenance area. Several areas of staining were observed, typical of general maintenance activities. No obvious discoloration of the soil or stressed vegetation was observed within the campus during the Phase I site assessment and subsequent site visits.

The 2000 Phase I Environmental Site Assessment found that none of the properties adjacent to the campus pose a potential problem regarding migratory contamination.

Existing and proposed laboratories would use chemicals in small amounts. As with the existing uses, operation of the proposed project would continue to involve the use, disposal, and transport of small quantities of hazardous materials and emissions from routine maintenance and operation of various types of equipment and facilities currently on-site. However, at the time of the inspection, it appeared that hazardous materials at the existing facilities were being handled in an acceptable manner and were not creating a hazard for the public or the environment. The proposed near-term projects would not result in a significant increase in the use of hazardous materials on the site, and routine use and handling of hazardous materials would not result in a hazard for the public or environment provided that proper handling procedures were followed.

While CSUDH is not known to produce radiological hazards, any biological or chemical materials handled by CSUDH in fulfillment of its educational mission are subject to federal, state, and local regulations and will continue to be handled accordingly as CSUDH expands.

Ultimately, the proposed project would not result in a significant increase in the use of hazardous materials on the site and would not result in a significant hazard to the public or environment through the routine use and handling of hazardous materials provided proper handling procedures are followed.

Mitigation Measures

No mitigation is necessary.

Long-Term (2040) Impacts

While CSUDH is not known to produce radiological hazards, any biological or chemical materials handled by CSUDH in fulfillment of its educational mission are subject to federal, state, and local regulations and would continue to be handled accordingly as CSUDH expands. Therefore, no significant long-term impacts are anticipated.

Unavoidable Significant Adverse Impacts

Proper handling, disposal, and remediation of hazardous materials in accordance with regulatory requirements would mitigate the impacts to a less-than-significant level.

Cumulative Impacts

Any cleanup and disposal of contaminated soil and/or groundwater resulting from construction of the proposed master plan and from other related projects is a beneficial impact. Cleanup of contaminated sites related to other projects becomes an adverse impact when the combined volume of contaminated soil requiring treatment from the proposed project and other projects exceeds the capacity of the available treatment facilities. However, no significant quantities of contaminated soil are expected to be encountered during construction of the proposed master plan, resulting in a less-than-significant impact.

With implementation of the mitigation measures in this EIR, effects of the proposed master plan would not be cumulatively considerable.

Section 3I
Hydrology and Water Quality

Introduction

This section describes the environmental setting and potential impacts as they relate to water resources, including surface water and groundwater hydrology, drainage, flooding, water quality, and mitigation measures that would reduce any potentially significant impacts.

Setting

Federal, state, and local regulations related to hydrology and water quality that apply to the proposed project are discussed under Regulatory Setting, below.

Regulatory Setting

Federal

Clean Water Act and Associated Environmental Compliance

There are several sections of the CWA that pertain to regulating impacts on waters of the United States. The discharge of dredged or fill material into waters of the United States is subject to permitting specified under Title IV (Permits and Licenses) of the CWA and specifically under Section 404 (Discharges of Dredge or Fill Material) of the act. Section 401 (Certification) specifies additional requirements for permit review, particularly at the state level.

Section 303

The State of California adopts water quality standards to protect beneficial uses of state waters as required by Section 303 of the CWA and the Porter-Cologne Water Quality Control Act of 1969 (Porter-Cologne). Section 303(d) of the CWA established the total maximum daily load (TMDL) process to guide the

application of state water quality standards (see discussion of state water quality standards below). To identify candidate water bodies for TMDL analysis, a list of water quality-limited streams was generated. These streams are impaired by the presence of pollutants, including sediment, and are more sensitive to disturbance. Section 303(d) listings associated with water bodies in the proposed project area have been described in the environmental setting.

Section 401

Section 401 of the CWA requires that an applicant pursuing a federal permit to conduct any activity that may result in a discharge of a pollutant obtain water quality certification (or a waiver). Water quality certifications are issued by regional water quality control boards (RWQCBs) in California. Under the CWA, the state (through the appropriate RWQCB) must issue or waive Section 401 water quality certification in order for a project to be permitted under Section 404. Water quality certification requires the evaluation of water quality considerations associated with dredging or placement of fill materials into waters of the United States and imposes project-specific conditions on development. A Section 401 waiver establishes standard conditions that apply to any project that qualifies for a waiver.

Section 402

The 1972 amendments to the Federal Water Pollution Control Act established the NPDES permit program to control discharges of pollutants from point sources (Section 402). The 1987 amendments to the CWA created a new section of the CWA devoted to stormwater permitting (Section 402[p]). EPA has granted the State of California (SWRCB and RWQCBs) primacy in administering and enforcing the provisions of CWA and NPDES. NPDES is the primary federal program that regulates point-source and nonpoint-source discharges to waters of the United States.

The SWRCB issues both general and individual permits for discharges to surface waters, including for both point-source and nonpoint-source discharges. In response to the 1987 amendments, EPA developed the Phase I NPDES Stormwater Program for cities with populations larger than 100,000 and Phase II for smaller cities. In California, the SWRCB has drafted the MS4 permit. Los Angeles County has coverage under the MS4 permit, which is discussed in more detail below.

State

Porter-Cologne Water Quality Control Act

Overview

Porter-Cologne, passed in 1969, complements the federal CWA (see "Clean Water Act and Associated Environmental Compliance" above). It established the SWRCB and divided the state into nine regions, each overseen by a RWQCB. The SWRCB is the primary state agency responsible for protecting the quality of

the state's surface water and groundwater supplies, but much of its daily implementation authority is delegated to the nine RWQCBs, which are responsible for implementing CWA Sections 402, and 303(d). In general, the SWRCB manages both water rights and statewide regulation of water quality, while the RWQCBs focus exclusively on water quality in their regions. The Dominguez watershed is under the jurisdiction of the Los Angeles Regional Water Quality Control Board (LARWQCB).

The LARWQCB is responsible for preparing a water quality control plan (basin plan) that identifies beneficial uses for Dominguez Channel and its tributaries as well as water quality objectives for the protection of beneficial uses. Numerical and narrative criteria are contained in the basin plan for key water quality constituents, including dissolved oxygen (DO), water temperature, trace metals, turbidity, suspended material, pesticides, salinity, radioactivity, and other related constituents.

Construction Activities

Construction activities are regulated under the Construction General Permit, provided that the total amount of ground disturbance during construction equals or exceeds 1 acre. The appropriate RWQCB enforces the General Construction Permit. Coverage under a General Construction Permit requires the preparation of a stormwater pollution prevention plan (SWPPP) and notice of intent (NOI). The SWPPP includes pollution prevention measures (erosion and sediment control measures and measures to control non-stormwater discharges and hazardous spills), demonstration of compliance with all applicable local and regional erosion and sediment control standards, identification of responsible parties, a detailed construction timeline, and a BMP monitoring and maintenance schedule. The NOI includes site-specific information and certification of compliance with the terms of the General Construction Permit.

Stormwater Discharges

The CWA mandates permits for municipal stormwater discharges. Los Angeles County has coverage under an MS4 permit. This permit requires implementing controls, including BMPs, system design and engineering methods, and other measures as appropriate, to reduce the amount of pollutants in stormwater discharges to the maximum extent possible. As part of permit compliance, the county has prepared a Stormwater Management Plan, which outlines the requirements for municipal operations, industrial and commercial businesses, construction sites, and planning and land development. These requirements include multiple measures to control pollutants in stormwater discharges. New development under the proposed project would be required to follow the guidance contained in the Stormwater Management Plan.

As discussed above, the Dominguez watershed falls under the jurisdiction of the LARWQCB. The LARWQCB adopted the Water Quality Control Plan, also referred to as the Basin Plan. In 1949, the Basin Plan was a general narrative

description of allowable discharges into receiving waters. By 1952, numerical objectives had been set, and in 1972, all existing objectives and standards were revised to form the basis of the current Basin Plan, which was completely updated in 1994. The Basin Plan is now reviewed on a triennial basis, and amendments are made on an as-needed basis.

In 1972, the SWRCB adopted the Water Quality Control Plan for Ocean Waters of California (Ocean Plan). The Ocean Plan lists beneficial uses for California's ocean waters and establishes the water quality objectives necessary to protect those uses. It also sets forth a program of implementation (including waste discharge limitations, monitoring, and enforcement) to ensure that water quality objectives are met. Since 1972, the SWRCB has revised the Ocean Plan five times, most recently in March 1997.

Also in 1972, the SWRCB adopted the Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California (Thermal Plan). The Thermal Plan sets limits on the discharge of elevated temperature wastes into coastal, estuarine, and interstate waters of California. The Thermal Plan was amended in 1975.

In 1974, the SWRCB adopted the Water Quality Control Policy for Enclosed Bays and Estuaries of California (SWRCB Resolution 74-43). This resolution prohibits any new discharge of process waste into enclosed bays and estuaries and requires existing ones to be phased out at the earliest practicable date, unless enhancement of water quality can be demonstrated. The latest revision was completed in 1995 (SWRCB Resolution 95-84). In 1991, the SWRCB adopted the Inland Surface Waters Plan (ISWP) and the Enclosed Bays and Estuaries Plan (EBEP), which were amended in 1993. Together with the Ocean Plan, and nine regional basin plans, these plans were intended to satisfy the requirements of CWA Section 303(c)(2)(B), indicating that states shall adopt criteria for toxic pollutants listed in CWA Section 307(a)(1). The numeric criteria for these pollutants have been published in CWA Section 304(a) (Federal Water Pollution Control Act 2002). EPA, Region 9, approved these plans; however, EPA noted a lack of criteria for certain pollutants. Therefore, these plans did not fully satisfy the requirements of CWA Section 303(c)(2)(B). As set forth in CWA Section 303(c)(4), EPA is authorized to correct deficiencies in the state's water quality standards. In 1992 (with amendments made in 1995), EPA promulgated the National Toxics Rule (NTR) to make up for deficiencies in the ISWP and EBEP. With the NTR in place, the State of California was in compliance with CWA Section 303(c)(2)(B) (EPA 2000).

After the adoption of the ISWP and EBEP by the SWRCB, the legality of these plans was challenged by several dischargers. The Superior Court of California ruled in favor of the dischargers in 1994. The SWRCB was ordered to rescind the ISWP and EBEP on September 22, 1994. Once these plans were rescinded, the State of California was no longer fulfilling the requirements of CWA Section 303(c)(2)(B).

After rescission of the plans, the SWRCB and EPA agreed (SWRCB Resolution 2000-15 and 2000-30) to pursue a collaborative approach to reestablish the regulatory framework of the rescinded ISWP and EBEP and bring California into compliance with CWA Section 303(c)(2)(B). The resolutions adopted a policy for the implementation of toxics standards for inland surface waters, enclosed bays, and estuaries of California. The approach consisted of two phases. In Phase I, EPA promulgated numeric water quality criteria for priority pollutants for California in accordance with the above-listed CWA section, and the SWRCB adopted statewide measures to implement those criteria in a statewide policy. In Phase II, the SWRCB will consider the adoption of appropriate statewide water quality objectives for toxic pollutants.

Dewatering Activities

While small amounts of construction-related dewatering are covered under the General Construction Permit, the LARWQCB has also adopted a General Dewatering Permit. This permit applies to various categories of dewatering activities and would likely apply to aspects of the proposed project if construction requires dewatering in greater quantities than those allowed by the General Construction Permit and discharge of the effluent to surface waters. The General Dewatering Permit contains waste discharge limitations and prohibitions similar to those in the General Construction Permit. To obtain coverage, the applicant must submit an NOI and a pollution prevention and monitoring program (PPMP). The PPMP must include a description of the discharge location, discharge characteristics, primary pollutants, receiving water, treatment systems, spill prevention plans, and other measures necessary to comply with discharge limits. A representative sampling and analysis program must be prepared as part of the PPMP and implemented by the permittee, along with recordkeeping and quarterly reporting requirements during dewatering activities. For dewatering activities that are not covered by the General Dewatering Permit, an individual NPDES permit and WDRs must be obtained from the RWQCB. The General Dewatering Permit may be applicable to the CSUDH and its contractors where excavation activities may explore the water table.

Local

Los Angeles County Municipal Stormwater Permit (2001)

Details regarding the Los Angeles County Municipal Stormwater Permit, excerpted from the Dominguez Hills Watershed Management Plan, are presented below.

> In 2001, the Regional Water Quality Control Board issued a municipal stormwater permit to the County of Los Angeles and the incorporated cities within Los Angeles County (except Long Beach), collectively referred to as co-permittees. The co-permittees developed the six Model Programs for Stormwater Management within Los Angeles County to guide implementation activities under the permit.

- Elimination of Illicit Connections and Discharges – Requires the identification and elimination of all nonpermitted discharges to the storm drain system and facilitation of the general public's ability to report illicit connections and discharges.
- Development Planning and Construction – Designed to ensure that stormwater management considerations are integrated into planning, permitting, and construction of development projects.
- Public Agency Activities – Requires the permittees to develop methods to reduce the impact of public agency activities on stormwater quality, including
  - Public Information and Involvement – Requires providing materials for the general public and targeted audiences that convey information about stormwater pollution and what can be done to help solve the problem, developing an educational compliance assistance program for industries and businesses that are potential sources of urban runoff pollutants, and developing a 5-year countywide stormwater public education strategy.
  - Monitoring – Requires the development of a stormwater quality monitoring program to track water quality status and trends, identify watershed-specific pollutants of concern, improve understanding of the relationship between land uses and pollutant loads, identify sources of pollutants, evaluate significant stormwater quality problems, evaluate the effectiveness of stormwater management programs, and increase knowledge about the impacts of runoff on receiving waters.
  - Program Reporting and Evaluation – Requires the preparation of an annual report on the results of the monitoring program.

Los Angeles County General Construction Stormwater Permit

Specific to Los Angeles County, the California General Stormwater Permit (enforced by the nine regional boards) requires all dischargers, where construction activity disturbs 1 acre or more, to

- develop and implement a SWPPP that specifies BMPs that will prevent all construction pollutants from contacting stormwater, with the intent of keeping all products of erosion from moving off-site into receiving waters;
- eliminate or reduce non-stormwater discharges to storm sewer systems and other waters of the nation; and
- perform inspections of all BMPs. Los Angeles County requires an Erosion Control Plan (ECP) for all developments as part of the SWPPP; if development is less than 1 acre, only an ECP is prepared.

Construction activity subject to this general permit includes clearing, grading, disturbances to the ground such as stockpiling, or excavation that results in soil disturbances of at least 1 acre of the total land area. Construction activity that disturbs less than 1 acre of soil is subject to this general permit if the construction activity is part of a larger common development plan (encompassing 1 or more acres of disturbed soil) or if the construction causes significant impairment to local water quality. Construction activity does not include routine maintenance to maintain original line and grade, hydraulic capacity, or original purpose of the facility, nor does it include emergency construction activities required to protect public health and safety.

Physical Setting

This section discusses the existing physical conditions in the proposed project area.

Climate

Climatic conditions are typically influenced by temperature, precipitation, mixing height, and wind. The proposed project site and its general region lie in the semi-permanent pressure zone of the East Pacific. The watershed receives an average of 12.1 inches of rain per year, with only 0.55 inch of that in summer. Typical of coastal strips along the western shores of continents at lower latitudes, the region is generally characterized by sparse rainfall, most of it occurring in the winter season, and hot summers tempered by sea breezes.

Surface Water

Hydrology

Since virtually the entire watershed is highly urban, drainage within the Dominguez watershed occurs primarily through an extensive network of underground storm drains. These drains generally originate at curb inlets on city streets and increase in size as they progress in the downstream direction to an open channel or detention basin. In some locations the drainage system is no longer adequate, and localized flooding occurs.

Dominguez Channel

The Dominguez Channel, draining approximately 62 percent of the Dominguez watershed, is the largest single drainage feature within the watershed. The channel begins at 116th Street in the City of Hawthorne and continues in a generally southwesterly direction, passing through the cities of Gardena, Torrance, Carson, and Los Angeles, then emptying into the

Consolidated Slip of Los Angeles Harbor near the intersection of Henry Ford Avenue and Anaheim Street. Approximately 42 percent of the 15-mile channel is in the City of Carson.

The proposed project area is within the Lower Channel subwatershed, which is subject to tidal flows.

Surface Water Quality

Compton Creek is listed as 303(d) impaired by the Los Angeles RWQCB for both copper and high coliform counts from nonpoint/point sources. TMDLs were prepared for these two impairments in 2003 and 2002, respectively.

The Dominguez Channel (from the estuary to Vermont Avenue) is similarly listed as impaired for aldrin (tissue), ammonia, benthic community effects, Chem A (tissue), chlordane (tissue), chromium (sediment), dichloro-diphenyl-trichloroethane (DDT) (tissue and sediment), dieldrin, high coliform count, lead (tissue), polycyclic aromatic hydrocarbons (PAHs) (sediment), and zinc. These all come from nonpoint and point sources and have medium to high TMDL priorities. Of these impairments, only coliform has a TMDL prepared for it, as described above.

Groundwater

The proposed project area lies within the Coastal Plain of the Los Angeles groundwater basin and the West Coast groundwater subbasin, which is commonly known as the West Coast Basin. It is bounded on the north by the Ballona Escarpment, an abandoned erosional channel from the Los Angeles River. On the east, the proposed project area is bounded by the Newport-Inglewood fault zone; on the south and west, by the Pacific Ocean and consolidated rocks of the Palos Verdes Hills (DWR 2005). The surface of the subbasin is crossed on the south by the Los Angeles River through the Dominguez Gap and the San Gabriel River through the Alamitos Gap, both of which then flow into San Pedro Bay. Average precipitation through the subbasin is 12 to 14 inches.

As described in Section 3G, Geology and Soils, groundwater is encountered in the proposed project area at 25 feet below ground surface.

Water Supply

Water supply sources are discussed in Section 3P, Utilities and Service Systems.

Storm Drainage

The campus has an existing network of storm drains on the campus and several retention basins to the south. The campus has, in the past, experienced minor drainage-related issues.

Impacts and Mitigation

Approach and Methods

The evaluation of hydrology and water quality effects is based on professional standards and the conclusions of any technical reports prepared for the project area. The key effects were identified and evaluated based on the physical characteristics of the project study area and the magnitude, intensity, and duration of activities. It is assumed that the project and subsequent related development in the area would conform to applicable City and CSU building standards, grading permit requirements, and erosion control requirements.

Impacts on hydrology and water quality that may result from construction of the project are described primarily at a qualitative project level. Specific mitigation measures to avoid, minimize, rectify, reduce, eliminate, or compensate for potential significant impacts on hydrology or water quality are described for each impact.

For the purposes of this analysis, there would be no significant impact by seiche, tsunami, or mudflow. The site is located far from the Pacific Ocean and other large water bodies and, historically, has not been affected by tsunamis. In addition, the topography is flat, and mudflows are an unlikely scenario. The potential for a seiche in the project area is considered extremely low because it is not located near a large water body where a seiche could occur. The risk of these events is considered extremely low. In addition, the project area is not located in a 100-year floodplain, and no impacts on people or property due to flood hazards would occur. Therefore, it is not discussed below in the impact section.

Thresholds of Significance

Criteria for determining the significance of impacts related to hydrology and water quality were developed using the environmental checklist form in Appendix G of the *State CEQA Guidelines* (14 CCR, Section 15000 et seq.). Accordingly, the proposed project would have a significant impact on hydrology and water quality if it would

- violate any water quality standards or waste discharge requirements or otherwise substantially degrade water quality;

- substantially deplete groundwater supplies or interfere substantially with groundwater recharge, resulting in a net deficit in aquifer volume or a lowering of local groundwater (e.g., the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted);
- 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 that would result in substantial erosion or siltation on-site or off-site;
- substantially degrade the existing surface and groundwater quality as a result of erosion and siltation;
- 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 that would result in flooding on-site or off-site;
- create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff;
- place housing within a 100-year flood hazard area, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map;
- place within a 100-year flood hazard area structures that would impede or redirect floodflows;
- 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; or
- contribute to inundation by seiche, tsunami, or mudflow.

Project Impacts

Near-Term (2017) Impacts

Construction Impacts

Potential Impact: Degraded Surface Water Quality from Construction-Related Earth-Disturbing Activities and Construction-Related Hazardous Materials

Construction-related earth-disturbing activities would occur as a result of the proposed near-term projects. These activities could cause soil erosion and sedimentation in local waterways. In addition, construction equipment would have the potential to leak hazardous materials, which may include oil and gasoline. Improper use of fuels, oils, and other construction-related hazardous materials such as pipe sealant may also pose a threat to surface or groundwater quality.

Conformance with the NPDES General Construction Permit and the county's municipal stormwater permit and development and implementation of a spill prevention and control program (SPCP), as described below, would reduce these impacts to a less-than-significant level.

Comply with NPDES Requirements

To reduce or eliminate construction-related water quality effects, CSUDH shall require project contractors to comply with the requirements of the county's Stormwater Management Program. In addition, before the onset of any construction activities where the disturbed area is 1 acre or more in size, CSUDH shall also require project contractors to obtain coverage under the NPDES General Construction Permit. As a performance standard, the Stormwater Management Program and General Construction Permit require control of pollutant discharges using economically achievable best available technology (BAT) and best conventional technology (BCT) to reduce pollutants. More stringent controls may be necessary to meet water quality standards.

BMPs may consist of a wide variety of measures taken to reduce pollutants in stormwater and other nonpoint-source runoff. Measures range from source control, such as reduced surface disturbance, to treatment of polluted runoff, such as detention or retention basins. BMPs to be implemented as part of the Stormwater Management Program and General Construction Permit may include, but are not limited to, the following measures.

- Temporary erosion control measures (such as silt fences, staked straw bales/wattles, silt/sediment basins and traps, check dams, geofabric, sandbag dikes, and temporary revegetation or other ground cover) will be employed to control erosion from disturbed areas.
- Drainage facilities in downstream off-site areas will be protected from sediment using BMPs acceptable to the RWQCB.
- Grass or other vegetative cover will be established on the construction site as soon as possible after disturbance. At a minimum, a vegetative application will be completed by September 15 to allow plants to establish. No disturbed surfaces will be left without erosion control measures in place between October 15 and April 15.

Final selection of BMPs shall be subject to approval by the RWQCB. CSUDH shall verify that an NOI has been filed with the SWRCB and a SWPPP has been developed before allowing construction to begin. The applicable agencies shall perform inspections of the construction area to verify that the BMPs specified in the SWPPP are properly implemented and maintained. CSUDH shall notify contractors immediately if there is a noncompliance issue and shall require compliance.

Implement a Spill Prevention and Control Program

CSUDH shall require that project contractors develop and implement an SPCP to minimize the potential for, and effects from, spills of hazardous, toxic, or petroleum substances during construction activities for all contractors. The program shall be completed before any construction activities begin. Implementation of this measure shall comply with state and federal water quality regulations and reduce the impact to a less-than-significant level.

CSUDH shall review and approve the SPCP before the onset of construction activities. CSUDH shall routinely inspect the construction area to verify that the measures specified in the SPCP are properly implemented and maintained. CSUDH shall notify contractors immediately if there is a noncompliance issue and shall require compliance.

The reportable spill quantity for petroleum products, according to federal standards, as defined in 40 CFR 110, is any oil spill that

- violates applicable water quality standards;
- causes a film or sheen on, or discoloration of, the water surface or adjoining shoreline; or
- causes a sludge or emulsion to be deposited beneath the surface of the water or adjoining shorelines.

If a spill is reportable, the contractor's superintendent shall notify CSUDH, and CSUDH shall take action to contact the appropriate safety and cleanup crews to ensure that the SPCP is followed. A written description of reportable releases must be submitted to the LARWQCB and DTSC. This submittal must contain a description of the release, including the type of material, and an estimate of the amount spilled, the date of the release, an explanation of why the spill occurred, and a description of the steps taken to prevent and control future releases. The releases shall be documented on a spill report form.

If an appreciable spill has occurred and a determination is made that project activities have adversely affected surface water or groundwater quality, a detailed analysis shall be performed to the specifications of DTSC to identify the likely cause of contamination. This analysis shall include recommendations for reducing or eliminating the source or mechanisms of contamination. After review of the analysis, CSUDH and/or contractors shall select and implement measures to control contamination, with a performance standard that surface water and/or groundwater quality must be returned to baseline conditions. These measures shall be subject to approval by CSUDH.

Mitigation Measures

No mitigation is necessary.

Potential Impact: Contaminants Entering Groundwater from Construction below the Water Table

Because of the presence of shallow groundwater in the proposed project area (potentially 25 feet below ground surface), trenching and excavation associated with the proposed near-term projects may reach a depth that exposes the water table, in which case a direct path to the groundwater basin may become available for contaminants entering the groundwater system. Primary contaminants that could reach groundwater would include oil and grease and construction-related hazardous materials. In addition, the discharge of construction-related dewatering effluent could result in the release of contaminants to surface water.

These impacts are considered potentially significant, but implementation of the NPDES General Construction Permit (HYD-1a), along with conformance to the provisions for dewatering, would ensure that these impacts would be less than significant. No further mitigation is required.

Provisions for Dewatering

Before discharging any dewatered effluent to surface water, CSUDH would be required to conform to the county's Standard Specifications for dewatering and obtain the necessary NPDES permit and WDRs from the LARWQCB. Depending on the volume and characteristics of the discharge, coverage under the LARWQCB's General Construction Permit or General Dewatering Permit is permissible. As part of the permit, the permittee would design and implement measures as necessary so that discharge limits identified in the relevant permit are met. As a performance standard, these measures would be selected to control pollutant discharges using BAT and BCT and more stringent controls, as necessary, to meet water quality standards.

Operational Impacts

Potential Impact: Surface Runoff Exceeding Capacity of Drainage Facilities as a Result of New Impervious Surfaces

The near-term components of the master plan, when complete, would result in approximately 65 acres of new impervious surfaces, which would result in an incremental reduction in the amount of natural soil surfaces available for filtration of rainfall and runoff, potentially generating additional runoff during storm events. Additional runoff can contribute to the flood potential of the Dominguez channels and provide an efficient means of transport for pollutants entering waterways.

Since engineering plans for most of the near-term projects have not been developed, the quantity of runoff cannot be quantified. To provide the necessary drainage capacity, it is recommended that a drainage concept plan be developed.

Stormwater discharges and surface runoff would be channeled toward appropriate stormwater outlets, curbs, and gutters where they would be collected and then channeled toward larger collection facilities. This may include areas that would be designed to serve as detention basins and stormwater water quality management facilities. However, such drainage facilities and/or developments associated with the project would need to be designed to ensure that people and structures would be protected from the localized flooding.

This impact is considered potentially significant. The following mitigation measure would reduce this impact to a less-than-significant level.

Mitigation Measures

HYD-1 **Implement a Drainage Concept Plan.** As part of the master plan, the applicant shall implement a drainage concept plan. This plan shall address the following topics.

- A calculation of predevelopment runoff conditions and post-development runoff scenarios using appropriate engineering methods. This analysis shall evaluate potential changes in runoff through specific design criteria and account for increased surface runoff.
- An assessment of existing drainage facilities within the project area and an inventory of necessary upgrades, replacements, redesigns, and/or rehabilitation.
- A description of the proposed maintenance program for the on-site drainage system.
- Standards for drainage systems to be installed on a project-specific basis.
- ~~Proposed measures to ensure that structures are not located within localized flood areas.~~
- If structures are proposed in localized flood areas, measures shall be implemented to eliminate localized flooding hazards prior to construction of the proposed structures.

Drainage systems shall be designed in accordance with California State University, and applicable agencies', flood control design criteria (including the City of Carson and Los Angeles County Department of Public Works, if applicable). As a performance standard, measures to be implemented shall provide no net increase in peak stormwater discharge relative to current conditions and ensure that localized flooding and the potential impacts are maintained at or below current levels. The measures shall also ensure that people and structures are not exposed to additional flood risk. The project shall implement measures provided in the drainage concept plan.

Residual Impact

Less than significant after incorporation of mitigation measures.

Potential Impact: Degraded Water Quality as a Result of Urban Runoff

As previously discussed, the proposed near-term project facilities are expected to result in an increase in impervious surfaces. As such, the proposed near-term projects could increase stormwater and non-stormwater runoff, transporting contaminants to adjacent receiving waters. Contaminated runoff waters would flow into the on-site stormwater drainage, then the Dominguez Channel, and ultimately into the Los Angeles Harbor, which could degrade the water quality of any of these water bodies.

During the dry season, vehicles and various urban activities release contaminants onto the impervious surfaces where they accumulate until the first storm event. During this initial storm event, or first flush, the concentrated pollutants would be transported in runoff to stormwater drainage systems. Anticipated runoff contaminants associated with the proposed project include sediment, pesticides, oil and grease, nutrients, metals, bacteria, and trash.

Implementation of the requirements of the county's Stormwater Management Program, such as inclusion of the appropriate BMPs found in Appendix B of the program (Development Planning for Stormwater Management), would reduce the impact to a less-than-significant level.

Filtration systems shall be designed into the project to reduce runoff and facilitate natural filtration. The systems shall be natural systems, such as biofilters and vegetative swales, and installed wherever feasible, such as roof downspouts, parking lots, etc. The following procedures are from the *California Stormwater Best Management Practices Handbook*.

- Retention/detention systems shall be installed either under wood decks or at roof downspouts; the water shall be released once the pollutants have settled.
- Biofilters shall be installed in grass or vegetated swales as part of the project design. This shall allow sediments and particulates to filter and degrade biologically. Biofilters are most effective when flows are slow and at a shallow depth. Slow flow provides an opportunity for the vegetation to filter sediments and particulates.
- Structural source controls, such as covers, impermeable surfaces, secondary containment facilities, runoff diversion berms, and diversions to wastewater treatment plants, shall be included in the project design.
- Parking spaces shall be designed to use pervious materials, such as turf block or unit pavers on sand, crushed aggregate, or concrete under tires, to reduce runoff.

- In order to reduce erosion and retain water on-site, organic amendments shall be incorporated into disturbed sites after construction, and the soil shall be covered after revegetation.
- Designated trash storage areas shall be covered to protect bins from rainfall.

BAT measures shall be selected to attenuate increased flows from the proposed project site and improve runoff water quality to the maximum extent possible. All measures shall be subject to review and approval from CSUDH.

Mitigation Measures

No mitigation is necessary.

Potential Impact: Substantially Depleted Groundwater Supplies or Interference with Groundwater Recharge

The proposed project would involve an increase in impervious surfaces (roads, buildings, etc.), which would reduce stormwater infiltration to the underlying aquifer on the site. However, the project area is less than 1 percent of the total Coastal Plain section of the Los Angeles groundwater basin and West Coast Basin surface area and, therefore, would not substantially interfere with the overall recharge of the subbasin. The primary groundwater recharge area is unknown for these two groundwater basins since most of the area is covered by impervious surface. Typical natural groundwater recharge in this type of urbanized environment occurs at the base of hills or mountains. Man-made groundwater recharge occurs at detention basins located around the City. Therefore, this impact is considered less than significant.

Mitigation Measures

No mitigation is necessary.

Potential Impact: Degraded Water Quality from Discharges to Surface Water Where Water Bodies Are 303(d) Listed

As described in the Regulatory Setting discussion, the Los Angeles County Municipal Stormwater Permit requires measures to protect receiving water bodies from potential pollutants in municipal stormwater runoff. Adherence to permit requirements would ensure that potential impacts on the Dominguez Channel, which is 303(d) listed for the constituents described above under Surface Water Quality, would be minimized to an acceptable level. Therefore, this impact is considered less than significant. No mitigation is required.

Mitigation Measures

No mitigation is necessary.

Long-Term (2040) Impacts

Compliance with federal, state, and local regulations for construction and operation of the proposed long-term projects would ensure that no significant impacts result. Implementation of mitigation measures and best management practices as outlined for near-term projects would ensure that impacts remain less than significant.

Unavoidable Significant Adverse Impacts

Compliance with applicable local, state, and federal regulations would reduce potentially significant near-term impacts to less-than-significant levels. No unavoidable significant adverse impacts would result for the near-term or long-term projects.

Cumulative Impacts

Surface Waters

Contamination of water bodies is generally a function of cumulative discharges. Point and nonpoint sources contribute various constituents in the form of effluent or stormwater runoff. EPA and the SWRCB have established several programs, including NPDES permits, to minimize polluted discharges. In the Dominguez watershed, surface and groundwater resources are impaired for several contaminants. Stringent NPDES and county MS4 permit requirements for waste load allocations and best management practices should begin to reduce the amount of constituents in the watershed's receiving waters, including the Dominguez Channel.

The proposed project would implement best management practices that would meet the pollutant removal requirements of the General Construction Permit and the county's MS4 permit. It is anticipated that these best management practices would also be effective in meeting the Los Angeles RWQCB's basin plan standards for pollutants from stormwater discharged to the Dominguez watershed. Consequently, the proposed project's contribution to adverse cumulative water quality impacts would not be cumulatively considerable.

Groundwater

As discussed above, the proposed project would not result in any adverse significant effects on groundwater resources, including recharge and groundwater quality. Hence, the project would not contribute to any cumulative adverse effects from related projects in the groundwater basin.

Drainage

As discussed above, mitigation measure HYD-1 would ensure the proposed project would not result in any adverse effects on drainage patterns. Hence, the proposed project would not contribute to any cumulative adverse effects from related projects in the watershed.

Flood Hazards

The proposed project would not place structures in a designated floodplain. Therefore, the project would not contribute to an adverse cumulative effect related to floodplains or cumulative flood hazard impacts.

Section 3J
Land Use

Introduction

This section examines the relationship between the proposed master plan and local and regional land use plans. The master plan is evaluated for consistency with the City of Carson General Plan, the City of Carson Zoning Ordinance, and the SCAG Regional Comprehensive Plan and Guide.[13] All land use decisions pertaining to the university fall under the jurisdiction of the Board of Trustees of the California State University because the land upon which the university is situated is owned and maintained by the State of California as part of the California State University network of campuses. Nonetheless, consistency of the master plan with the local and regional plans is addressed in the EIR. Potential conflicts between existing land uses in the vicinity of the campus and the proposed master plan are also addressed in this section.

Setting

Regulatory Setting

SCAG Regional Comprehensive Plan and Guide

The Regional Comprehensive Plan and Guide was developed by SCAG in partnership with 13 subregions and adopted in March 1996. A bottom-up planning process was used to address local concerns in regional planning. The SCAG plan was designed to serve as a regional framework for local and regional decision making, focusing specifically on the anticipated rate of growth over the next 20 years.

SCAG projects that there will be 22 million people living in the Southern California region by 2015. The fastest rate of growth is anticipated in the outlying areas of the region, specifically northern Los Angeles County and the Inland Empire. The Regional Comprehensive Plan and Guide sets forth strategies for meeting federal and state requirements in the areas of

[13] Consistency with the South Coast Air Quality Management District's *Air Quality Management Plan* is addressed separately in Section 3B, Air Quality.

transportation, growth management, air quality, housing, hazardous waste management, and water quality management and strives to manage growth by encouraging local land use actions that will lead to the development of an urban form that minimizes development costs, saves natural resources, and enhances the quality of life.

The SCAG plan recommends projects that meet the following goals:

- an increased number of mixed land uses,
- more efficient use of existing infrastructure,
- reduced environmental impacts,
- more transit use,
- higher densities in strategic mass transit and urban centers, and
- more affordable housing.

Regional Transportation Plan

The SCAG Regional Transportation Plan (RTP) was adopted in April 2004. All regional transportation plans, programs, and projects that receive state and federal funding must conform to the policies set out in the RTP and, subsequently, the AQMP.

The RTP presents an assessment of overall forecast growth and economic trends in the SCAG region for the years 2004 to 2030 and provides recommendations for investments in the transportation and transit infrastructure during that time. Recommendations contained in the RTP fall under the categories of infrastructure, operational strategies, Transportation Demand Management, strategic system expansion/capital investments, and goods movement.

City of Carson General Plan

Within the City of Carson, the City of Carson General Plan is the foremost planning document and the one to which all development proposals are compared. The general plan is a long-term comprehensive guide to development within the City, providing a generalized vision or framework for future growth patterns throughout the City. The general plan is composed of various elements that cover all aspects of the built and natural environment within the City. New development within the City's jurisdiction must be consistent with the goals, objectives, policies, and programs of the plan. However, land use decisions relating to the campus do not fall under the jurisdiction of the City because the land upon which the university is situated is owned and maintained by the State of California as part of the California State University network of campuses. Therefore, all land use decisions pertaining to the university fall under the jurisdiction of the Board of Trustees of the California State University.

While the campus is not subject to the City of Carson's General Plan, the site is designated as a Public Facilities use on the general plan's land use map (see Figure 3J-1). Public Facilities are classified in the general plan as those that encompass a broad range of civic, governmental, institutional, and utility uses, including parks, playgrounds, public building areas, public open spaces, and utility transmission corridors.[14] The CSUDH campus has not been designated as a Special Study Area or Signature Project under the general plan.

The area to the west of the campus (across Avalon Boulevard) is designated as Low-Density Residential but also includes pockets of General Commercial uses fronting Avalon Boulevard. The area north of the campus (across Victoria Street) is designated Low-Density Residential and High-Density Residential. To the east of the campus are Light Industrial uses, which extend to the Carson city limits at Wilmington Avenue. Finally, to the south are uses designated as General Commercial and Low-Density Residential.[15] These land use designations generally mirror the existing uses adjacent to the campus.

City of Carson Zoning Code

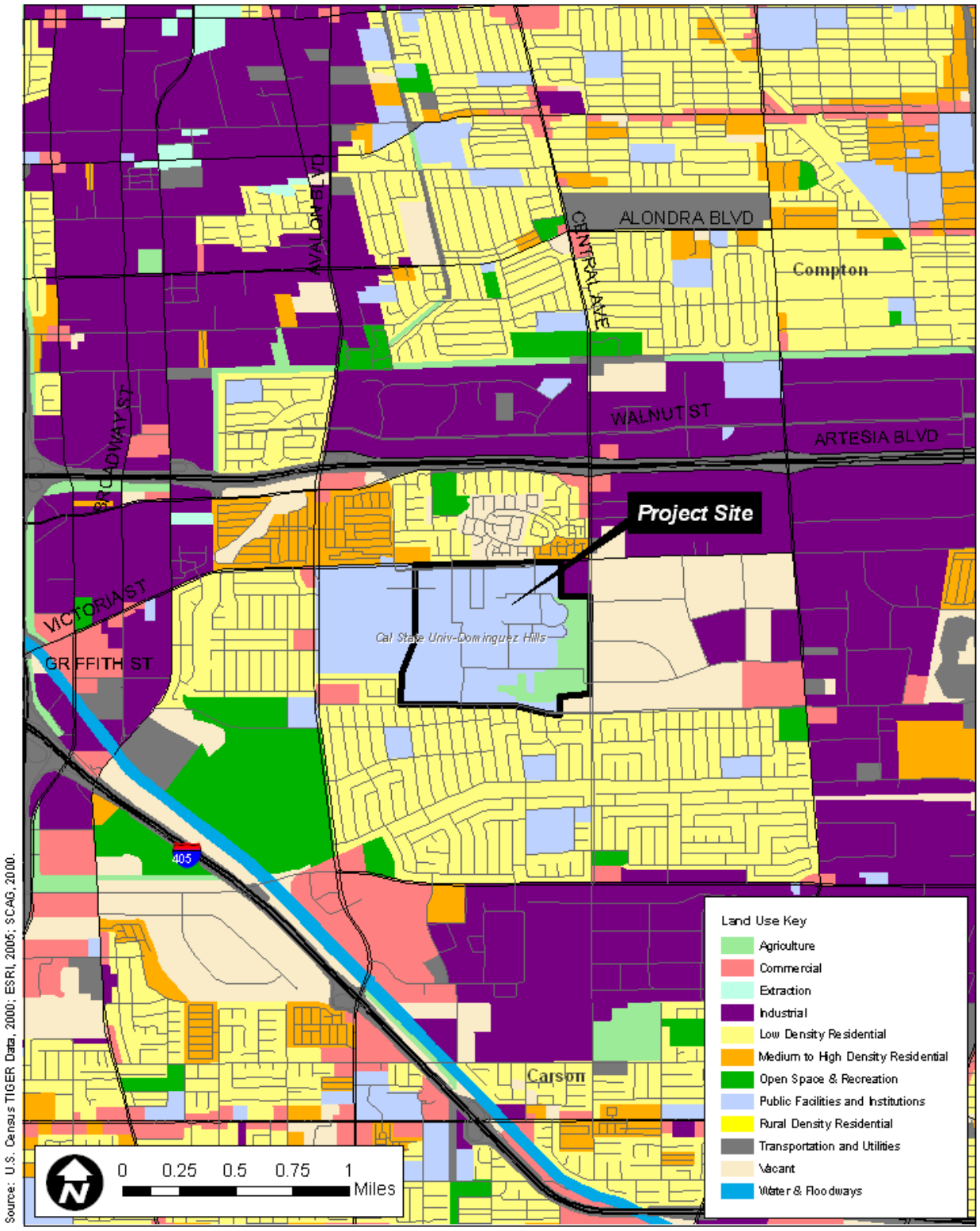
The campus is designated as Special Use (College) (SU-COL) in the City of Carson's Zoning Ordinance and is intended for college or university uses, which may include parking facilities, a health center, dormitories, eating establishments, and other ancillary facilities customary at a site with a higher education use. The zoning ordinance does not contain any development standards for the SU-COL zone because the City of Carson is preempted under state law from regulating uses on this property. Instead, the ordinance reads, "The city should be permitted to review all future development plans of the campus to ascertain the probable impacts upon the community as a whole and to report to campus officials findings of deleterious impacts and to recommend mitigating measures…"[16]

Environmental Setting

The existing campus is located within the City of Carson in the South Bay/harbor area of Los Angeles County, approximately 16 miles south of the Los Angeles civic center and approximately 12 miles from the Pacific Ocean. Carson is bordered by the City of Torrance to the west, the City of Compton to the north, the City of Long Beach to the east, and the City of Los Angeles to both the south and the west. Unincorporated areas of Los Angeles County are located north, east, and west of Carson. The campus is bordered by Victoria Street to the north; Central Avenue and University Drive to the east and south, respectively; and Avalon Boulevard to the west.

[14] City of Carson, Land Use, Open Space, Public Services and Facilities, and Recreation Elements of the General Plan, May 17, 1982, p. 13.
[15] City of Carson General Plan, land use map.
[16] City of Carson Municipal Code, Section 9159.3(D),1999.

Figure 3J-1: Existing Land Uses



The City is relatively flat, with most elevations ranging between 20 and 40 feet amsl with the exception of Dominguez Hills in the northeast part of the City where elevations climb to 195 feet.[17] The university is located in the southwestern foothills of the Dominguez Hills, with elevations ranging from 30 feet amsl near the southwestern part of the campus to 140 feet amsl in the northeast (U.S. Geological Survey 1981).

Existing Land Use

Within the campus, the academic core of the campus is located in the north-central portion of the site. Surface parking facilities surround the core. The academic core consists of a variety of the student facilities, including the library, the student union, academic and administrative buildings, and a theater. Student housing is located away from the academic core within a contained development at the eastern end of the campus. Athletic facilities are located in the southwestern portion of the campus adjacent to the Home Depot Center. The campus maintenance area and physical plant are located at the southeastern corner of the site.

A portion of the south-central part of the campus is home to the California Academy of Mathematics. The campus also has 32 acres of undeveloped land to the south and southeast. The land is currently leased to the Grand View Geranium Gardens, a commercial nursery for geranium farming.[18]

The Home Depot Center is located on the northwest side of the campus. The Home Depot Center consists of two adjacent stadiums and associated support facilities (i.e., offices, a restaurant, locker rooms, surface parking, etc.). One stadium is a soccer stadium, home to the Los Angeles Galaxy, and the other stadium is for tennis.

Land uses adjacent to the campus include residential, commercial, and industrial uses. To the north, single-family homes, apartment buildings, Los Angeles County Fire Station No. 116, and a small pocket of commercial uses line the north side of Victoria Street. To the east of the campus are light industrial uses. Single-family homes are also situated to the south, both across University Drive and south of the campus along University Drive. Finally, single-family residential uses and a pocket of commercial uses occupy the area west of the campus, across Avalon Boulevard.

Campus Master Plan

The focus of the master plan is to expand campus facilities to accommodate 20,000 FTE students. Campus expansion has been divided into near-term and long-term projects. Near-term projects, to be completed by 2017, would provide educational infrastructure for an enrollment level of 11,000 FTE students. These projects

[17] City of Carson, Existing Conditions Report for the General Plan Update, April 2000.
[18] Please see Section 3L, Population, Employment, and Housing, for more information about Grand View Geranium Gardens and a discussion of potential impacts on the nursery.

would include new faculty/staff housing, additional student housing, a surface parking lot ~~parking structure~~, a new campus entrance and road, a new science and health professions laboratory, a new cogeneration plant, an addition to the extended education complex, renovations and an addition to La Corte Hall, and a recreation center near the existing gymnasium building ~~an addition to the Loker Student Union building~~ (see Figure 3J-2). Long-term projects are defined in concept only and would be constructed between 2017 and 2040 to meet the demands of ~~20,000~~ 14,000 FTE students on campus. Long-term projects include various administrative and academic facilities to serve the students. These facilities would be required as student enrollment levels rise beyond 11,000 FTE students.

Impacts and Mitigation

Methodology

Local plans and policies (including general plans, specific plans, zoning ordinances, land use and zoning maps, etc.) were reviewed to analyze the consistency of the proposed project with such plans. Site visits were conducted to evaluate the existing conditions at the campus and the surrounding area.

Thresholds of Significance

For the purposes of the analysis in this EIR, the proposed project would have a significant environmental impact on land use and planning if it would

- result in new land uses that are substantially incompatible with land uses and development in the vicinity, or
- materially conflict with any applicable adopted land use plan, policy, or regulation of an agency with jurisdiction over the project.

Project Impacts

Near-Term (2017) Impacts

Construction Impacts

Potential Impact: Construction Activities Could Be Incompatible with Existing Land Uses

Proposed near-term projects include new academic facilities, renovation of existing academic facilities, ~~a parking structure,~~ a surface parking lot, a recreation center, a cogeneration plant, and faculty/staff and student housing. All proposed facilities would be constructed within the extents of the existing campus.

The City of Carson's zoning designation of SU-COL allows for growth and development within campus boundaries. The area surrounding the project site is currently built out (consisting generally of residential, commercial, and light industrial uses).

Construction activities could include site preparation and minor grading on campus, construction of new facilities, and renovation and modernization of existing facilities. These types of construction activities, while temporary, localized, and site specific, could interfere with land uses in the area, primarily due to construction traffic from trucks and equipment, possible partial or full on-campus road closures, disrupted access to facilities and parking, increased levels of noise and vibration, and increased air pollutant emissions. Academic and other sensitive uses, such as residential uses, would be affected most by the temporary construction impacts. However, with the exception of construction noise and air quality impacts (on students at the university), the impacts are not considered significant adverse impacts because they are short term and common in an urban setting such as the proposed project area. Best management practices and mitigation measures are proposed to reduce impacts on sensitive receptors. Sections 3B, Air Quality, and 3M, Noise, provide specific measures to minimize construction air quality and noise impacts on nearby sensitive receptors. Therefore, no land use impacts would occur.

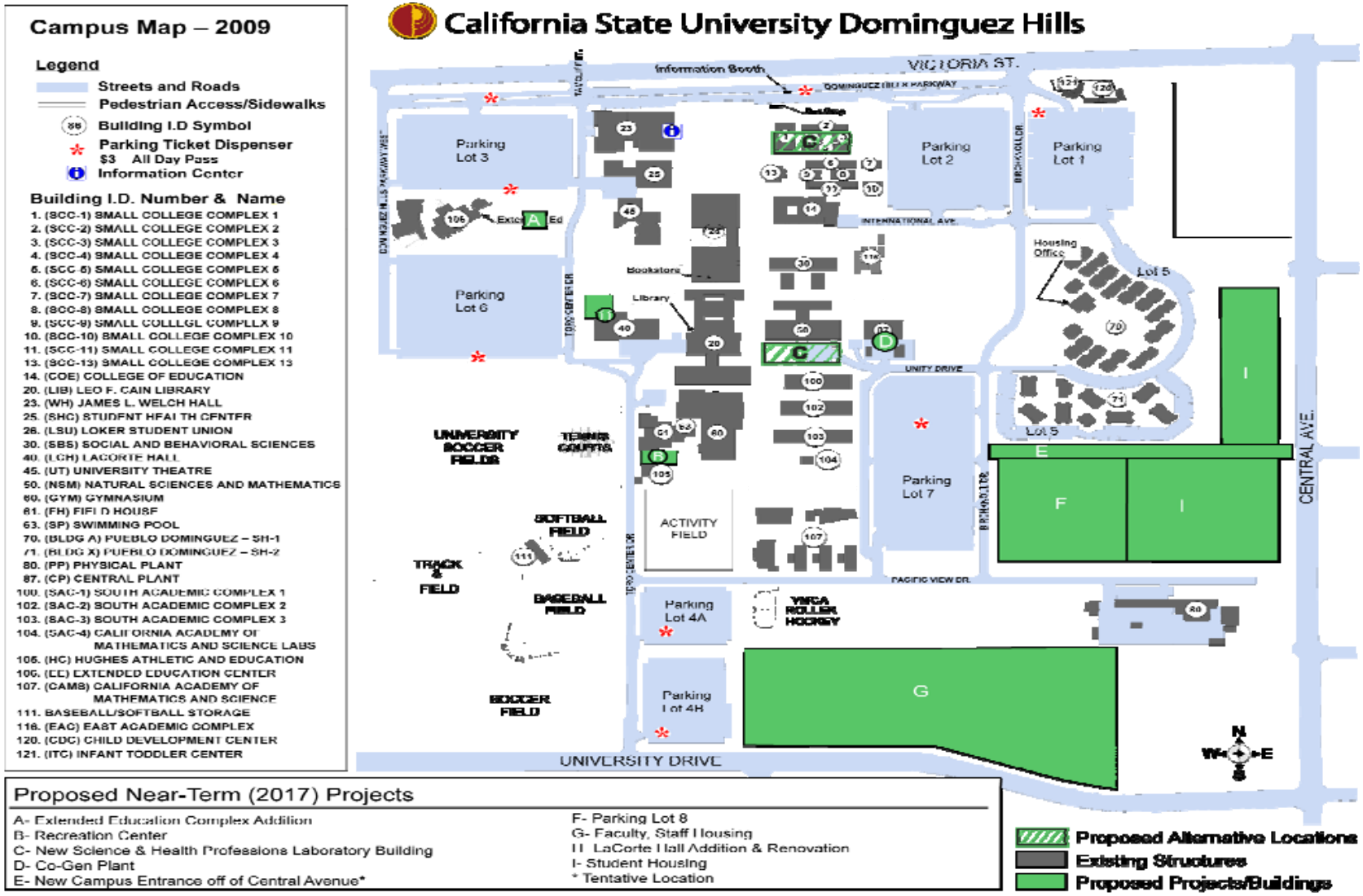
Operational Impacts

Potential Impact: Proposed Near-Term Projects Could Result in New Land Uses That Are Incompatible with Land Uses and Development in the Vicinity or Inconsistent with Land Use Plans and Policies

The proposed project would not result in new land uses that would conflict with existing land uses and development in the vicinity of the campus. The proposed facilities are educational in nature and are consistent with the existing uses at the campus. All proposed facilities are required to meet the academic goals of CSUDH. Therefore, the uses proposed are not incompatible with existing uses at the campus or with surrounding land uses. Therefore, no impacts would occur.

The consistency of the master plan with the City of Carson General Plan and the SCAG Regional Comprehensive Plan and Guide policies and objectives is summarized in Table 3J-1. As shown in the table, the master plan would be supportive of, or consistent with, the relevant policies and objectives in the aforementioned plans.

Figure 3J-2: Existing Facilities and Proposed Near-Term Projects



The facilities at CSUDH are exempt from local land use regulations. Nonetheless, the near-term projects proposed under the master plan would be consistent with the City's current land use designation of Public Services and zoning designation of SU-COL. The City of Carson's designation of SU-COL allows for growth and development within campus boundaries. As seen in Table 3J-1the master plan would also be consistent with applicable land use plans. Therefore, there would be a less-than-significant impact on land use.

Table 3J-1: Comparison of the Proposed Project with Local Plans

Objectives and Policies	Finding	Discussion
City of Carson General Plan – Land Use Element		
Identify unique economic opportunities, such as niche markets, that will allow the City to capitalize on its location and cultural diversity and the tourism industry in the region.	Consistent with this policy	To serve the growing number of students, CSUDH would create additional jobs. The campus would be a diverse teaching and student community that is multi-ethnic and multi-cultural, representative of the population of the region and the City.
Monitor development trends in Carson to ensure that future development provides for the needs of the community.	Consistent with this policy	The enhanced facilities constructed under the master plan would cater to community needs for additional educational and recreational facilities.
Achieve a sustainable land use balance through provision of incentives for desired uses, coordination of land use and circulation patterns, and promotion of a variety of housing types and affordability.	Consistent with this policy	The project would provide the community with additional educational and recreational facilities. The master plan also provides for staff and student housing, thereby improving the job/housing balance.
Coordinate with California State University, Dominguez Hills in the planning of its property to ensure compatible land uses.	Consistent with this policy	The master plan would comprise construction and expansion related to university uses. It would follow zoning and general plan guidelines. Work would be carried out within the campus boundaries. The project would be compatible with the existing residential and industrial uses in the surrounding areas.
Develop and implement a citywide Urban Design Plan.	Consistent with this policy	The master plan has a detailed section on campus design guidelines related to the site's architectural, landscape, and hardscape elements and aimed at achieving a high-quality design. These elements would undergo the necessary City reviews to be in accordance with the Urban Design Plan. The project provides for a landscaped and partially open green space within the dense matrix of the City.

Objectives and Policies	Finding	Discussion
Review landscape plans for new development to ensure that landscaping relates well to the proposed land use, the scale of structures, and the surrounding area.	Consistent with this policy	The landscape plan would be based on the original A. Quincy Jones master plan, which forms the basis for the architecture, urban design, and landscaping of the campus. In addition, the landscape plan would undergo the necessary City reviews to ensure the relationship between landscape and land use/scale of structures.
Improve City's appearance by requiring landscaping to screen, buffer, and unify new and existing development. Mandate continued upkeep of landscaped areas.	Consistent with this policy	The campus design guidelines have specific recommendations to integrate landscaping, landscape systems, and hardscape. These include buffering the campus buildings and enhancing the entry points with landscaping.
Encourage the location of housing, jobs, shopping, services, and other activities within easy walking distance of each other.	Consistent with this policy	The master plan proposes building staff and student housing within the campus boundaries. It promotes locating employment, housing, and services within walking distance of each other.
SCAG Regional Comprehensive Plan and Guide		
Policy 3.05: Encourage patterns of urban development and land use, which reduce costs of infrastructure construction and make better use of existing facilities.	Consistent with this policy	The proposed project lies within an urbanized area, one with an extensive network of infrastructure in place. Most new development would remain on the campus. A major component of the proposed project is the renovation of existing facilities.
Policy 3.12: Encourage existing or proposed local jurisdictions' programs aimed at designing land uses that encourage the use of transit and thus reduce the need for roadway expansion, reduce the number of auto trips and vehicle miles traveled, and create opportunities for residents to walk and bike.	Consistent with this policy	The master plan consists of renovation and expansion of educational facilities located near existing and future bus corridors. Providing housing opportunities on campus for students and staff would reduce vehicle miles traveled.
Policy 3.18: Encourage planned development in locations least likely to cause environmental impact.	Consistent with this policy	Development is confined to the proposed project on the existing university campus, which is in an urban area with few sensitive natural resources.
Policy 3.21: Encourage the implementation of measures aimed at the preservation and protection of recorded and unrecorded cultural resources and archaeological sites.	Consistent with this policy	The project provides measures to protect cultural resources, if any are found.

Objectives and Policies	Finding	Discussion
Policy 3.23: Encourage mitigation measures that reduce noise in certain locations, preserve biological and ecological resources, reduce exposure to seismic hazards, and minimize earthquake damage and develop emergency response and recovery plans.	Consistent with this policy	See Summary of Impacts and Mitigation Measures in the Summary chapter of this EIR.
Policy 3.27: Support local jurisdictions and other service providers in their efforts to develop sustainable communities and provide equally to all members of society accessible and effective services, such as public education, housing, health care, social services, recreational facilities, law enforcement, and fire protection.	Consistent with this policy	The master plan consists of renovation and expansion of existing educational facilities to meet future needs of the community. These projects meet and fulfill the university's educational mission to be a multi-cultural, multi-ethnic teaching and learning community dedicated to educating students of unprecedented diversity.
Policy 5.11: Through the environmental document review process, ensure that plans at all levels of government (regional, air basin, county, subregional, and local) consider air quality, land use, transportation, and economic relationships to ensure consistency and minimize conflicts.	Consistent with this policy	See relevant sections of this draft EIR.
Source: City of Carson General Plan; SCAG Regional Comprehensive Plan and Guide; ICF Jones & Stokes, 2007.		

Long-Term (2040) Impacts

Long-term projects may include construction of administrative and academic facilities to serve the students. Construction of the long-term projects would be consistent with local land use plans and policies as described in Table 3J-1.

The academic uses and other sensitive uses, such as residential uses, would be affected most by the temporary construction impacts. However, the construction impacts would be short term and are common in an urban setting. Best management practices and mitigation measures are proposed to minimize construction-period impacts on sensitive receptors. Therefore, less-than-significant impacts are anticipated.

Long-term projects would not result in new land uses that would conflict with existing land uses and development in the vicinity. The various facilities proposed under the master plan would not involve a change in land use; all of the

facilities are permitted under the current land use designation of Public Services and zoning designation of SU-COL. The City of Carson's designation of SU-COL allows for growth and development within campus boundaries. As seen in Table 3J-1 above, the master plan would also be consistent with applicable regional and local plans. Therefore, there would be a less-than-significant impact on land use.

Unavoidable Significant Adverse Impacts

Implementation of the master plan would not result in unavoidable significant adverse land use impacts.

Cumulative Impacts

Development of the proposed project would be compatible with surrounding uses. The master plan proposes to construct new and expanded academic, athletic, and housing facilities, all of which are consistent with, and not substantially different from, existing facilities on the campus. Additionally, the new and expanded facilities would serve both the campus and the surrounding community.

Other projects proposed in the area include industrial, residential, and industrial developments. Through use of land use plans applicable to the project area and SCAG's regional plan, future growth is anticipated and planned. In addition, environmental documents prepared for the approved local land use plans and regional plans address the significant cumulative effects of future development and identify ways to mitigate those effects. The proposed project is consistent with local and regional land use plans. Therefore, the cumulative impacts on land use would be less than significant.

Section 3K

Mineral Resources and Agriculture

Introduction

This section identifies whether any mineral or agricultural resources exist on the campus and potential impacts that could occur as a result of construction and operation of the proposed master plan.

Setting

Mineral Resources

The campus is located within the historic Dominguez Oil Field. The first drilling for oil reserves in the vicinity of the campus began in 1921 on the northwest side of Dominguez Hills. The two original wells west of Central Avenue and immediately north of Victoria Street were still in production in 1960. Following the initial successful drilling, additional wells were sunk south of Victoria Street. In all, 16 oil wells were located on the campus; however, these wells have been abandoned and are no longer used to extract oil or natural gas (Property Conditions Consultants 2000). No other mineral resources have been identified on the campus (National Atlas 2006).

Section 3H, Hazards and Hazardous Materials, of this EIR discusses possible issues associated with the abandoned oil wells on the CSUDH campus, including methane hazards and the potential for discovery of additional wells. Please refer to Section 3G for more detailed information regarding geology and soils.

Petroleum Resources

According to the California Department of Conservation, Division of Oil, Gas, and Geothermal Resources, Oil and Gas District W1-6 map, no active oil fields are present on the campus or in its immediate vicinity (California Department of Conservation 2007). No active oil or natural gas recovery occurs within the boundaries of the campus.

Sand and Gravel Resources

The California Department of Conservation prepares Generalized Mineral Land Classification maps for aggregate resources. The campus and surrounding areas are located within Mineral Resource Zone MRZ-1, defined as an "area where adequate information indicates that no significant mineral deposits are present or where it is judged that little likelihood exists for their presence" (USGS 1982).

No economically recoverable surface minerals have been identified by the California Division of Mines and Geology (under SMARA, Article 4, Section 2761) on the campus or in its vicinity.

Agricultural Resources

The campus does not contain any prime farmland, unique farmland, or farmland of statewide importance (California Department of Conservation 2006). In addition, the campus is not under any California Land Conservation Act (Williamson Act) contract related to farmlands or agricultural uses. Currently, Grand View Geranium Gardens occupies approximately 32 acres on the southeastern and eastern portions of the campus. It operates under a month-to-month lease from CSUDH. The nursery cultivates geraniums, aeonium, aloe, jade tree, chili peppers, and other ornamental species of plants. This commercial nursery use does not constitute a farmland use of the type recognized by the California Department of Conservation, such as prime, unique, or of statewide importance. The remainder of the CSUDH campus is not used for agriculture.

Impacts and Mitigation

Thresholds of Significance

According to Appendix G of the *State CEQA Guidelines*, a project would normally result in a significant impact if it would result in any of the following.

Mineral Resources

- Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state; or
- Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan.

Agricultural Resources

- Convert prime farmland, unique farmland, or farmland of statewide importance to nonagricultural use.
- Conflict with existing zoning for agricultural use or a Williamson Act contract.

- Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of farmland to nonagricultural use.

Project Impacts

Near-Term (2017) Impacts

Construction and Operational Impacts

Potential Impact: Proposed Project Could Lead to a Loss of Availability of Important or Locally Significant Mineral Resources Regionally and Statewide

Petroleum Resources

Petroleum resources (e.g., gasoline, diesel) would be used to operate construction equipment during construction of the proposed project but not in amounts that would be large enough to result in the loss of availability of these resources. Active petroleum extraction wells do not occur on the campus; all oil wells have been capped and are no longer in service. Therefore, on-campus development would not affect petroleum resources. No impacts on petroleum resources would occur.

Sand and Gravel Resources

Construction of the near-term projects identified in the master plan would require the use of sand and gravel (aggregate) resources. Aggregate resources would be used in the manufacture of many of the construction materials used during construction (e.g., concrete and asphalt). Given that the new buildings would represent an extremely small percentage of all new buildings to be constructed in Southern California over the next ~~10~~ 8 years, construction of the proposed near-term projects would not require the use of aggregate resources in amounts that would be large enough to result in the loss of availability of these resources. The CSUDH campus does not contain areas that are currently utilized or likely to be utilized in the future for surface mining. Therefore, no impacts on sand and gravel resources would occur.

Potential Impact: Proposed Project Could Lead to Conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to Nonagricultural Use or Conflict with a Williamson Act Contract

Agricultural Resources

The campus does not contain any prime farmland, unique farmland, or farmland of statewide importance (California Department of Conservation 2006).

Operation of the commercial nursery on campus does not constitute a farmland use of the type recognized by the California Department of Conservation. In addition, the proposed project area is not under any Williamson Act contract related to farmlands or agricultural uses. The existing City of Carson land use and zoning designations for the proposed project area indicate public facilities uses, which do not include agricultural uses. The proposed project would have no impact on agricultural resources. Therefore, construction and operation of the proposed near-term projects would not affect agricultural resources.

Long-Term (2040) Impacts

The campus is not designated as a locally important mineral resource recovery site, nor is it designated as important farmland. Therefore, no long-term impacts on mineral or agricultural resources would occur as a result of the proposed project (see discussion under Near-Term [2017] Impacts above).

Mitigation Measures

No mitigation is necessary.

Unavoidable Significant Adverse Impacts

No unavoidable significant adverse impacts are anticipated with respect to mineral or agricultural resources.

Cumulative Impacts

The proposed master plan would have no impact on mineral or agricultural resources. Other related projects, as provided in Table 2-3, are development projects and do not include extraction of minerals or conversion of farmland to nonfarmland uses. No cumulatively significant impacts on agricultural or mineral resources would occur.

Section 3L

Population, Employment, and Housing

Introduction

The population, employment, and housing study area delineated for the proposed project encompasses those census tracts from the 2000 census of population and housing that include and surround CSUDH. Figure 3L-1 illustrates the location of the census tracts in relation to the proposed project.

Data from the 2000 census have been aggregated at the census tract level in order to assess the general characteristics of the study area. Regional comparisons have been made to Los Angeles County and the City of Carson. Projected population and housing forecasts generated by SCAG were also considered.

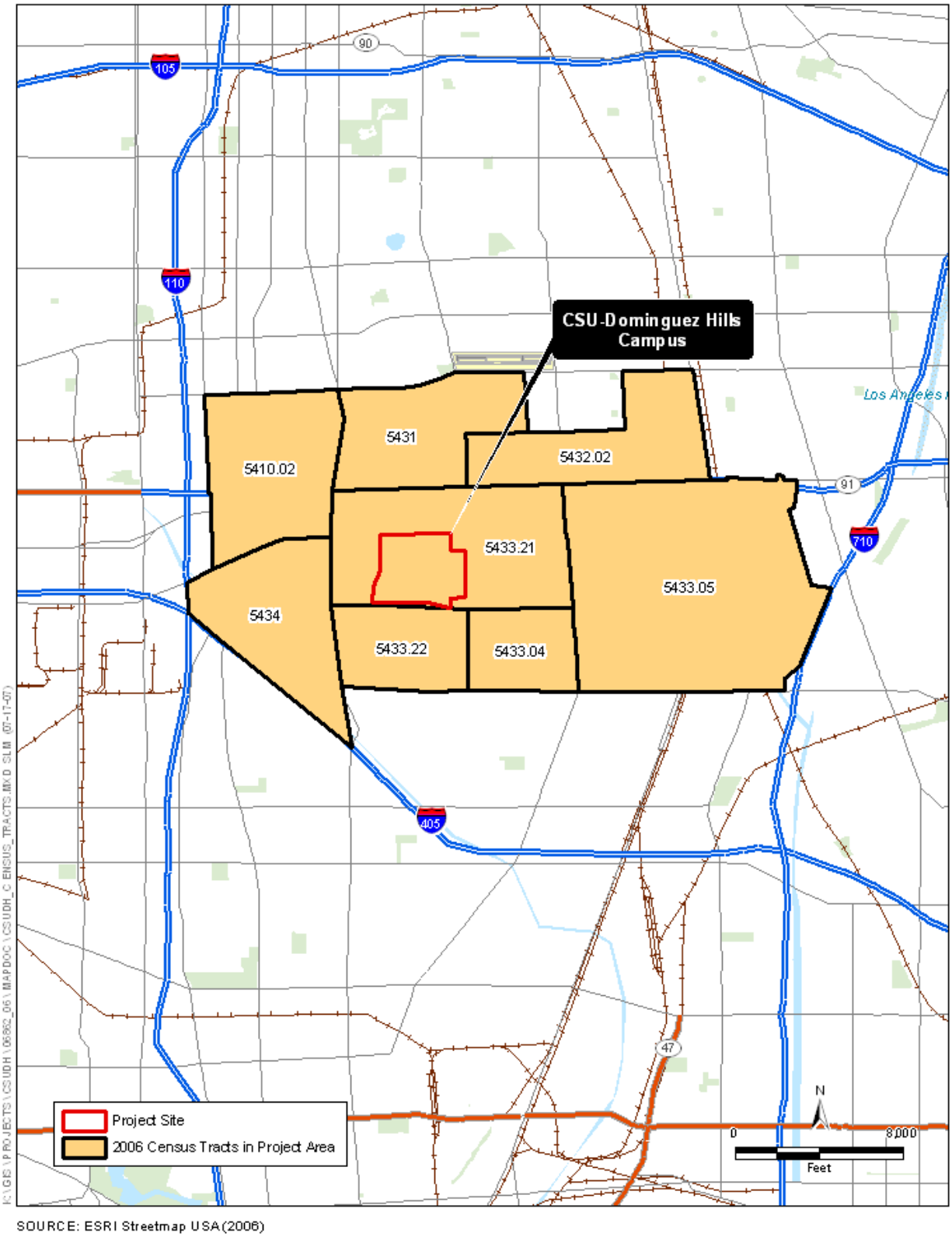
Setting

Environmental Setting

Population

The campus is located entirely within the existing boundaries of the CSUDH campus, which lies towards the northeast corner of the City. According to the 2000 census, the population of the City was 89,730. The City is truly multiethnic, with no one racial group having a majority. Latinos make up the largest ethnic group, with 31,332 persons, or 34.9 percent of the City's population. The City's white non-Hispanic population is 10,767, or 12 percent of the total. The black or African-American population is 22,485, or 25.1 percent of the total population, while Asians, with 19,711 persons, represent 22 percent of City's population. Within the county, Latinos make up the majority of the population (44.6 percent), followed by white non-Hispanics (31.1 percent). The population and housing study area for CSUDH includes the eight census tracts surrounding the campus (see Figure 3L-1). The study area, in contrast to the City and the county, has a dominant population of black or African-American (57.7 percent), followed by Latinos (27.0 percent). Table 3L-1 summarizes the characteristics of the regional and local population in 2000.

Figure 3L-1: Population and Housing Study Area



SOURCE: ESRI Streetmap USA(2006)

Table 3L-1: Existing Regional and Local Population Characteristics—Race/Ethnicity (2000)

Area	Total	White	%	Black or African-American	%	American Indian and Alaska Native	%	Asian	%	Native Hawaiian and Other Pacific Islander	%	Some Other Race	%	Two or More	%	Hispanic or Latino	%
County of Los Angeles	9,519,338	2,959,614	31.1%	901,472	9.5%	25,609	0.3%	1,124,569	11.8%	23,265	0.2%	19,935	0.2%	222,661	2.3%	4,242,213	44.6%
City of Carson	89,730	10,767	12.0%	22,485	25.1%	180	0.2%	19,711	22.0%	2,589	2.9%	171	0.2%	2,495	2.8%	31,332	34.9%
Study Area	**39,247**	**3,102**	**7.9%**	**22,662**	**57.7%**	**70**	**0.2%**	**1,461**	**3.7%**	**434**	**1.1%**	**105**	**0.3%**	**813**	**2.1%**	**10,600**	**27.0%**
Tract 5410.02	3,329	588	17.7%	1,608	48.3%	9	0.3%	61	1.8%	15	0.5%	19	0.6%	62	1.9%	967	29.0%
Tract 5431	6,753	72	1.1%	4,040	59.8%	13	0.2%	9	0.1%	14	0.2%	15	0.2%	62	0.9%	2,528	37.4%
Tract 5432.02	4,914	40	0.8%	1,563	31.8%	2	0.0%	8	0.2%	42	0.9%	16	0.3%	30	0.6%	3,213	65.4%
Tract 5433.04	6,551	186	2.8%	5,725	87.4%	8	0.1%	129	2.0%	48	0.7%	6	0.1%	183	2.8%	266	4.1%
Tract 5433.05	2,353	1,070	45.5%	705	30.0%	16	0.7%	95	4.0%	10	0.4%	11	0.5%	85	3.6%	361	15.3%
Tract 5433.21	3,928	527	13.4%	2,653	67.5%	6	0.2%	158	4.0%	30	0.8%	5	0.1%	79	2.0%	470	12.0%
Tract 5433.22	7,033	287	4.1%	5,492	78.1%	10	0.1%	408	5.8%	121	1.7%	19	0.3%	228	3.2%	468	6.7%
Tract 5434	4,386	332	7.6%	876	20.0%	6	0.1%	593	13.5%	154	3.5%	14	0.3%	84	1.9%	2,327	53.1%

Notes:

Study area consists of eight census tracts within and adjacent to the proposed project site (see Figure 3L-1).

Sources: U.S. Census Bureau, Census of Population and Housing, Summary File 1 (2000); ICF Jones & Stokes, 2007.

In accordance with the policies of the RCPG (SCAG 1996), SCAG has adopted forecasts for the estimated and projected future population of the City. The SCAG 2001 Regional Population, Household, and Employment projections indicate that the county population will grow by 12.9 percent between 2000 and 2015 and 23 percent by 2030. The City's population will grow by about 12 percent between 2000 and 2015 and about 22 percent by 2030. Compared to the county and the City, growth in the study area will be slower at 8.2 percent between 2000 and 2015 and 17.5 percent by 2030. Table 3L-2 summarizes projected regional and local population data for 2015 and 2030.

Table 3L-2: Projected Regional and Local Population (2000–2030)

Area	2000*	2015**	% Change 2000–2015	2030**	% Change 2000–2030
County of Los Angeles	9,519,338	10,746,013	12.9%	11,705,536	23.0%
City of Carson	89,730	100,628	12.1%	109,412	21.9%
Study Area	**39,247**	**42,482**	**8.2%**	**46,133**	**17.5%**
Tract 5410.02	3,329	3,718	11.7%	4,028	21.0%
Tract 5431	6,753	6450	-4.5%	7052	4.4%
Tract 5432.02	4,914	5,235	6.5%	5,479	11.5%
Tract 5433.04	6,551	7,306	11.5%	7,873	20.2%
Tract 5433.05	2,353	2,586	9.9%	2,946	25.2%
Tract 5433.21	3,928	4,442	13.1%	4,938	25.7%
Tract 5433.22	7,033	7,861	11.8%	8,508	21.0%
Tract 5434	4,386	4,884	11.4%	5,309	21.0%

Sources:

* U.S. Census Bureau, Census of Population and Housing, Summary File 1 (2000).

** SCAG 2001 Regional Population, Household, and Employment projections.
ICF Jones & Stokes, 2007.

Housing

According to the 2000 census, there were 25,337 housing units in the City of Carson in 2000. About 97 percent of the units were occupied. Average household size was 3.6 persons per household. Of the total number of occupied units in the City, 77.9 percent were owner occupied and 22.1 percent were renter occupied. Table 3L-3 and Table 3L-4 summarize the characteristics of regional and local housing in 2000.

Table 3L-3: Existing Regional and Local Housing Characteristics—Occupancy (2000)

Area	Total Units	Occupied Units	%	Vacant Units	%	Persons per Household
County of Los Angeles	3,270,909	3,133,774	95.8%	137,135	4.2%	2.98
City of Carson	25,337	24,648	97.3%	689	2.7%	3.59
Study Area	**11,480**	**11,174**	**97.3%**	**306**	**2.7%**	**3.5**
Tract 5410.02	1,120	1,083	96.7%	37	3.3%	3.03
Tract 5431	1,786	1,706	95.5%	80	4.5%	3.91
Tract 5432.02	1,152	1,088	94.4%	64	5.6%	4.49
Tract 5433.04	1,983	1,961	98.9%	22	1.1%	3.29
Tract 5433.05	1,028	973	94.6%	55	5.4%	2.42
Tract 5433.21	1,287	1,257	97.7%	30	2.3%	2.75
Tract 5433.22	2,131	2,119	99.4%	12	0.6%	3.3
Tract 5434	993	987	99.4%	6	0.6%	4.44

Note:

Study area consists of eight census tracts within and adjacent to the project site (see Figure 3L-1).

Sources: U.S. Census Bureau, Census of Population and Housing, Summary File 1 (2000); ICF Jones & Stokes, 2007.

Table 3L-4: Existing Regional and Local Housing Characteristics—Tenure (2000)

Area	Occupied Units	Owner-Occupied Units	%	Renter-Occupied Units	%
County of Los Angeles	3,133,774	1,499,744	47.9%	1,634,030	52.1%
City of Carson	24,648	19,205	77.9%	5,443	22.1%
Study Area	**11,174**	**9,396**	**84.1%**	**1,778**	**15.9%**
Tract 5410.02	1,083	964	89.0%	119	11.0%
Tract 5431	1,706	1,355	79.4%	351	20.6%
Tract 5432.02	1,088	438	40.3%	650	59.7%
Tract 5433.04	1,961	1,819	92.8%	142	7.2%
Tract 5433.05	973	867	89.1%	106	10.9%
Tract 5433.21	1,257	1,108	88.1%	149	11.9%
Tract 5433.22	2,119	1,982	93.5%	137	6.5%
Tract 5434	987	863	87.4%	124	12.6%

Note:

Study area consists of eight census tracts within and adjacent to the campus (see Figure 3L-1).

Sources: U.S. Census Bureau, Census of Population and Housing, Summary File 1 (2000); ICF Jones & Stokes, 2007.

The 2000 census documented a total of 11,174 housing units in the proposed project study area. Approximately 97 percent of the housing units in the area were occupied. In the occupied units in the study area, 84.1 percent units were owner occupied and 15.9 percent were renter occupied. The percentage of owner occupied housing in study area is higher than the City. The average number of persons per household within the study area (3.5 persons) was comparable to the City.

The SCAG 2001 forecasts project that the total number of households in the City will grow by 11 percent between 2000 and 2015 and about 24 percent by 2030. The county households would grow by 16.5 percent between 2000 and 2015 and by 31.7 percent by 2030. The growth of households in the study area is expected to be less than that of the City and the county (study area households would grow by 7.8 percent between 2000 and 2015 and by 21.4 percent by 2030). Table 3L-5 summarizes projected regional and local household data for 2015 and 2030.

Table 3L-5: Projected Regional and Local Households (2000–2030)

Area	2000*	2015**	% Change 2000–2015	2030**	% Change 2000–2030
County of Los Angeles	3,133,774	3,651,901	16.5%	4,128,417	31.7%
City of Carson	24,648	27,366	11.0%	30,597	24.1%
Study Area	**11,174**	**12,045**	7.8%	**13,562**	21.4%
Tract 5410.02	1,083	1,181	9.0%	1,311	21.1%
Tract 5431	1,706	1595	-6.5%	1752	2.7%
Tract 5432.02	1,088	1,169	7.4%	1,413	29.9%
Tract 5433.04	1,961	2,173	10.8%	2,408	22.8%
Tract 5433.05	973	1,072	10.2%	1,224	25.8%
Tract 5433.21	1,257	1,393	10.8%	1,604	27.6%
Tract 5433.22	2,119	2,362	11.5%	2,620	23.6%
Tract 5434	987	1,100	11.4%	1,230	24.6%

Sources:

* U.S. Census Bureau, Census of Population and Housing, Summary File 1 (2000).

** SCAG 2001 Regional Population, Household, and Employment projections, Household, and Employment Forecasts.
ICF Jones & Stokes, 2007.

Employment

The following employment data are provided by SCAG, the metropolitan planning organization for Southern California, which, in that capacity, provides estimates and projections regarding the number of jobs in the region. Table 3L-6 provides SCAG estimates and projections regarding the number of jobs in the county, City, and the study area. Job growth in the study area is expected to be less than the county and the City.

Table 3L-6. Projected Regional and Local Employment (2000–2030)

Area	2000*	2015**	% Change 2000–2015	2030**	% Change 2000–2030
County of Los Angeles	4,476,306	5,259,247	17.5%	5,610,781	25.3%
City of Carson	58,880	70,482	19.7%	75,398	28.1%
Study Area	**42,213**	**47,694**	**13.0%**	**50,533**	**19.7%**
Tract 5410.02	9,025	9,757	8.1%	10,417	15.4%
Tract 5431	183	301	64.5%	561	206.6%
Tract 5432.02	6,086	6,047	-0.6%	6,008	-1.3%
Tract 5433.04	463	816	76.2%	1,219	163.3%
Tract 5433.05	17,649	19,713	11.7%	20,844	18.1%
Tract 5433.21	3,678	4,631	25.9%	4,702	27.8%
Tract 5433.22	483	896	85.5%	966	100.0%
Tract 5434	4,646	5,533	19.1%	5,816	25.2%

Sources:

* U.S. Census Bureau, Census of Population and Housing, Summary File 3 (2000).

** SCAG 2001 Regional Population, Household, and Employment projections, Household, and Employment Forecasts.
ICF Jones & Stokes, 2007.

Existing CSUDH Population, Employment, and Housing

The population of the study area in the 2000 Census totaled 39,247 persons. From 2006 to 2007, 8,700 FTE students were enrolled in CSUDH (CSUDH Office of Administration and Finance, April 2007b). For 2009, 9,554 FTE students were enrolled at CSUDH (CSUDH 2009b). The master plan estimates that a target enrollment of 11,000 FTE students will be reached by 2017, with ~~20,000~~ 14,000 FTE students by 2040.

In 2007, CSUDH (both the campus and the CSUDH Foundation) had 525 faculty employees and 447 staff members (Wall pers. comm.). Combined faculty and staff employment at CSUDH represents less than 2 percent of the workforce of the City of Carson.

Grand View Geranium Gardens has leased approximately 32 acres on the CSUDH campus. The number of nursery employees fluctuates between 60 and 100 due to the seasonal nature of growing activities. The lowest level of employment occurs during the winter months, while the highest levels occur during the summer peak season (Sharp pers. comm.).

The Pueblo Dominguez Student Residences and Student Housing units are located in the eastern part of the campus. There are 134 apartments in two complexes; at present, they house approximately 500 students. Pueblo Dominguez has a total of 502 bed spaces within its units, which include 30 three-bedroom units, 72 two-bedroom units, and 32 one-bedroom units (CSUDH 2007b).

Regulatory Setting

State of California

California state law requires that each city adopt a general plan for future growth. This plan must include a housing element that identifies housing needs for all economic segments and provides opportunities for housing development to meet that need. At the state level, the Department of Housing and Community Development (HCD) estimates the relative share of California's projected population growth that will occur in each county in the state based on Department of Finance (DOF) population projections and historic growth trends. Where there is a regional Council of Governments (COG), HCD provides the regional housing need to the COG, which then assigns a share of the regional housing need to each of its cities and counties. The process of assigning shares provides cities and counties the opportunity to comment on the proposed allocations. HCD oversees the process to ensure that the COGs distribute their share of the state's projected housing need.

Cities are required to update their housing elements approximately every 5 years, and a city is not required to revise its adopted housing element outside this timetable, even when the city annexes land. Typically, housing elements are revised on the 5-year schedule to reflect the Regional Housing Needs Assessment (RHNA) allocations released for that period. Among other things, the housing element must incorporate policies and identify potential sites that will accommodate the city's share of the regional housing need. Before adopting an update to its housing element, the city or county must submit a draft to HCD for review. The department will advise the local jurisdiction whether its housing element complies with the provisions of California Housing Element Law.

The COGs are required to assign regional housing shares to the cities and counties within their region on a similar 5-year schedule. At the beginning of each cycle, HCD provides population projections to the COGs, which then allocate shares to their cities and counties. The shares of the regional need are allocated before the end of the cycle so that the cities and counties can amend their housing elements by the deadline.

CEQA Guidelines Section 15126.2(d)—Growth-Inducing Effects

Pursuant to Section 15126.2(d) of the *State CEQA Guidelines*, an EIR must address whether a project will directly or indirectly foster growth. Section 15126.2(d) reads as follows:

An EIR shall discuss the ways in which the proposed project could foster economic or population growth or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects that would remove obstacles to population growth (a major expansion of wastewater treatment plant, might, for example, allow for more construction in

service areas). Increases in the population may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects. Also, the EIR shall discuss the characteristics of some projects that may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.

Southern California Association of Governments

Under California Housing Element Law, SCAG is the regional COG responsible for allocating the regional housing need to the city. SCAG's RCPG, RTP, and RHNA are tools for coordinating regional planning and housing development strategies in Southern California. State housing law mandates that local governments, through their respective COGs, identify existing and future housing needs in a RHNA. In November 2000, SCAG adopted a RHNA (SCAG 2000) that established numerical housing production goals for each jurisdiction within the region for the period between 1998 and 2005. While the RHNA provides recommendations and guidelines to identify housing needs within cities, it does not impose requirements for housing development in cities

Impacts and Mitigation

Thresholds of Significance

For the purposes of this EIR, a significant impact on population, employment, and housing would occur if the proposed master plan would

- substantially increase the population or employment so as to require new infrastructure and or housing, the construction of which could cause significant environmental impacts;
- induce growth that exceeds levels anticipated under local land use plans and results in a substantial adverse physical change in the environment;
- displace a substantial number of businesses or employees necessitating the construction of replacement facilities elsewhere, or
- displace substantial numbers of people or existing housing, necessitating the construction of replacement housing elsewhere.

Project Impacts

Near-Term (2017) Impacts

Construction Impacts

Potential Impact: Increased Population Due to Construction-Period Employment

Construction of the proposed near-term projects is expected to take place over the next ~~10~~ 8 years, through 2017. The number of construction workers employed and working on-site would vary over the course of the construction period. Because construction workers commute to a job site that often changes many times throughout the course of the year, they are not likely to relocate their households to any significant degree as a consequence of opportunities for construction work. In addition, many workers are highly specialized and move among job sites as dictated by the need for their skills. Also, because of the highly specialized nature of most construction projects, workers are likely to be employed on the job site only for as long as their skills are needed to complete a particular phase of the construction process.

The county has a large pool of construction labor from which to draw. Therefore it is reasonable to assume that most construction workers would not relocate their households to work on proposed master plan projects. Construction-phase employment, therefore, would not result in a substantial increase in local or regional population. Therefore, no significant adverse environmental impacts are expected as a result of construction employment.

Operational Impacts

Potential Impact: Residential and Business Displacements

All proposed master plan development would be accommodated within the boundaries of the existing campus. No acquisition of residences or businesses would be required.

The construction of a new campus entrance and access road as well as student and faculty/staff housing would occur on the 32-acre Grand View Geranium Gardens. However, the nursery is on a month-to-month lease with the campus. When the lease is terminated, the nursery would relocate off-campus. Consequently, no displacement impacts would occur.

Potential Impact: Increased Employment and Population

During the fall 2006 semester, there were a total of 972 employees (faculty and staff) at the university. Under the proposed master plan, the total number of university employees would grow to 1,650 by the fall 2017 semester, an increase of 678 persons (CSUDH 2007c).The additional on-campus employees would represent a small part of the projected employee population for the study area and the City of Carson. Project-generated growth would be consistent with regional planning forecasts and within City of Carson General Plan growth projections. Additionally, it is anticipated that many of the required employees would be hired from the surrounding communities and would not move to the area as a result of employment.

Construction of the proposed near-term projects would include on-campus student and faculty/staff housing. The number of on-campus student housing units would increase by 50 percent. The apartment-like residences would be constructed in the open space south of and adjacent to the proposed Beachey Place access road and south of the current student housing facilities. The near-term plans for student housing would allow the university to accommodate 600 additional students. The new faculty/staff housing units would be constructed on the southeastern portion of the campus, just north of University Drive. Twenty three acres have been set aside for faculty/staff housing consisting of 230 to 345 housing units (assuming an overall density of 10 to 15 units per acre).

Due to the proposed on-campus housing and the availability of housing in other communities within reasonable commuting distance, it is unlikely that the projected increase in employment under the master plan would require the construction of housing that would result in a significant impact on the environment. While there would be an increase in the number of on-campus employees, on-campus housing would be provided to meet some of the existing and future faculty and staff housing needs. Not all new employees would choose to reside within the City or the surrounding communities; they could choose to live in any of the communities within reasonable commuting distance. Also, the number of employees would increase incrementally over a period of ~~10~~ 8 years, not at one time. Therefore, the demand for housing due to increased employment would not result in significant impacts.

Long-Term (2040) Impacts

Potential Impact: Increased Employment and Population

During the fall 2006 semester, there was a total of about 972 employees at CSUDH. Under the proposed master plan, the total number of employees would grow to ~~2,037~~ 1,820 by the fall 2040 semester, an increase of ~~1,065~~ 848 persons (CSUDH 2009a).

The additional on-campus employees anticipated as a result of the proposed project would represent a small percentage of the existing population of the study area and the City of Carson (~~2.8~~ 2.0 percent and ~~1.2~~ 1.4 percent, respectively).

The increase would be consistent with regional and city planning forecasts. Additionally, it is anticipated that many of the required employees would be hired from the surrounding communities and would not move to the area as a result of employment. Additionally, the number of employees would increase incrementally from fall 2006 to 2040, not all at one time.

The proposed master plan aims to provide sufficient educational facilities so that CSUDH can successfully support anticipated enrollment through 2040. During the fall 2006 semester, a total of 12,068 students (8,700 FTE students) were enrolled at CSUDH. The projected total enrollment for fall 2040 is an estimated ~~20,000~~ 14,000 FTE students, an increase of approximately ~~10,962~~ 5,000 FTE students (CSUDH 2007c).

In 2006–2007, only 500 of the 8,700 FTE students at CSUDH lived in student housing, which shows that CSUDH is a commuter campus. This trend is expected to continue in the future. However, the master plan proposes the construction of student housing that can accommodate an additional 600 students as well as 230 to 345 housing units for faculty/staff. It is anticipated that students and faculty/staff who are not housed on campus in 2040 would continue to commute to CSUDH from off-campus. Additionally, with the growing use of technology in education, distance learning is expected to become more popular, and commuting to the campus on a regular basis may not be required.

Due to the proposed on-campus housing and the availability of housing in other communities within reasonable commuting distance, it is unlikely that the projected increase in employment under the master plan would require the construction of housing that would result in a significant impact on the environment.

Unavoidable Significant Adverse Impacts

The proposed master plan would not result in unavoidable significant adverse impacts with respect to population, employment, or housing, and no mitigation measures are required.

Cumulative Impacts

While the proposed project would lead to an additional ~~1,065~~ 848 employees by 2040, this increase would be incremental and within regional and City employment projections. In addition, the population growth resulting from the proposed on-campus student and faculty/staff housing facilities would be within City and regional population projections. Therefore, approval of the proposed project would not induce substantial growth within the City or county. The construction of on-campus housing is contingent upon achieving supporting levels of enrollment and procuring adequate funding. The housing would be constructed to meet existing demand at the time and would not result in population growth.

Other projects proposed in the area also have the potential to increase employment. However, through use of land use plans applicable to the project area and SCAG's regional plan, future growth is anticipated and planned. In addition, environmental documents prepared for the approved local land use plans and regional plans address the significant cumulative effects of future development and identify ways to mitigate those effects. The proposed project is consistent with local and regional land use plans. Therefore, the cumulative impacts on population, employment, and housing would be less than significant.

Section 3M
Noise

Introduction

This section describes the environmental setting and potential impacts of the proposed project with respect to noise and provides mitigation measures to reduce any potentially significant noise impacts.

Setting

Noise Terminology

Noise is generally defined as unwanted sound. It may be loud, unpleasant, unexpected, or undesired sound typically associated with human activity that interferes with or disrupts the normal noise-sensitive activities of others. Although exposure to high noise levels has been demonstrated to cause hearing loss, the principal human response to environmental noise is annoyance. The response of individuals to similar noise events is diverse and influenced by the type of noise, the perceived importance and suitability of the noise in a particular setting, the time of day and type of activity during which the noise occurs, and the sensitivity of the individual. The response to vibration is similar: First, the vibration needs to be of sufficient magnitude to be perceived, and, second, it typically needs to interfere with a desirable activity to cause annoyance.

Sound is a physical phenomenon consisting of minute vibrations that travel through a medium such as air that are sensed by the human ear. Sound is generally characterized by frequency and intensity. Frequency describes the sound's pitch and is measured in hertz (Hz); intensity describes the sound's level, volume, or loudness and is measured in decibels (dB). Sound frequency is a measure of how many times each second the crest of a sound pressure wave passes a fixed point. For example, when a drummer beats a drum, the skin of the drum vibrates a certain number of times per second. Vibration of the drum skin at a rate of 100 times (or cycles) per second generates a sound pressure wave that is said to be oscillating at 100 Hz; this pressure oscillation is perceived as a tonal pitch of 100 Hz. Sound frequencies between 20 Hz and 20,000 Hz are within the range of sensitivity of the best human ear.

Sound from a tuning fork contains a single frequency and may therefore be referred to as a pure tone. However, most sounds heard in the environment do not consist of a single frequency but rather a broad band of frequencies differing in individual sound levels. The method commonly used to quantify environmental sounds evaluates all the frequencies of a sound according to a weighting system that recognizes that human hearing is less sensitive at low frequencies and extremely high frequencies than at mid-range frequencies. This frequency-dependent modification is called A-weighting, and the decibel level measured is called the A-weighted sound level (dBA). In practice, the level of a noise source is conveniently measured using a sound level meter that includes a filter corresponding to the dBA curve.

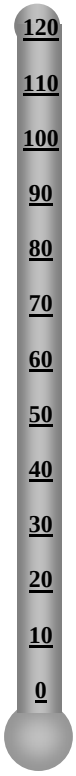
For informational purposes, typical community sound levels are presented in Figure 3M-1. A sound level of 0 dBA is approximately the threshold of human hearing and is barely audible under extremely quiet listening conditions. Normal speech has a sound level of approximately 60 dBA. Sound levels above about 120 dBA begin to be felt inside the human ear as discomfort and eventually pain at still higher levels.

The smallest change in the sound level of individual events that an average human ear can reliably detect in a community environment is approximately 1 to 2 dBA. Changes of 3 to 5 dBA are more easily perceived. A change in sound level of 10 dBA is usually perceived by the average person as a doubling (or halving) the sound's loudness; this relation holds true for loud sounds and for quiet sounds. Because of the logarithmic scale of the decibel unit, sound levels cannot be added or subtracted arithmetically and are somewhat cumbersome to handle mathematically. However, a simple rule of thumb is useful in dealing with sound levels: If a sound's physical intensity is doubled, the sound level increases by 3 dB, regardless of the initial sound level. For example, 60 dB plus 60 dB equals 63 dB, and 80 dB plus 80 dB equals 83 dB. As mentioned earlier, however, a perception of doubling of sound level requires about a 10-decibel increase.

Although the A-weighted sound level may adequately indicate the level of environmental noise at any instant in time, community noise levels vary continuously. Most environmental noise includes a mixture of noise from distant sources that create a relatively steady background noise in which no particular source is identifiable. A single descriptor called the L_{eq} (equivalent sound level) is used to describe the average acoustical energy in a time-varying sound. L_{eq} is the energy-mean A-weighted sound level present or predicted to occur during a specified interval. It is the "equivalent" constant sound level that a given source would need to produce to equal the fluctuating level of measured sound.

It is often desirable to also know the range of acoustic levels of the noise source being measured. This is accomplished through the L_{max} and L_{min} noise descriptors. They represent the root-mean-square maximum and minimum obtainable noise levels measured during the monitoring interval. The L_{min} value obtained for a particular monitoring location represents the quietest moment occurring during the measurement period and is often called the acoustic floor for that location. Likewise, the loudest momentary sound during the measurement is represented by L_{max}.

Figure 3M-1: Sound Levels of Typical Noise Sources



Noise Level dBA	Extremes	Home Appliances	Speech at 3 Feet	Motor Vehicles at 50 Feet	General Type of Community Environment
120	Jet aircraft at 500 feet				
110					
100		Chain saw			
90		Power lawnmower		Diesel truck (not muffled)	
80		Shop tools	Shout	Diesel truck (muffled)	
70				Automobile at 70 miles per hour (mph)	Major metropolis
60		Blender	Loud voice	Automobile	Urban
50		Dishwasher	Normal voice	at 40 mph	(daytime)
40		Air conditioner	Normal voice (back to listener)	Automobile at 20 mph	Suburban (daytime)
30		Refrigerator			Rural (daytime)
20					
10					
0	Threshold of hearing				

Source: Harris Miller Miller & Hanson, Inc. 2003. Noise and Vibration Impact Assessment for the San Francisco Bay Area Rapid Transit District (BART) Warm Springs Extension Project. Draft report. February. (HMMH Report No. 298760-01.) Burlington, MA. Prepared for ICF Jones & Stokes.

To describe the time-varying character of environmental noise, the statistical noise descriptors L_{10}, L_{50}, and L_{90} (or other percentile values) may be used. They are the noise levels equaled or exceeded 10, 50, and 90 percent of the time, respectively, during the measured interval. The percentile descriptors are most commonly found in nuisance noise ordinances to allow different noise levels for various portions of an hour. For example, the L_{50} value would represent 30 minutes of a 1-hour period, L_{25} would be associated with 15 minutes, and so on.

Of particular interest in this analysis are other descriptors of noise that are commonly used to help determine noise/land use compatibility and predict an average community reaction to adverse effects of environmental noise, including traffic-generated and industrial noise. One of the most universal descriptors is the day-night average sound level (DNL or L_{dn}). The L_{dn} noise metric represents

a 24-hour period and applies a time-weighted factor designed to penalize noise events that occur during nighttime hours when relaxation and sleep disturbance are of more concern than during daytime hours. Noise occurring during the hours between 7:00 a.m. and 10:00 p.m. receives no penalty. Noise occurring between 10:00 p.m. and 7:00 a.m. is penalized by adding 10 dB to the measured level. In California, the use of the community noise equivalent level (CNEL) descriptor is also permitted (and is used by the City of Carson). CNEL is similar to L_{dn}, except that CNEL adds a 5 dB penalty for noise occurring during the evening hours between 7:00 p.m. and 10:00 p.m. As a matter of practice, L_{dn} and CNEL values are often considered to be equivalent and are treated as such in this assessment. L_{dn} and CNEL are approximately equal to the L_{eq} peak hour under normal traffic conditions (Caltrans 1998).

Existing Setting

The CSUDH campus is located in southern Los Angeles County, in the City of Carson, southwest of the intersection of Central Avenue and East Victoria Street. The CSUDH campus is situated near the top of the Dominguez Hills. The topography of the campus is characterized by changes in grade, with elevations above mean sea level that range from approximately 30 feet near the southwestern corner of the campus to 140 feet at the northeastern corner of the campus. The grade changes have been incorporated into the design of the buildings and open spaces, creating multilevel patios, berms, and sunken courtyards.

The CSUDH campus is bordered by East Victoria Street to the north, Central Avenue to the east, and University Drive to the south, and Avalon Boulevard to the west. A variety of uses surround the campus. To the north, across Victoria Street, is a residential community; west of campus and immediately adjacent to its boundary is the Home Depot Center; to the south, along University Drive, is another residential community; and to the east, along Central Avenue, are industrial uses. The campus is accessible to the greater Los Angeles region from three major freeways, Interstates 405 and 110 and State Route 91.

Prior to the proposed project, noise measurements were made for another project (CSUDH 2000). As shown in Figure 3M-2, noise measurements were taken for 20 representative noise-sensitive receivers on campus and at nearby off-campus land uses. As shown in Table 3M-1, measured daytime noise levels varied from 60 dBA L_{eq}(h) (at receptors R-5, R-11, and R-20) to 66 dBA L_{eq}(h) (at receptors R-2 and R-3). Nighttime noise levels varied from 50 dBA L_{eq}(h) (at receptors R-11 and R-20) to 56 dBA L_{eq}(h) (at receptors R-2 and R-3).

Figure 3M-2: Noise Measurement Locations for the National Training Center EIR

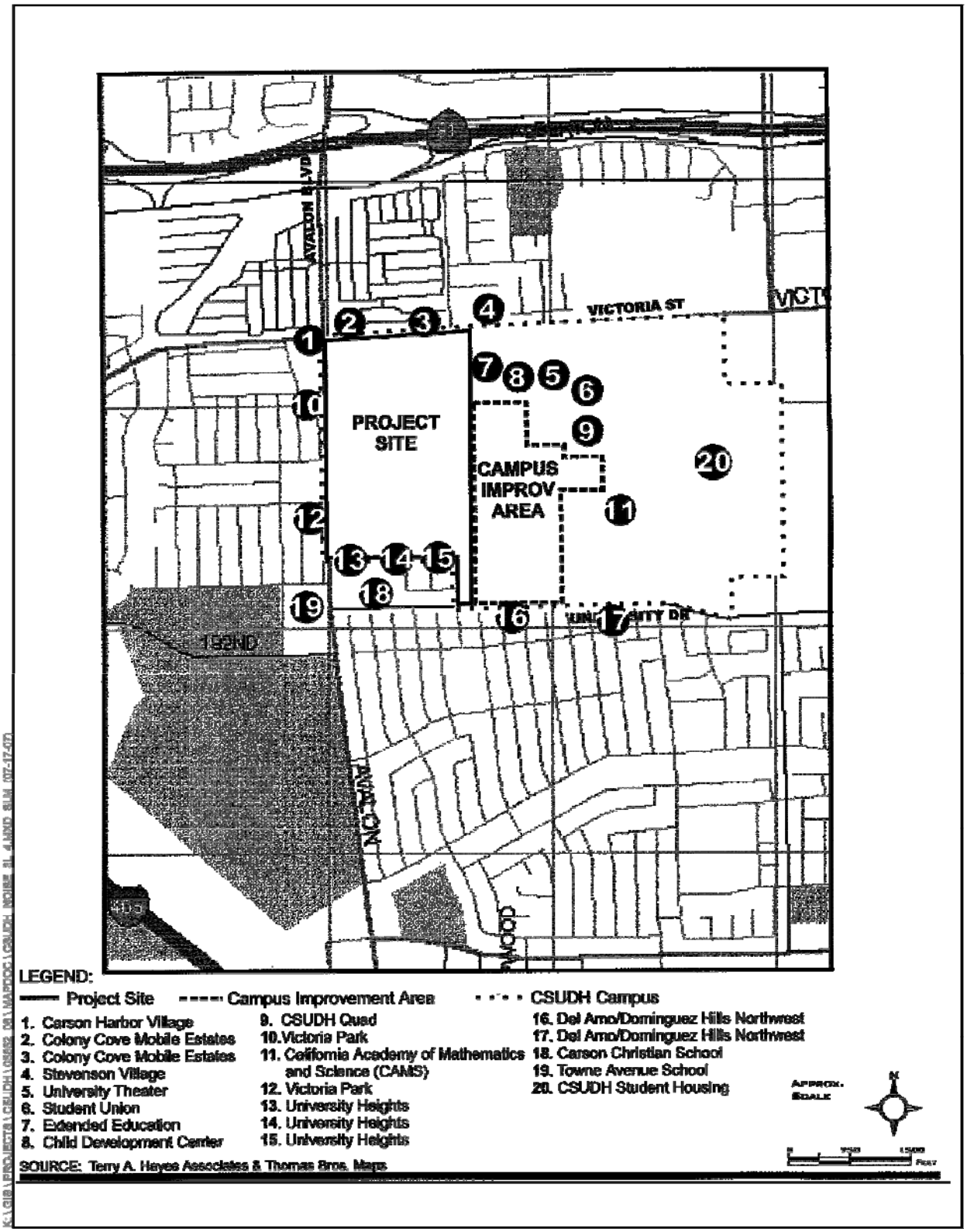


Table 3M-1: Daytime and Nighttime Ambient Noise Levels at Representative Locations

Receptor Name	Day $L_{eq}(h)$	Night $L_{eq}(h)$
R-1 Carson Harbor Village	65.0	55.0
R-2 Colony Cove Mobile Estates West	66.0	56.0
R-3 Colony Cove Mobile Estates East	66.0	56.0
R-4 Stevenson Park	65.0	55.0
R-5 CSUDH Theater	60.0	53.0
R-6 Student Union Outdoor Area	63.0	55.0
R-7 Extended Education Complex	62.0	53.0
R-8 Child Development Center	62.0	N/A
R-9 Fine Arts Building Quad	62.0	53.0
R-10 Victoria Park North	62.0	53.0
R-11 Center for Applied Mathematics and Science	60.0	50.0
R-12 Victoria Park South	62.0	53.0
R-13 University Heights West	61.0	52.0
R-14 University Heights Mid	61.0	52.0
R-15 University Heights East	61.0	52.0
R-16 Dominguez Hills West	62.0	52.0
R-17 Dominguez Hills East	62.0	52.0
R-18 Carson Christian School	62.0	N/A
R-19 Towne Avenue School	62.0	N/A
R-20 CSUDH Student Housing	60.0	50.0

Source: CSUDH, 2000.

Regulatory Setting

Federal

The Noise Control Act of 1972 (NCA) recognized the role of the federal government in dealing with major commercial noise sources, which require uniform treatment. Since Congress has the authority to regulate interstate and foreign commerce, regulation of noise generated by such commerce also falls under congressional authority. The federal government specifically preempts local control of noise from aircraft, railroads, and interstate highways. EPA has identified acceptable noise levels for various land uses to protect the public, with an adequate margin of safety, and establish noise emission standards for interstate commerce.

The Department of Housing and Urban Development (HUD) standards define L_{dn} levels below 65 dBA outdoors as acceptable for residential areas. Outdoor levels up to 75 dBA L_{dn} may be made acceptable through the use of insulation in buildings.

State

The pertinent State of California noise regulations are contained in the California Code of Regulations. Title 24, Noise Insulation Standards, establishes the acceptable interior environmental noise level (45 dBA L_{dn}) for multifamily dwellings (may be extended by local legislative action to include single-family dwellings). CCR Section 65302(f) requires local land use planning jurisdictions to prepare a general plan. The Noise Element is a mandatory component of the general plan. It may include general community noise guidelines developed by the California Department of Health Services and specific planning guidelines for noise/land use compatibility developed by the local jurisdiction. The state guidelines also recommend that the local jurisdiction should consider adopting a local noise control ordinance. The California Department of Health Services has developed guidelines (1987) for community noise acceptability for use by local agencies. Selected relevant levels are as follows (L_{dn}/DNL may be considered nearly equal to CNEL):

- CNEL below 60 dBA—normally acceptable for low-density residential use;
- CNEL of 55 to 70 dBA—conditionally acceptable for low-density residential use;
- CNEL below 65 dBA—normally acceptable for high-density residential use;
- CNEL of 60 to 70 dBA—conditionally acceptable for high-density residential use, transient lodging, churches, educational and medical facilities; and
- CNEL below 70 dBA—normally acceptable for playgrounds and neighborhood parks.

"Normally acceptable" is defined as satisfactory for the specified land use, assuming that normal conventional construction is used in buildings. "Conditionally acceptable" may require some additional noise attenuation or special study. Under most of these land use categories, overlapping ranges of acceptability and unacceptability are presented, leaving some ambiguity in areas where noise levels fall within the overlapping range.

The State of California additionally regulates the noise emission levels of licensed motor vehicles traveling on public thoroughfares, sets noise emission limits for certain off-road vehicles and watercraft, and sets required sound levels for light-rail transit vehicle warning signals. The extensive state regulations pertaining to worker noise exposure are, for the most part, applicable only to the construction phase of any project (e.g., the Cal-OSHA Occupational Noise Exposure Regulations [8 CCR, General Industrial Safety Orders, Article 105, Control of Noise Exposure, Section 5095, et seq.]) or workers in a central plant and/or a maintenance facility or involved in the use of landscape maintenance equipment or heavy machinery.

Local

Although the university, as a state entity, is not subject to municipal regulation, local standards are important to the university in evaluating impacts. It is California State University policy to seek consistency with local plans and policies where feasible.

City of Carson noise standards are addressed in Chapter 7 (Noise Element) of the City's general plan (1994). The Noise Element sets forth goals and policies to ensure land use compatibility with respect to noise. One goal is to ensure that excessive noise levels do not significantly affect citizens and noise-sensitive land uses within the City. The Noise Element identifies noise compatibility ranges for various land uses. As shown in Table 3M-2, noise levels at single-family and multifamily residential land uses are considered to be "Normally Acceptable" if noise levels are 60 dBA CNEL or lower. Noise levels are "Conditionally Acceptable" (i.e., new construction or development can be undertaken only if a detailed analysis of the noise reduction requirements is made and needed noise insulation features are incorporated into the design) between 60 and 65 dBA CNEL. Noise levels between 65 and 75 dBA CNEL are normally unacceptable, and noise levels above 75 dBA CNEL are clearly unacceptable.

Noise Ordinance. In 1995, the City adopted the Noise Control Ordinance of the County of Los Angeles, as amended, as the City's noise control ordinance. The adopted noise ordinance sets standards for noise levels citywide and provides the enforcement means to reduce obnoxious or offensive noises. The noise sources enumerated in the noise ordinance include radios, phonographs, loudspeakers and amplifiers, electric motors or engines, animals, motor vehicles, and construction equipment. The noise ordinance sets interior and exterior noise levels for all properties within designated noise zones, unless exempted, as shown in Table 3M-4.

Table 3M-2: Noise and Land Use Compatibility, City of Carson General Plan

Land Use Category	Community Noise Exposure			
	Ldn or CNEL, dB			
	Normally Acceptable	Conditionally Acceptable	Normally Unacceptable	Clearly Unacceptable
Residential-Low Density	50-60	60-65	65-75	75-85
Residential-Multiple Family	50-60	60-65	65-75	75-85
Transient Lodging-Motel, Hotels	50-65	65-70	70-80	80-85
Schools, Libraries, Churches, Hospitals, Nursing Homes	50-60	60-65	65-80	80-85
Auditoriums, Concert Halls, Amphitheaters	NA	50-65	NA	65-85
Sports Arenas, Outdoor Spectator Sports	NA	50-70	NA	70-85
Playgrounds, Neighborhood Parks	50-70	NA	70-75	75-85
Golf Courses, Riding Stables, Water Recreation, Cemeteries	50-70	NA	70-80	80-85
Office Buildings, Business Commercial and Professional	50-67.5	67.5-75	75-85	NA
Industrial, Manufacturing, Utilities, Agriculture	50-70	70-75	75-85	NA

Source: Modified from U.S. Department of Housing and Urban Development Guidelines and State of California Standards.

NOTES: NORMALLY ACCEPTABLE
Specified land use is satisfactory, based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

CONDITIONALLY ACCEPTABLE
New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.

NORMALLY UNACCEPTABLE
New Construction or development should be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

CLEARLY UNACCEPTABLE
New construction or development should generally not be undertaken.

NA: Not Applicable

Source: City of Carson General Plan. Available: <http://ci.carson.ca.us/CityDepartments/DevServ/GenPlan/noise.htm>. Accessed: September 29, 2006.

Table 3M-3 lists the standards and criteria that specify acceptable limits of noise for various land uses throughout the City of Carson.

Table 3M-3: Interior and Exterior Noise Standards

Land Use Categories		CNEL	
Categories	Uses	Interior[1]	Exterior[2]
Residential	Single family Duplex, Multiple Family	45 - 55	50 – 60
	Mobile Home	45	65
Commercial Industrial Institutional	Hotel, Motel, Transient Lodging	45	--
	Commercial Retail, Bank, Restaurant	55	--
	Office Building, Research and Development, Professional Offices, City Office Building	50	--
	Amphitheater, Concert Hall, Auditorium, Meeting Hall	45	--
	Gymnasium (Multipurpose)	50	--
	Sports Club	55	--
	Manufacturing, Warehousing, Wholesale, Utilities	65	--
	Movie Theaters	45	--
Institutional	Hospital, Schools' Classrooms	45	65
	Church, Library	45	--
Open Space	Parks	--	65

NOTES:

1. Indoor environmental including: Bedrooms, living areas, bathrooms, toilets, closets, corridors.
2. Outdoor environment limited to: Private yard of single family
   Multi-family private patio or balcony which is served by a means of exit from inside the dwelling
   Balconies 6 feet deep or less are exempt
   Mobile home park
   Park's picnic area
   School's playground
3. Noise level requirement with closed windows. Mechanical ventilating system or other means of natural ventilation shall be provided as of Chapter 12, Section 1205 of UBC.
4. Exterior noise levels should be such that interior noise levels will not exceed 45 CNEL.

Source: City of Carson General Plan. 2002a. Available: <http://ci.carson.ca.us/CityDepartments/DevServ/GenPlan/noise.htm>. Accessed: September 29, 2006.

Table 3M-4: Noise Ordinance Standards As Adopted by the City of Carson

Noise Zone	Designated Noise Zone Land Use (Receptor Property)	Time Interval (dB)	Exterior Noise Level	Interior Noise Level
I	Noise Sensitive-Area	Anytime	45	---
II	Residential Properties	10:00 pm to 7:00 am (nighttime)	45	---
		7:00 am to 10:00 pm (daytime)	50	---
III	Commercial Properties	10:00 pm to 7:00 am (nighttime)	55	---
		7:00 am to 10:00 pm (daytime)	60	---
IV	Industrial Properties	Anytime	70	---
All Zones	Multi-family	10:00 pm – 7:00 am	---	40
	Residential	7:00 am – 10:00 pm	---	45

Source: Section 12.08.490 and 12.08.400 in County of Los Angeles County Code. Nov. 2001.

Enforcing the noise ordinance includes requiring proposed development projects to show compliance with the ordinance construction activity to comply with established schedule limits. The Noise Control Ordinance of the County of Los Angeles (Section 12.08.440, Title 12, Environmental Protection, Los Angeles County Code, Ordinance 11778 Section 2 [Article 5, Section 501(c)], 1978) as it pertains to construction is provided below.

A. Operating or causing the operation of any tools or equipment used in construction, drilling, repair, alteration, or demolition work between the weekday hours of 7:00 p.m. and 7:00 a.m. or at any time on Sundays or holidays such that the sound therefrom creates a noise disturbance across a residential or commercial real property line, except for emergency work of public service utilities or by variance issued by the health officer, is prohibited.

B. Noise Restrictions at Affected Structures. The contractor shall conduct construction activities in such a manner that the maximum noise levels at the affected buildings will not exceed those listed in the following schedule:

1. At Residential Structures

   a. Mobile Equipment. Maximum noise levels for nonscheduled, intermittent, short-term operation (less than 10 days) of mobile equipment:

	Single-Family Residential	Multifamily Residential	Semi-residential/ Commercial
Daily, except Sundays and legal holidays, 7:00 a.m. to 8:00 p.m.	75 dBA	80 dBA	85 dBA
Daily, 8:00 p.m. to 7:00 a.m., and all day Sunday and legal holidays	60 dBA	64 dBA	70 dBA

b. Stationary Equipment. Maximum noise level for repetitively scheduled and relatively long-term operation (periods of 10 days or more) of stationary equipment:

	Single-Family Residential	Multifamily Residential	Semi-residential/ Commercial
Daily, except Sundays and legal holidays, 7:00 a.m. to 8:00 p.m.	60 dBA	65 dBA	70 dBA
Daily, 8:00 p.m. to 7:00 a.m., and all day Sunday and legal holidays	50 dBA	55 dBA	60 dBA

2. At Business Structures

a. Mobile Equipment. Maximum noise levels for nonscheduled, intermittent, short-term operation of mobile equipment: daily, including Sunday and legal holidays, all hours (maximum of 85 dBA).

C. All mobile or stationary internal-combustion-engine powered equipment or machinery shall be equipped with suitable exhaust and air-intake silencers in proper working order.

D. In case of a conflict between this chapter and any other ordinance regulating construction activities, provisions of any specific ordinance regulating construction activities shall control (Ordinance 11778, Section 2 [Article 5, Section 501(c)], 1978).

Impacts and Mitigation

Thresholds of Significance

The criteria used to determine the significance of an impact related to noise are based on the model initial study checklist in Appendix G of the *State CEQA Guidelines*.[19] The proposed project would result in significant noise impacts if it would cause

- an exposure of persons, including nearby residents, students, and faculty, to exterior noise levels in excess of 65 dBA CNEL or a generation of noise levels in excess of adopted local agency noise standards;
- an increase of 5 dBA or more where the noise levels without the proposed project are below the standard for residential uses and the increase in noise from the proposed project does not cause the applicable noise thresholds to be exceeded;
- a permanent increase of more than 3 dBA CNEL in ambient noise levels in the proposed project vicinity above levels existing without the proposed project for areas where existing ambient noise levels, or the projected ambient noise levels after implementation of the proposed project, would exceed acceptable noise levels as adopted in local agency noise ordinances or general plan goals; or
- temporary or periodic noise levels in excess of City of Carson noise standards.

Project Impacts

The master plan identifies near- and long-term projects. The near-term projects are likely to be built within the next ~~10~~ 8 years if the funding is available and enrollment levels justify construction of new facilities.

Near-term projects are those that would be needed to accommodate an enrollment level of 11,000 FTE students. According to current estimates, an enrollment level of 11,000 FTE students would be achieved by 2017. Near-term projects would be constructed in a phased manner over the next ~~10~~ 8 years. If enrollment levels do not reach 11,000 FTE students by 2017, or if funding is unavailable, some of the near-term projects may not be built.

The increase in FTE students would bring increases in noise from associated traffic, construction, and other on-site noise sources. The noise impacts for the near-term projects are analyzed in detail in this section. The near-term projects are in various phases of design and planning. Because more information is available for these projects, a quantitative level of analysis has been conducted.

[19] California Code of Regulations, Title 14, Chapter 3, Guidelines for Implementation of the California Environmental Quality Act: Appendix G. Sacramento, CA.

Long-term projects are those that would be required to meet the demands of students between 2017 and 2040. These projects have been defined in concept only, and no formal design efforts have begun. According to current growth trends for enrollment at the university, ~~20,000~~ 14,000 FTE students would be achieved by 2040, and 20,000 FTE students would be achieved by 2089. Because long-term projects would be constructed far in the future, beyond the planning horizon of local and regional plans, the noise effects of these future projects can only be qualitatively assessed. As enrollment levels rise beyond 11,000 FTE students, appropriate environmental documentation would be prepared to address new construction (not previously addressed in this EIR) to accommodate enrollment growth.

Near-Term (2017) Impacts

The principal noise generators associated with implementation of the master plan would be construction activities (temporary) and project-related motor-vehicle traffic (long term). Other noise generators associated with the proposed project include routine activities such as use of landscape maintenance equipment, infrastructure mechanical equipment, recreational activities, and parking lot activities.

Construction Impacts

Potential Impact: Construction of Campus Facilities Pursuant to the Master Plan Could Expose Nearby Sensitive Receptors to Noise in Excess of Local Standards

Construction of the various projects is estimated to take place from 2007 through 2017 or beyond, depending upon availability of funding and enrollment growth at the campus, which drives demand for these facilities.

Potential noise effects from construction activities were assessed using a standard reference for construction noise (EPA 1971). EPA has compiled data related to the noise-generating characteristics of specific types of construction equipment and noise levels that can be achieved with implementation of feasible control measures. These data are presented in Table 3M-5. As shown, heavy equipment can generate noise levels ranging from approximately 76 dBA to 89 dBA when measured at 50 feet and 70 dBA to 83 dBA when measured at 100 feet, without implementation of noise reduction measures. The noisiest pieces of equipment likely to be used during the project's construction phase include jackhammers and pavers, which produce noise levels of approximately 75 and 80 dBA, respectively, at 50 feet with implementation of the required feasible noise-reduction control measures, as shown in Table 3M-5. As with all construction equipment noise, these noise levels would diminish with distance from the construction site, with a decrease of approximately 6 dBA per doubling of distance. Topographical or structural shielding between the noise source and the receiver would provide additional noise reduction.

Table 3M-5: Noise Levels and Abatement Potential of Construction Equipment Noise at 50 and 100 Feet

Equipment	Noise Level at 50 Feet		Noise Level at 100 Feet	
	Without Controls (dBA)	With Controls (dBA)[a]	Without Controls (dBA)	With Controls (dBA)[a]
Earthmoving				
Front Loaders	79	75	73	69
Backhoes	85	75	79	69
Dozers	80	75	74	69
Tractors	80	75	74	69
Graders	85	75	79	69
Pavers	89	80	83	74
Trucks	82	75	76	69
Materials Handling				
Concrete Mixers	85	75	79	69
Concrete Pump	82	75	76	69
Crane	83	75	77	69
Concrete Crushers	85	75	79	69
Stationary				
Pumps	76	75	70	69
Generator	78	75	72	69
Compressors	81	75	75	69
Impact				
Jackhammers	88	75	82	69
Pneumatic Tools	86	80	80	74
Other				
Saws	78	75	72	69
Vibrators	76	75	70	69

Notes:
[a] Noise levels that can be achieved with implementation of feasible noise controls. Feasible noise controls include selecting quieter procedures or machines and implementing noise control features requiring no major redesign or extreme cost (e.g., improved mufflers, equipment redesign, use of silencers, shields, shrouds, ducts, and engine enclosures).
Source: EPA, 1971.

The persons closest to the area of disturbance who could be affected by noise generated during construction include faculty, staff, and students who work or live near the new building sites on campus and residents.

Routine airborne noise levels from conventional construction activities (with a typical number of pieces of equipment operating on-site) range from 78 to 89 dBA L_{eq} at a distance of 50 feet. Typically, for similar projects (i.e., schools), the quietest phase of construction is during foundation construction (78 dBA L_{eq} at a distance of 50 feet), and the loudest phase, producing 89 dBA L_{eq} at 50 feet, is during grading and finishing. Noise levels from construction activities generally decrease at a rate of 6 dB per doubling of distance from the activity. Thus, at a distance of 100 feet from the center of construction activities,

construction noise levels would range between 72 and 83 dBA L_{eq}. At a distance of 500 feet from the center of construction activities, construction noise during the noisiest phases of construction would range between 58 and 69 dBA L_{eq}. At a distance of 1,000 feet, construction noise ranging between 51 dBA L_{eq} and 63 dBA L_{eq} could be experienced, but actual noise levels would likely be lower due to additional attenuation from ground effects, air absorption, and shielding by miscellaneous intervening structures.

At distances of 140 feet or more from construction activity, noise from on-campus construction is predicted to be below the daytime significance criterion of 80 dBA for multifamily uses, such as on-campus housing. At distances of 250 feet or more from construction activity, noise from on-campus construction is predicted to be below the daytime significance criterion of 75 dBA for single-family uses, such as the off-campus residences to the north and south. If a construction site is less than 140 feet (multifamily use) or 250 feet (single-family use), the noise level would exceed the applicable significance criterion.

Most new construction on campus would occur in the eastern and southeastern portions of the campus, in areas that are removed from off-campus sensitive receptors to the north and west. Therefore, although noise from construction would be audible, temporarily elevating the local ambient noise levels to some degree at distances 250 feet or more from the source, construction noise on campus would likely not cause an exceedance of the noise impact significance criteria at existing off-campus residences to the north or west and would, as necessary, be reduced to less-than-significant levels through implementation of mitigation measure N-1. Construction of new facilities on infill sites on the central campus would, however, occur at distances of less than 140 feet from existing and future sensitive receptors and would result in noise levels that exceed the significance criteria.

As construction occurs on campus, receptors could occupy new uses that lie within 140 feet of a construction site. Additionally, the existing single-family residences south of University Drive are located within 150 feet of proposed master plan construction. This would be a significant impact. Mitigation measure N-1 would be implemented to control construction noise on campus to the extent practicable and feasible, which would reduce the potential impact at most locations to a less-than-significant level. However, there could potentially be some construction sites on campus where, even with the recommended mitigation, the noise levels would not be reduced to levels below the thresholds. Therefore, this impact is considered significant and unavoidable.

Construction activities that might expose persons to excessive groundborne vibration or noise could cause a potentially significant impact. However, normal construction activities using conventional construction techniques and equipment would not generate substantial levels of groundborne vibration or noise. It is not anticipated that pile driving, blasting, or other special construction techniques would be necessary to construct the types of facilities identified under the master plan. Therefore, excessive groundborne vibration and noise would not be generated.

Mitigation Measures

N-1 Prior to initiation of construction of a specific development project, the university shall approve a construction noise mitigation program that shall be implemented for each construction project. This shall include, but not be limited to, the following:

- construction equipment that is properly maintained and has been outfitted with feasible noise-reduction devices to minimize construction-generated noise;
- stationary noise sources such as generators or pumps that are located at least 100 feet away from noise-sensitive land uses as feasible;
- laydown and construction vehicle staging areas that are located at least 100 feet away from noise-sensitive land uses as feasible;
- whenever possible, informing academic, administrative, and residential areas subject to construction noise of pending construction in writing at least a week before the start of each construction project;
- not scheduling loud construction activity (i.e., jackhammering, concrete sawing, asphalt removal, and large-scale grading operations) within 100 feet of a residential or academic building during finals week;
- not scheduling loud construction activity as described above within 100 feet of an academic or residential use, to the extent feasible, during holidays, Thanksgiving break, Christmas break, spring break, or summer break;
- restricting loud construction activity within 100 feet of a residential building to the hours between 7:00 a.m. and 8:00 p.m. Monday through Saturday; and
- scheduling loud construction activity within 100 feet of an academic building, to the extent feasible, on weekends.

Residual Impact

Potentially significant after mitigation.

Operational Impacts

Potential Impact: Near-term projects would result in Increased Vehicular Traffic on the City Road Network but Would Not Result in a Noticeable Increase in Ambient Noise Levels at Modeled Locations

As a result of regional population and employment growth, as well as campus growth under the master plan, traffic on local arterial streets is expected to increase relative to current conditions. Potential increases in noise levels from vehicular traffic were estimated using the Federal Highway Administration's Traffic Noise

Model (FHWA-TNM®), version 2.5. Information used in the model includes the existing year (2007) and near-term future year (2017) traffic volumes and speeds. Noise levels were modeled at a total of 20 receptor locations (MR-1 through MR-20) representative of noise-sensitive land uses, as shown in Figure 3M-3. The receptors were modeled at a height of 5 feet above the ground. These receptors represent existing off-site residences adjacent to the major arterials in the vicinity of the proposed project. One of the receptors (MR-13) represents existing recreational land uses on campus, and two of the receptors (MR-19 and MR-20) represent future on-campus housing. Traffic volumes were obtained from the traffic study conducted for the master plan for existing, 2017 without-project, 2017 with-project traffic conditions and used to model noise levels under those scenarios. Traffic noise impacts were calculated by comparing the existing (2007) baseline conditions, the 2017 without-project scenario, and the 2017 with-project scenario.

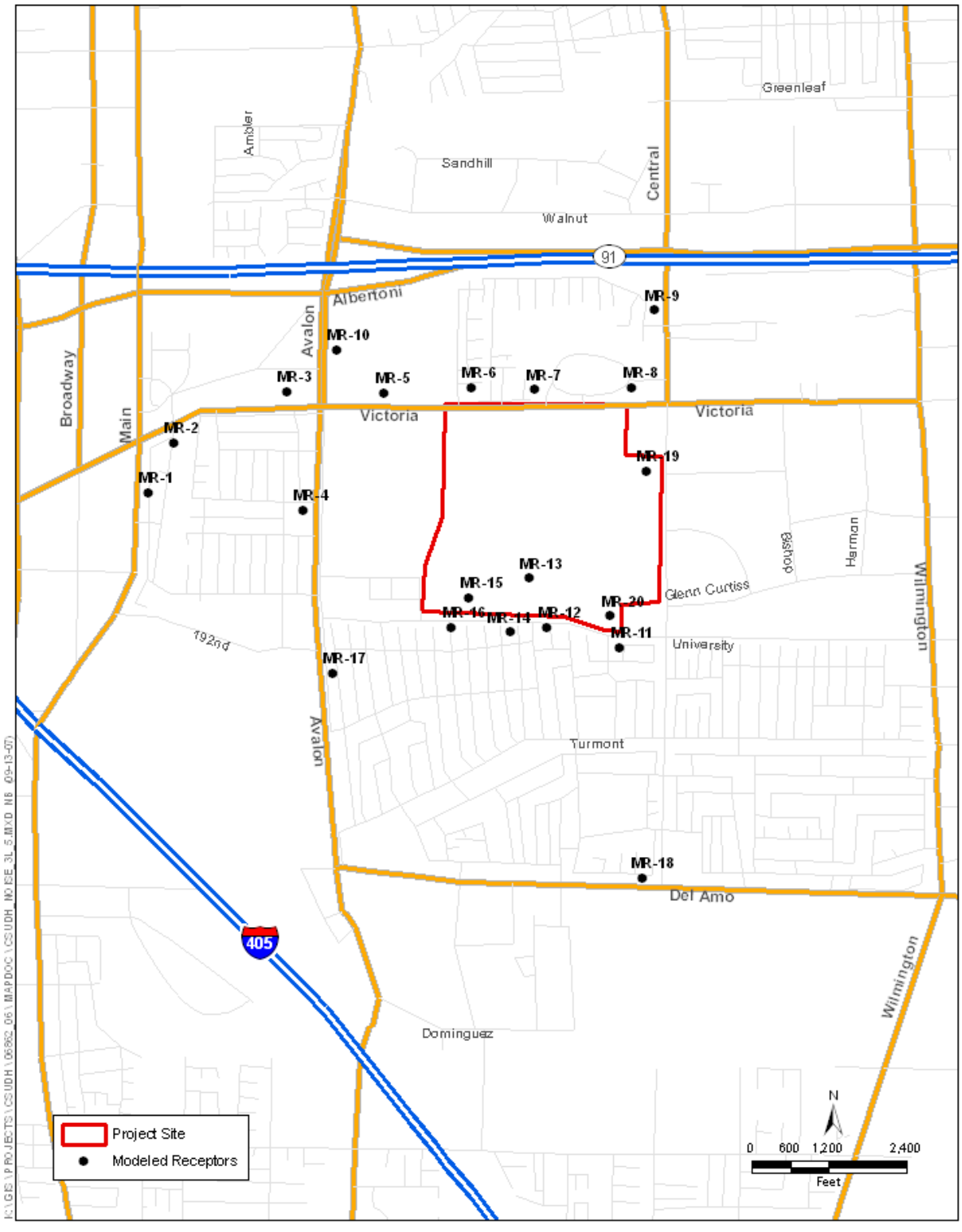
The information provided from this modeling, along with the results from ambient noise survey measurements, was compared to the noise impact significance criteria to assess whether project-related traffic noise would cause a significant impact and, if so, where. The comparisons are presented in Table 3M-6. A significant impact would result under one of the two following conditions: (1) future noise levels under the with-project scenario exceed the noise standard of 65 dBA CNEL for residences or schools and parks or (2) the modeled increase in noise is substantial, as defined above (Thresholds of Significance).

As Table 3M-6 shows, traffic noise levels are predicted to increase in 2017 compared to existing conditions. Traffic noise is predicted to increase 0 to 2 decibels in 2017 with or without the proposed project. The proposed project is not anticipated to result in significant noise increases or cause an exceedance of applicable noise standards. Therefore, the impact from traffic noise associated with the proposed project would be less than significant.

Mitigation Measures

Mitigation not required.

Figure 3M-3: Modeled Noise-Sensitive Receptor Locations



SOURCE: ESRI Streetmap USA(2006)

Table 3M-6: Traffic Noise Levels at Off-Campus Locations

		Modeled Results (dBA CNEL)						
Modeled Receptor ID	**Measurement Location**	**Applicable Noise Standard**	**Estimated Existing (2007) Noise Levels**	**2017 Without-Project Noise Levels**	**2017 With-Project Noise Levels**	**2017 Without-Project Increase over Existing Noise Levels**	**2017 With-Project Increase over Existing Noise Levels**	**Does Project Result in a Significant Increase or an Exceedance of the Applicable Noise Standard?**
MR-1	Residences east of Main St south of Victoria	65	59	60	60	1	1	No
MR-2	Residences south of Victoria east of Main St	65	61	62	63	1	2	No
MR-3	Residences south and north of Victoria west of Avalon	65	62	63	63	1	1	No
MR-4	Residences west of Avalon south of Victoria	65	64	65	65	1	1	No
MR-5	Residences north of Victoria east of Avalon	65	62	63	64	1	2	No
MR-6	Residences north of Victoria west of Tamcliff	65	60	61	62	1	2	No
MR-7	Residences north of Victoria east of Tamcliff	65	60	61	61	1	1	No
MR-8	Residences north of Victoria west of Central Ave	65	60	61	61	1	1	No
MR-9	Residences east of Central Ave north of Victoria	65	62	63	63	1	1	No
MR-10	Residences east and west of Avalon north of Victoria	65	62	63	63	1	1	No

		Modeled Results (dBA CNEL)						
Modeled Receptor ID	**Measurement Location**	**Applicable Noise Standard**	**Estimated Existing (2007) Noise Levels**	**2017 Without-Project Noise Levels**	**2017 With-Project Noise Levels**	**2017 Without-Project Increase over Existing Noise Levels**	**2017 With-Project Increase over Existing Noise Levels**	**Does Project Result in a Significant Increase or an Exceedance of the Applicable Noise Standard?**
MR-11	Residences south of University Dr west of Central Ave	65	58	58	59	0	1	No
MR-12	Residences south of University Dr east of Drive I	65	58	58	58	0	0	No
MR-13	On-Campus residences west of Drive I	65	56	56	57	0	1	No
MR-14	Residences south of University Dr west of Drive I	65	59	59	60	0	1	No
MR-15	Residences north of University Dr east of Avalon	65	59	60	60	1	1	No
MR-16	Residences north and south of University Dr east of Avalon	65	59	60	61	1	2	No
MR-17	Residences east of Avalon south of University Dr	65	62	62	63	0	1	No
MR-18	Residences north of Del Amo Blvd west of Central Ave	65	61	63	63	2	2	No
MR-19	On-campus student housing east of Central Ave	65	n/a	n/a	64	n/a	n/a	No
MR-20	On-campus faculty housing north of University Dr	65	n/a	n/a	64	n/a	n/a	No

Source: EPA, 1971.

Potential Impact: Future Residents on Campus Could Be Exposed to High Noise Levels from Increased Vehicular Traffic on Adjacent Roads

The master plan proposes development of additional housing for both students and faculty/staff on the campus. Two areas east and southeast of the existing Pueblo Dominguez student housing area, totaling approximately 18.3 acres, have been designated for future student housing. Currently, student housing is proposed along Central Avenue with 798,280 gsf of floor space. This would increase on-campus student housing by approximately 600 beds (two phases, 300 beds each). The student housing buildings would be no more than four stories in height. Faculty/staff housing would be provided on a 23-acre site in the southeast corner of the campus. This facility would be for campus faculty and staff only. Faculty/staff housing would be accessed directly via University Drive. No design plans have been developed for this housing facility.

Traffic noise levels were modeled for student and faculty/staff housing (MR-19 and MR-20, respectively) assuming minimum setbacks (i.e., distance between a noise-sensitive receiver and the roadway) of 75 feet from the centerline of the near lanes of traffic for housing along Central Avenue and 40 feet for housing along University Avenue. Alternatively, soundwalls, berms, or building placement that would shield noise-sensitive areas from direct roadway exposure may be utilized to achieve an exterior noise level of 65 dBA CNEL or lower and 45 dBA CNEL for the interior. The impact of traffic noise on future on-site uses would be less than significant; nonetheless, measure N-2 is proposed to ensure that noise levels remain less than significant for future residents.

Mitigation Measures

N-2 For future noise-sensitive land uses, such as student and faculty/staff housing that would be constructed under the master plan, building and area layouts shall incorporate noise control as a design feature, as feasible. Noise control features could include increased setbacks (minimum of 75 feet from the centerline of the near lanes of Central Avenue and 40 feet from the centerline of University Avenue), landscaped berms, and building placement that would shield noise-sensitive exterior areas from direct roadway exposure. The campus may also use other noise attenuation measures such as double-pane windows and insulation to minimize interior noise levels.

Residual Impact

Less than significant before and after implementation of mitigation measures.

Potential Impact: Existing Off-Campus Residents and Existing and Future On-Campus Residents Could Be Exposed to High Noise Levels from Increased On-Site Noise

The master plan includes projects through 2017, including a new science and health professions laboratory, a new extended education complex, an addition and renovations to La Corte Hall, ~~an addition to the Loker Student Union~~ a recreation center near the existing gymnasium building, southeast campus site development/infrastructure (cogeneration facility addition), a 750- to 1,000-space surface parking lot ~~a new five-level, 720,000-square-foot parking structure,~~ and a new campus entrance from Central Avenue. In addition, the Cain Library seismic safety project and fifth-floor remodeling, natural sciences and mathematics building remodeling (classrooms and offices), and social and behavioral and sciences building remodeling~~; and the student fitness center/gymnasium remodeling~~ would all take place.

Final building plans do not yet exist for the projects listed above, and specifics regarding equipment and plant machinery, such as heating, ventilation and air-conditioning (HVAC) equipment, have not yet been developed. However, it is anticipated that noise levels from parking facilities and on-site equipment would be comparable to noise levels from the facilities and equipment currently in place, which are low. The proposed natural gas cogeneration plant, for example, would be constructed within the boundaries of the current central plant site and fully enclosed within a single-story structure. Noise from the new cogeneration plant is anticipated to be comparable to the existing plant, which is barely audible from a distance of 100 feet away.

Projects constructed under the master plan would be designed to ensure an interior noise level of 45 dBA CNEL in classrooms and 50 dBA CNEL in office spaces. The impact on existing and future on- and off-site uses from facilities and equipment associated with the proposed project would be less than significant.

Mitigation Measures

Mitigation not required.

Long-Term (2040) Impacts

Long-term development of the campus as envisioned in the master plan includes various academic/administrative facilities, campus life and student support facilities, vehicle access improvements, circulation and parking projects, new campus infrastructure, and athletic fields and playfields. Because long-term projects would be constructed far in the future, beyond the planning horizon of local and regional plans, the noise effects of these future projects can be only

qualitatively assessed. Construction noise would likely be comparable to levels predicted for the near-term (2017) and would, therefore, be significant and (potentially) unavoidable even with implementation of mitigation measures. However, such noise impacts would be short-term in nature. With the planned increase in the number of students (an increase of approximately ~~220~~ 61 percent compared to 2007 levels) and corresponding increase in project-related traffic and infrastructure, it is anticipated that noise levels would increase perceptibly, potentially to a degree that would result in significant impacts. However, as specific projects are developed in the future, appropriate environmental documentation would be prepared to quantify, analyze, and mitigate noise impacts found to be significant.

Unavoidable Significant Adverse Impacts

Construction noise impacts would be unavoidable and significant adverse.

Cumulative Impacts

Cumulative noise impacts could potentially occur from the development of other projects within the area. Approximately ~~13~~ 14 projects in the general vicinity (an approximate 1.5-mile radius) could generate noise impacts similar to those of the proposed project. Noise from construction and operation of those projects would tend to be localized, thereby potentially affecting the areas immediately surrounding each prospective project site. Of those projects, those within 0.25 mile could result in construction noise that exceeds significance thresholds, depending upon the timing of construction. ~~Three such projects (Dominguez Technology Center, Dominguez Hills Village, and CSUDH/Home Depot Center Phase II) are proposed within 0.25 mile of the proposed project site.~~ Four such projects (Dominguez Technology Center, Dominguez Hills Village, Cain Library Expansion, and CSUDH/Home Depot Center Phase II) are proposed within 0.25 mile of the proposed project site. Although there is the potential for cumulative noise impacts from construction noise if construction activities for the nearby projects take place at the same time as the proposed project, implementation of mitigation measures would reduce impacts to less-than-significant levels.

No related projects are located close enough to the proposed project to have the potential to create a cumulative long-term operational noise impact. Off-site operational noise sources would consist primarily of vehicle trips along adjacent streets. The increase in traffic volumes, which includes volumes from related projects, was accounted for in the traffic analysis conducted for the proposed project. Cumulative impacts associated with the proposed project and identified related projects are anticipated to be less than significant.

Section 3N
Public Services

Introduction

This section discusses the public services that would be required to serve the proposed project. Existing public service providers for the campus are identified, and potential impacts on public services that could occur as a result of construction and operation of the proposed project are evaluated.

Setting

Location of Public Services and Facilities

Table 3N-1 below lists the public services (fire, police, school, library, and park and recreational facilities) in the vicinity of the proposed project; accompanying Figure 3N-1 (Public Services Locations Map) shows their locations (map ID numbers provided in the table below).

Table 3N-1: Public Services and Facilities in the Vicinity of the Proposed Project

Map ID Number	Facility Name	Address	Distance from Campus
Fire Stations			
1	LACoFD Station 116	755 East Victoria Street	< 0.1 mile
2	LACoFD Station 10	1860 East Del Amo Boulevard	0.9 mile
3	LACoFD Station 95	137 West Redondo Beach Boulevard	2.0 miles
4	LACoFD Station 105	1891 South Santa Fe Avenue	2.0 miles
5	LACoFD Station 36	127 West 223rd Street	2.2 miles
6	LACoFD Station 127	2049 East 223rd Street	2.2 miles
Police Stations			
7	University Police Services	1000 East Victoria Street	On campus
8	L.A. County Sheriff's Department	21356 South Avalon Boulevard	1.8 miles

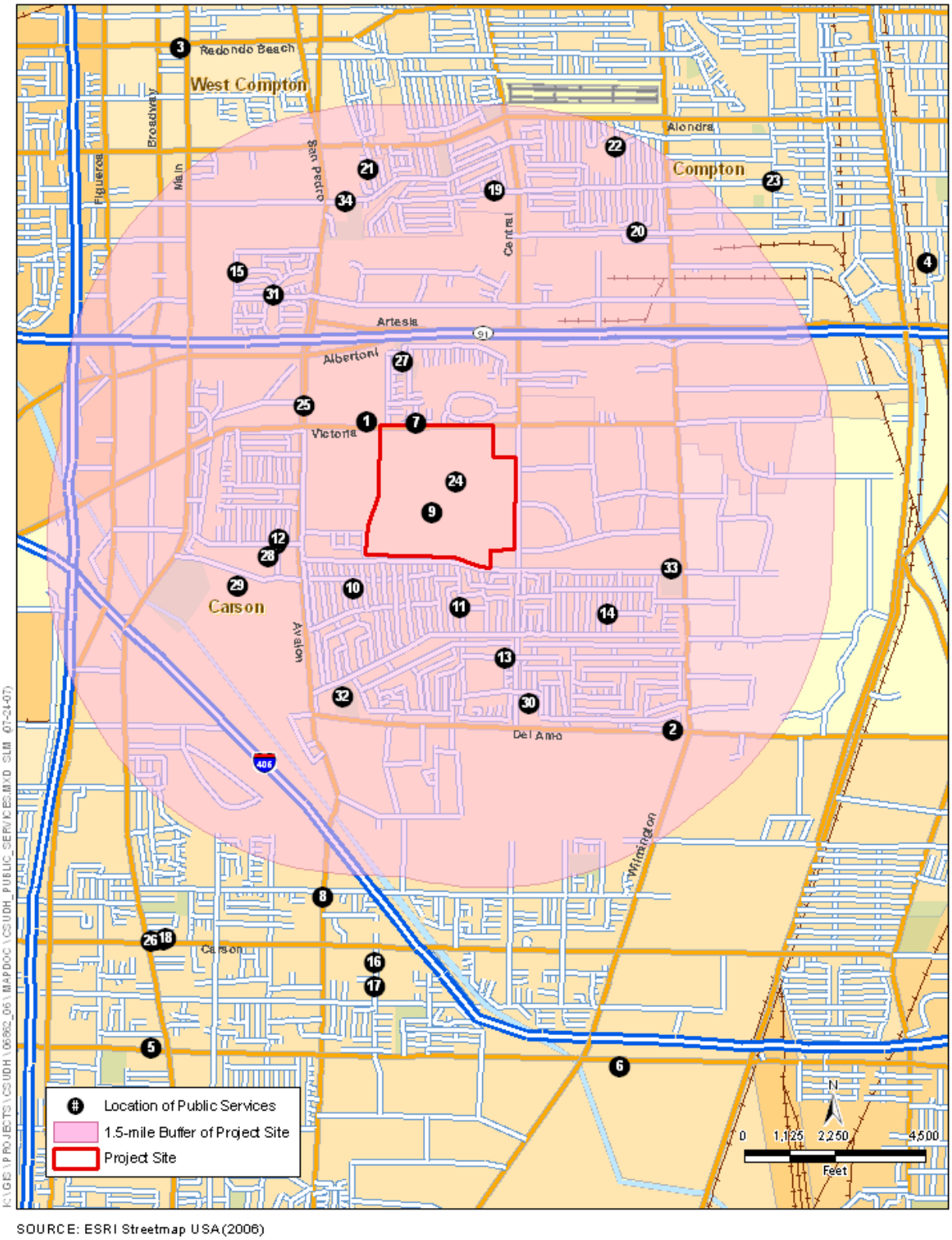
Map ID Number	Facility Name	Address	Distance from Campus
Schools			
9	California Academy of Mathematics and Science	1000 East Victoria Street	On campus
Los Angeles Unified School District			
10	Leapwood Avenue School	19302 Leapwood Avenue	0.2 mile
11	Annalee Avenue School	19410 South Annalee Avenue	0.3 mile
12	Towne Avenue Elementary School	18924 Towne Avenue	0.4 mile
13	Curtis Jr. High School	1256 East Helmick Street	0.5 mile
14	Broadacres Avenue School	19424 South Broadacres Avenue	0.6 mile
15	Ambler Avenue School	319 East Sherman Drive	0.9 mile
16	Carnegie Jr. High School	21820 Bonita Street	1.9 miles
17	Bonita Street School	21929 Bonita Street	2.0 miles
18	Carson Street School	161 East Carson Street	2.0 miles
Compton Unified School District			
19	Caldwell Street Elementary School	2300 West Caldwell Street	0.9 mile
20	Walton Middle School	900 West Greenleaf Drive	1.0 mile
21	Ralph Bunche School	16223 South Haskins Lane	1.1 miles
22	Longfellow School	1101 South Dwight Street	1.3 miles
23	Robert F. Kennedy Elementary	1305 South Oleander Street	1.6 miles
Libraries			
24	CSUDH University Library	1000 East Victoria Street	On campus
25	Victoria Park Library	17906 South Avalon Boulevard	0.2 mile
26	Carson Library	151 East Carson Street	1.9 miles
Parks and Recreational Facilities			
27	Stevenson Park	17400 Lysander Drive	0.2 mile
28	Victoria Community Regional Park	416 East 192nd Street	0.3 mile
29	Victoria Golf Course	340 East 192nd Street	0.3 mile
30	Dr. Thomas G. Mills Memorial Park	1340 East Diamond Drive	0.6 mile
31	Walnut Street Mini Park	440 East Walnut Street	0.7 mile
32	Del Amo Park	703 East Del Amo Boulevard	0.7 mile
33	James Anderson Jr. Memorial Park	19001 South Wilmington Avenue	0.7mile
34	Vernon Hemingway Park	700 East Gardena Boulevard	0.9 mile

Notes:

LACoFD = Los Angeles County Fire Department.

Source: ICF Jones and Stokes, 2007.

Figure 3N-1: Public Services and Facilities in the Project Area



SOURCE: ESRI Streetmap USA(2006)

Fire Protection and Prevention and Emergency Services

Since the campus is a state-owned facility, the State Fire Marshall has jurisdiction over the facilities on campus. Nonetheless, CSDUH would comply with local fire regulations.

Los Angeles County Fire Department

The City of Carson and the CSUDH campus are served by the Los Angeles County Fire Department (LACoFD). Figure 3N-1 shows the locations of fire stations in the City of Carson. The City of Carson is served by six primary fire stations that provide both fire and emergency medical services; four of the stations are located within the boundaries of the City of Carson. Each of the primary stations has established an expanded response matrix for its individual jurisdiction, which identifies where additional resources are available to help a fire station respond to an emergency.

LACoFD was contacted regarding the proposed project on April 26, 2007. A letter on June 14, 2007, from Chief John Todd indicated that the closest fire station to the campus is Station 116, which is also the primary responder (please refer to Appendix G for a copy of this letter). This station is located at 755 East Victoria Street, approximately 100 feet from the northwest corner of the campus. The station has a three-person engine company, a four-person truck (ladder) company, and a two-person paramedic squad (Todd pers. comm.). Station 116 responded to 1,483 incidents in 2006, plus another 89 non-emergencies (Todd pers. comm.). Of the 1,483 incidents, 55 were reports of fire. The majority of the remaining incidents were for emergency medical services (Todd pers. comm.). When compared to countywide statistics for all stations, 1,483 is an average number of incidents (Todd pers. comm.). Station 116 had an average emergency response time of 4 minutes 42 seconds and a total average response time of 4 minutes 49 seconds, both within the nationally recognized guideline of 5 minutes (Todd pers. comm.).

The next closest station to the proposed project area is Station 10, battalion headquarters, located at the southeast corner of the Dominguez Hills neighborhood. This station is at 1860 East Del Amo Boulevard, approximately 3 miles from Station 116 and the northern boundary of the campus. Station 10 has a four-person engine company, a one-person foam unit, and a battalion chief. Table 3N-2 lists the average fire station response times for the City of Carson.

In addition to the fire stations described above, four additional stations are located in the nearby area (see Figure 3N-1). These include Station 95 at 137 West Redondo Beach Boulevard in the unincorporated Rosewood area, Station 105 at 1891 South Santa Fe Avenue in the unincorporated Rancho Dominguez area, Station 36 at 127 West 223rd Street in Carson, and Station 127 at 2049 East 223rd Street, also in Carson. Three LACoFD helicopters are strategically located to provide air ambulance and paramedic service to the area, including the

campus. American Medical Response provides ambulance service for the Carson area, including the proposed project area. American Medical Response units are based at East 223rd Street and Lucerne Avenue in Carson (City of Carson 2002b).

Table 3N-2: Fire Station Response Times in the City of Carson

Type of Service	Average Response Time (minutes)
Emergency Medical Services	4.7
Fire	5.0
Hazardous Materials	5.0
Other	5.4
Average	4.9

Source: City of Carson, Public Review Draft of the General Plan Update, October 2002.

Police Protection

Los Angeles County Sheriff

The City of Carson does not have its own police department; police services within the City are provided by the Los Angeles County Sheriff's Department. CSUDH is within the jurisdiction of the Carson sheriff's station, located at 21356 South Avalon Boulevard. The Los Angeles County Sheriff's Department was contacted regarding the proposed project on May 1, 2007. A letter on July 2, 2007, from Captain Todd Rogers of the Carson sheriff's station indicated that the current personnel-to-resident ratio is 0.76 officer per 1,000 residents. This ratio is lower than the "standard of excellence" (or the optimal number of personnel per resident) as defined by the Los Angeles County Sheriff's Department, which is 1.7 officers per 1,000 residents. Approximately 31 patrol cars, divided among three work shifts, serve the Carson area each 24-hour period (City of Carson 2006). Table 3N-3 provides crime statistics for 2004 through 2006 for the reporting districts that surround CSUDH.

According to the Los Angeles County Sheriff's Department, the Carson station recorded 35 regular calls for service, three emergency 9-1-1 calls, and 75 routine observations, for a total of 113 incidents (from June 30, 2006, through July 1, 2007) (Bolin pers. comm.). The average response times were 4.2 minutes for emergency calls, 7 minutes for priority calls, and 26 minutes for routine calls. The staffing levels at Carson station are evaluated every year and adjusted as needed within the budgetary confines of the City of Carson. No specific information was provided related to the number of calls made to the campus. Plans are under way to remodel and expand the Carson station in the near future.

Table 3N-3: Los Angeles County Sheriff's Department Crime Statistics, Carson District, 2004–2006

Crime	2004	2005	2006
Homicide	15	10	12
Sex Offenses (felony)	71	57	27
Forcible Rape	28	27	4
Robbery	218	270	105
Aggravated Assault	533	492	204
Burglary	738	697	207
Larceny	1,989	1,819	281
Disorderly Conduct	110	105	5
Grand Theft Auto	891	793	87
Weapons Violations	144	172	159
Vandalism	572	694	97
Arson	46	40	2

Source: Los Angeles County Sheriff's Department, 2007.

University Police

University Police was contacted regarding the proposed project on May 1, 2007. A letter on July 19, 2007, from Chief Susan Sloan indicated that University Police has jurisdiction over the CSUDH campus and campus facilities; the staff currently consists of 18 sworn officers. The University Police station is located in Welch Hall, directly south of Victoria Street along the north side of campus. The staff currently consists of 18 sworn officers. At a minimum, three officers are on duty at any given time. However, more officers are required during periods of increased campus usage such as special events on campus or events held at the Home Depot Center. University Police serves CSUDH 24 hours a day, every day of the year (Sloan pers. comm.).

University Police also oversees student patrol/escort operations on campus. The student patrol operates Monday through Thursday from 6:00 p.m. to 11:00 p.m. and services all campus locations; it also provides parking lot security, acting as the "eyes and ears" for University Police. When the student patrol is not on duty, students who are concerned with security can request to be escorted across campus. This service is provided 24 hours a day by University Police officers (Sloan pers. comm.).

Table 3N-4 provides crime statistics for CSUDH between 2003 and 2005.

Table 3N-4: CSUDH Campus Crime Statistics, 2003–2005

Crime	2003	2004	2005
Homicide	0	0	0
Sex Offenses	3	2	3
Robbery	5	1	2
Assault	7	3	2
Burglary	13	24	36
Theft (larceny)	74	84	85
Vehicle Theft	14	22	18
Identity Theft	8	9	33
Arson	0	0	0
Liquor Violations	1	10	4
Drug Violations	8	14	14
Drunk Driving	8	6	6
Weapons Violations	5	5	1
Vandalism	30	20	28
Hate Incidents/Crime	0	0	0

Source: CSUDH, 2007c.

Schools

There are nine public schools within a 1-mile radius of the campus. Six schools are within Los Angeles Unified School District (LAUSD) jurisdiction, and two schools are within the Compton Unified School District (CUSD). One public high school located on the campus, the California Academy of Mathematics and Science, is part of the Long Beach Unified School District.

Los Angeles Unified School District

LAUSD is one of the largest public school districts in the nation. Located in Los Angeles County, it serves the City of Los Angeles; portions of 16 other cities in the county, including the City of Carson; and numerous unincorporated areas of the county that surround the City of Los Angeles. LAUSD has 14 elementary schools, five middle schools, and six high schools in the Carson area. The district covers more than 700 square miles, an area with an estimated population of more than 4.6 million. LAUSD provides kindergarten through high school (K–12) education as well as adult and special education programs to approximately 708,461 students in 2,217 schools and centers (LAUSD 2007a). It employs a staff of 77,377, about half of which are teachers (LAUSD 2007b).

The Los Angeles County Office of Education

The Los Angeles County Office of Education (LACOE) is a regional provider of services to students within the proposed project area and throughout Los Angeles County. LACOE oversees educational programs and supports local school districts with academic, business, administrative, and consulting services related to special education, computer applications, and teaching strategies. LACOE also represents school districts on appropriate matters before state government agencies and may also provide other education and/or support services as required or deemed necessary.

In addition to providing educational services to the county's general population, LACOE administers programs that benefit those who are unable to attend conventional school facilities, such as the physically and mentally disabled, wards of the juvenile court, preschool children, and students in job training programs.

Compton Unified School District

The City of Compton is located just north and east of the campus. CUSD serves the proposed project area and unincorporated neighborhoods in West Compton and East Compton. CUSD provides educational services from pre-school to high school, adult and special education programs, and a Regional Occupational Program (ROP) to approximately 34,500 students in 42 schools. It employs more than 3,000 individuals (Zendejas pers. comm.). CSUDH borders the LAUSD but falls within the CUSD.

California Academy of Mathematics and Science

The California Academy of Mathematics and Science (CAMS) is a 4-year comprehensive high school located on the campus of CSUDH. The high school is part of an educational partnership among CSUDH, the California State University system, the Long Beach Unified School District, and 10 other Los Angeles basin school districts. CAMS is a regional magnet school that seeks out and admits students with talent and passion for mathematics and science (CAMS 2007). A total of 610 students are enrolled at the CAMS facility.

Child Development Center/Infant Toddler Center

The Child Development Center/Infant Toddler Center (CDC/ITC) is located at the northeast corner of the CSUDH campus. The primary purpose of the Child Development Center is to provide affordable child care and developmental services for the children of university students and faculty/staff personnel. The center falls under the administration of Associated Students Inc. (ASI) and the California Department of Education. Enrollment is limited to children between 2.9 and 10 years of age. If vacancies occur, the public is notified (CSUDH 2007).

The Infant Toddler Center is a California Department of Education facility designed to serve developmentally disabled children. Like the Child Development Center, the Infant Toddler Center serves as an on-campus site for research, fieldwork, observation, participation, and other instructional and academically related experiences for the children of university students and faculty/staff personnel. The Infant Toddler Center is open to the public if and when vacancies occur.

Table 3N-5 lists the schools that are within a 2-mile radius of the campus. It includes the schools' addresses, distances from the campus, types, and 2005–2006 enrollment.

Table 3N-5: Educational Facilities

Name of School	Address	Distance from Campus	School Type	2005–2006 Enrollment
California Academy of Mathematics and Science	1000 East Victoria Street, Carson	On campus	High school	610 (2007)
Child Development Center	1000 East Victoria Street, Carson	On campus	2.9–10 years old	not available
Infant Toddler Center	1000 East Victoria Street, Carson	On campus	Infant	not available
Los Angeles Unified School District				
Towne Avenue Elementary School	18924 Towne Avenue, Carson	0.4 mile	K–5	417
Leapwood Avenue School	19302 Leapwood Avenue, Carson	0.2 mile	K–5	397
Annalee Avenue School	19410 South Annalee Avenue, Carson	0.3 mile	K–5	454
Broadacres Avenue School	19424 South Broadacres Avenue, Carson	0.6 mile	K–5	446
Curtis Jr. High School	1256 East Helmick Street, Carson	0.5 mile	6–8	1,445
Carnegie Jr. High School	21820 Bonita Street, Carson	1.9 miles	6–9	1,862
Bonita Street School	21929 Bonita Street, Carson	2.0 miles	K–5	663
Carson Street School	161 East Carson Street, Carson	2.0 miles	K–5	719
Ambler Avenue School	319 East Sherman Drive, Carson	0.9 mile	K–5	660
Compton Unified School District				
Ralph Bunche School	16223 South Haskins Lane, Carson	1.1 miles	K–5	417
Caldwell Street Elementary School	2300 West Caldwell Street, Compton	0.9 mile	K–5	291
Longfellow School	1101 South Dwight Street, Compton	1.3 miles	K–5	795
Robert F. Kennedy Elementary School	1305 South Oleander Street, Compton	1.6 miles	K–5	827
Walton Middle School	900 West Greenleaf Drive, Compton	1.0 mile	6–8	713

Name of School	Address	Distance from Campus	School Type	2005–2006 Enrollment
Other Schools				
Peninsula Christian School	22507 Figueroa Street, Carson	2.9 miles	K–8	not available
St. Philomena Catholic School	21832 South Main Street, Carson	2.2 miles	K–8	not available
Carson Community Adult School	22328 South Main Street, Carson	2.6 miles	Adult	not available

Source: California Department of Education, 2006.

Library Facilities

The City of Carson is served by the Carson Regional Library system, part of the Los Angeles County Library system and a government depository for federal and state documents. The Carson and Victoria Park branch libraries are both within the City. The Carson Library, located at 151 East Carson Street, has 29,112 square feet of space. The service area covers a population of 100,980 (Carson Regional Library 2007). The current collection totals 225,346 items, including audio recordings, video cassettes, magazines and newspapers, large-print books, environmental impact reports, pamphlets, college catalogs, and other special materials such as telephone directories, microforms, topographic and road maps, and local history files (Carson Regional Library 2007).

Victoria Park Library is located at 17906 South Avalon Boulevard in Carson and has 4,580 square feet of space. The service area for the library has a population of 15,412. The library has a collection of 51,430 items, consisting of books, audio and video materials, DVDs, pamphlets, periodicals, and government documents (Victoria Park Library 2007). Circulation has remained stable the past several years.

Funding sources for City of Carson services, including libraries, consist of property taxes and revenue from fines, fees, and other miscellaneous sources. The Los Angeles County Library system receives funds from the Public Library Foundation, which are allocated annually by the state on a per capita basis. For the past several years, the Los Angeles County Board of Supervisors has allocated funds from the county general fund based upon its yearly determination of available funding. However, funding is not guaranteed, and the amounts allocated have decreased in the past.

The planning standards for the Los Angeles County Library system are designed to serve 3.09 persons per household with 3.0 library items per capita and 0.5 gross square feet of facility space. Currently, both Carson Library and Victoria Park Library are under served in terms of the number of library items and facility

size. ~~No plans exist for library expansion.~~ As of August 2009, a four-story, 140,276-square-foot addition to the existing Cain Library is currently under construction (separate from the Master Plan). The addition would be located south of the existing library.

According to library staff, the CSUDH library is available to CSUDH students as well as Carson residents and CAMS students. Per the master plan, the library would be remodeled and retrofitted.

Park and Recreational Facilities

Recreational resources within a 1-mile radius of the campus include five neighborhood and community parks, a golf course, and a regional park (see Table 3N-6). In addition to the facilities listed in the table, the City of Carson Department of Parks and Recreation provides a wide variety of recreational and community services. These include early childhood classes (preschool); special interest classes that focus on education, hobbies, or sports; workout classes and facilities; an after-school "Kids Club"; adult sports leagues and tournaments; boxing/weightlifting; park activities; teen activities; recreation for people with special needs; senior recreation; and fine arts programs.

Table 3N-6: Park and Recreational Facilities

Park Name	Acres	Park Facilities	Distance
Del Amo Park	9.5	Playfields, courts, cooking facilities, meeting rooms, bleachers, picnic tables	0.7 mile
Vernon Hemingway Park	13.0	Playfields, courts, cooking facilities, meeting rooms, bleachers, picnic tables	0.9 mile
Dr. Thomas G. Mills Memorial Park	5.0	Courts, cooking facilities, meeting rooms, bleachers, picnic tables	0.6 mile
James Anderson Jr. Memorial Park	8.5	Courts, playfields, cooking facilities, shelters, Frisbee, an amphitheatre, wading pools	0.7 mile
Stevenson Park	11.7	Playfields, courts, cooking facilities, meeting rooms, bleachers, picnic tables, Frisbee, golf	0.2 mile
Walnut Street Mini Park	1.5	Basketball, playground, picnic tables	0.7 mile
Victoria Community Regional Park (county)	36.0	Fields, courts, meeting rooms, picnic tables, pool, gym	0.3 mile
Victoria Golf Course (county)	161.6	An 18-hole course	0.3 mile

Sources: City of Carson General Plan EIR, 2004; ICF Jones and Stokes, 2007.

The Home Depot Center is a 125-acre development on the CSUDH campus with state-of-the-art stadiums and facilities for soccer, tennis, track and field, cycling, lacrosse, rugby, volleyball, baseball, softball, basketball, and other sports. Designated an Official U.S. Olympic Training Site, the Home Depot Center is the nation's most complete training facility for Olympic, amateur, and professional athletes (Home Depot Center). Currently, the Home Depot Center is a private facility and not open for public use.

Impacts and Mitigation

This section presents a discussion of the potential impacts on public services that could result from implementation of the proposed project.

Methodology

The potential impacts associated with the proposed project are evaluated on a quantitative and qualitative basis through coordination with respective service agencies. These impacts are assessed through significance criteria established for this project.

Thresholds of Significance

Police Protection

For the purposes of the analyses in this EIR, and in accordance with Appendix G of the *State CEQA Guidelines,* the proposed master plan would have a significant environmental impact if it

- creates a substantial need for additional police services, requiring new or altered police facilities to maintain acceptable service ratios or response times, the construction of which would cause a substantial adverse physical change in the environment; or
- substantially diminishes the level of police protection services, thereby posing a significant hazard to public safety and security.

Fire Protection

For the purposes of the analyses in this EIR, and in accordance with Appendix G of the *State CEQA Guidelines,* the proposed master plan would have a significant environmental impact if it

- creates a substantial need for additional fire protection services, requiring new or altered fire department facilities to maintain acceptable service ratios or response times, the construction of which would cause a substantial adverse physical change in the environment; or

- substantially diminishes the level of fire protection services or results in inadequate emergency access, thereby posing a significant hazard to persons or property.

Schools

For the purposes of the analyses in this EIR, and in accordance with Appendix G of the *State CEQA Guidelines*, the proposed master plan would have a significant environmental impact if

- the students generated by the project exceed existing enrollment capacities, thereby creating a substantial need for new or altered facilities, the construction of which would cause a substantial adverse physical change in the environment; or
- the physical effects of the project substantially affect the health, safety, or education of students at local schools.

Libraries

For the purposes of the analyses in this EIR, and in accordance with Appendix G of the *State CEQA Guidelines*, the proposed master plan would have a significant environmental impact if it

- creates a substantial need or demand for library services, requiring new or physically altered library facilities in order to maintain acceptable service ratios, the construction of which would cause significant environmental impacts.

Recreational Facilities and Parks

For purposes of the analyses in this EIR, and in accordance with Appendix G of the *State CEQA Guidelines*, the proposed master plan would have a significant environmental impact if it

- creates a substantial need for additional recreational facilities and/or parks to keep current facilities from becoming overburdened, the construction of which would cause a substantial adverse physical change in the environment; or
- increases the use of existing neighborhood or regional parks or other recreation facilities such that the substantial physical deterioration of the facility would occur or be accelerated.

Project Impacts

Near-Term (2017) Impacts

Construction Impacts

Fire Protection and Emergency Services

Potential Impact: Construction Activities Could Affect Fire Protection and Emergency Services Access within the Campus

Although the campus is under the jurisdiction of the State Fire Marshal, the impacts discussion includes analysis for LACoFD as well, as LACoFD would be the primary fire fighting services provider in case of an emergency.

The proposed master plan includes new construction and renovation projects. During construction and renovation, on-campus fire protection services could be adversely affected due to possible on-campus and off-campus road closures or restriction of access to those areas of the campus within the work zones. However, LACoFD would be notified of construction schedules and campus road closures prior to construction activities. Given the temporary nature of construction activities, as well as considering the process of prior notification of road closures, construction-related impacts on LACoFD would not be significant. The proposed project would maintain adequate on-site access for LACoFD. The project shallcomply with State Fire Marshal's fire plan review process. Therefore, the proposed project would not result in a significant impact on fire department access to on-campus facilities.

Mitigation Measures

FS-1 The university shall notify LACoFD regularly of project construction activities and schedules, including any proposed on-campus street or lane closures.

Residual Impact

Less than significant after implementation of mitigation measure FS-1.

Potential Impact: Construction Activities Could Diminish Access to the Campus for Fire Protection and Emergency Services

All construction, staging, and renovation activities related to buildout of the master plan would occur within campus boundaries and would not affect access to the campus from adjoining streets. Construction projects would include a new campus

access road ~~from Beachey Place along~~ off of Central Avenue. Traffic on Central Avenue is unlikely to be affected because the approach to Beachey Place from Central Avenue is already in place; any construction activities for the road would occur within the campus. Fire services impacts on the adjacent streets and neighborhoods would be limited to increased traffic from construction-related vehicle trips. However, the increase in construction traffic would be temporary and intermittent and would vary according to the phase of construction. Furthermore, not all near-term projects would be constructed simultaneously. Therefore, construction impacts on fire and emergency services would be less than significant.

If a street or lane closure on non-campus streets becomes necessary, CSUDH would obtain the necessary road closure/encroachment permits required by the appropriate jurisdiction.

Mitigation Measures

See mitigation measure FS-1 above.

Residual Impact

Less than significant.

Potential Impact: Construction-Related Traffic Could Affect Fire and Emergency Services Response Times

The presence of construction vehicles (i.e., trucks) and workers traveling to and from the campus could result in increased congestion on nearby streets, which could affect fire and emergency services response times. However, the potential increase in traffic would be temporary and intermittent and would vary according to the phase of construction. Furthermore, not all near-term projects would be constructed simultaneously. However, LACoFD would be notified of construction schedules and campus road closures prior to construction activities. Given the temporary nature of construction activities, as well as considering the process of prior notification of road closures, construction-related impacts on fire and emergency services response times would be less than significant.

Mitigation Measures

See mitigation measure FS-1 above.

Residual Impact

Less than significant.

Police Protection

Potential Impact: Construction Activities Could Affect Police Services Access within the Campus

During construction and renovation, on-campus and off-campus police protection services could be adversely affected due to possible on-campus and off-campus road closures or restriction of access to those areas of the campus within work zones. However, University Police and the Los Angeles County Sheriff's Department Carson substation would be notified of construction schedules and campus road closures prior to construction activities. Given the temporary nature of construction activities, as well as considering the process of prior notification of road closures, construction-related impacts on campus police services would not be significant.

Mitigation Measures

The following mitigation measure would be implemented to ensure that potential construction impacts on police services would be less than significant.

PS-1 CSUDH shall regularly notify the Los Angeles County Sheriff's Department Carson substation and University Police of master plan construction activities and schedules, including any proposed on-campus street or lane closures.

Residual Impact

Less than significant after implementation of mitigation measure PS-1.

Potential Impact: Construction Activities Could Diminish Access to the Campus for Police Services

All construction, staging, and renovation activities related to buildout of the master plan would occur within campus boundaries and would not affect access to the campus from adjoining streets. Construction projects would include a new campus access road ~~from Beachey Place along~~ off of Central Avenue. Traffic on Central Avenue is unlikely to be affected because the approach to Beachey Place from Central Avenue is already in place; any construction activities for the access road would occur within the campus. Police protection impacts would be limited to increased traffic in adjacent neighborhoods from construction-related vehicle trips. However, the increase in construction traffic would be temporary and intermittent and would vary according to the phase of construction. Furthermore, not all near-term projects would be constructed simultaneously. Therefore, construction impacts on police services would be less than significant.

Mitigation Measures

See mitigation measure PS-1.

Residual Impact

Less than significant.

Potential Impact: Construction-Related Traffic Could Affect Police Response Times

Los Angeles County Sheriff's Department

The presence of construction vehicles (i.e., trucks) and workers traveling to and from the campus could result in increased congestion on nearby streets, which could affect police response times. However, the potential increase in traffic would be temporary and intermittent and would vary according to the phase of construction. Furthermore, not all near-term projects would be constructed simultaneously. Therefore, construction impacts on police response times would be less than significant.

University Police

During construction and renovation, on-campus police protection services could be adversely affected due to possible on-campus road closures or restriction of access to those areas of the campus within work zones. However, University Police would be notified of construction schedules and campus road closures prior to construction activities. Given the temporary nature of construction activities, as well as considering the process of prior notification of road closures, construction-related impacts on campus police services would not be significant.

Mitigation Measures

See mitigation measure PS-1.

Residual Impact

Less than significant.

Schools

Potential Impact: Construction Activities Could Affect the Campus and Nearby Schools

Construction activities would not have a significant impact on the public schools in the community because of their distance from the CSUDH campus. On-campus students, including students at the CAMS facility and the CDC/ITC, could be adversely affected by noise and air pollution generated by construction activities. As discussed in Section 3B, Air Quality, construction pollutant emissions could have a significant impact on students enrolled at the extended education complex and CDC/ITC but one that could be mitigated. Noise impacts on students attending CSUDH and/or the extended education complex and CDC/ITC would be a significant temporary impact (see Section 3M, Noise, of this EIR).

Mitigation Measures

See mitigation measures proposed in the Air Quality and Noise sections of this EIR.

Residual Impact

Less than significant.

Libraries

Potential Impact: Construction Activities Could Affect On-Campus Library Functions

Since ~~expansion~~ retrofitting and remodeling of the existing on-campus library is an element of the proposed project, it is possible that related construction activities could interfere with the function and atmosphere of the existing library. However, any disruptions or diminished access would be short term and, consequently, less than significant. Furthermore, construction activities would not have a significant impact on the Carson and Victoria branch libraries because of their distance from the CSUDH campus.

Mitigation Measures

No mitigation is required.

Parks and Recreational Facilities

Potential Impact: Construction Activities Could Affect On-Campus Recreational Facilities

All on-campus field facilities would remain open during construction; however, operation of the campus gymnasium could be affected by construction activities of the proposed recreation center. Full closure of the gymnasium is not expected, and no long-term disruptions are anticipated.

Construction activities would not adversely affect recreational facilities in the community because all construction work would occur on campus. Additionally, the proposed master plan projects would not affect access to and parking at the Home Depot Center.

Mitigation Measures

No mitigation is required.

Operational Impacts

Fire Protection

Potential Impact: The Proposed Near-Term Projects Could Result in the Need for Expanded Fire Protection and Emergency Services

The proposed near-term projects would include the construction of additional floor area on campus for classrooms, laboratories, office buildings, ~~parking structure,~~ and student and faculty/staff housing. Construction of buildings and facilities would be in response to increased student enrollment and contingent upon funding availability.

Although the campus is under the jurisdiction of the State Fire Marshal, the impacts discussion includes analysis for LACoFD as well, as LACoFD would be the primary fire fighting services provider in case of an emergency.

According to a memo provided by LACoFD (June 14, 2007), LACoFD has concerns regarding the additional floor area proposed for the campus. Plans for each building or facility to be constructed would be reviewed on a case-by-case basis by ~~LACoFD~~ State Fire Marshal. If the project is required to construct additional fire hydrants, all construction would meet local fire department requirements as set forth in the latest adopted edition of the Uniform Fire Code (UFC) and the California Building Code and amendments thereto.

Any increase in demand for emergency protection services is not expected to be substantial. Buildout of the master plan would renovate existing structures and facilities that are outdated and/or in disrepair. All new structures would be designed and constructed in compliance with applicable fire codes and specific fire safety measures recommended by the State Fire Marshall ~~and LACoFD~~. Furthermore, the project would give State Fire Marshal ~~LACoFD~~ an opportunity to comment on fire flow rates for potential increases in demand compared to existing conditions. Therefore, no significant impacts would occur.

Mitigation Measures

The following mitigation measures would be implemented to ensure that operational impacts on fire protection services would be less than significant.

FS-2 Development of the proposed project shall comply with all applicable code and ordinance requirements for construction, access, water mains, fire flow, and hydrants.

FS-3 The proposed project shall be subject to all specific fire and life safety requirements for the construction phase identified by the State Fire Marshall ~~or LACoFD~~ during the fire plan check.

FS-4 Fire department apparatus shall have access to every building constructed using roadways with an all-weather surface of not less than the prescribed width and unobstructed and clear to the sky. The roadway shall be extended to within 150 feet of any portion of any exterior wall when measured from an unobstructed route around the exterior of the building.

FS-5 CSUDH shall coordinate with the State Fire Marshall ~~and LACoFD~~ to determine adequate fire flow rates for the project. Fire flow shall be based on the size of the buildings and their relationship to other structures, property lines, and the types of construction. Fire hydrants shall be spaced 300 feet apart and shall meet the following requirements:

- no portion of a lot's frontage shall be more than 200 feet via vehicular access from a public fire hydrant;
- no portion of a building shall be more than 400 feet via vehicular access from a properly spaced public fire hydrant; and
- additional hydrants will be required if hydrant spacing exceeds specified distances.

FS-6 All proposals for traffic calming measures (speed humps/bumps, traffic circles, roundabouts, etc.) shall be submitted to the fire department for review prior to implementation.

Potential Impact: Increased Traffic on Off-Campus Streets Could Affect Fire and Emergency Services Response Times

Increased traffic due to increased levels of enrollment at the campus could result in congestion conditions at nearby intersections, thereby increasing response times for fire and emergency services.

The traffic analysis conducted for the proposed project indicates that by 2017, ~~eight~~ seven of the 27 study intersections would operate at LOS E or F under cumulative base conditions without the project**.** With the addition of traffic generated by the proposed master plan, seven of 27 study intersections would operate at LOS E or F prior to mitigation. However, with implementation of proposed traffic mitigation measures, impacts on all but one intersection would be reduced (after mitigation, significant traffic impacts would remain at only one intersection: Avalon Boulevard and the Interstate 405 northbound ramps [PM peak hour]). Therefore, response times for fire and emergency services would not be adversely affected. Additionally, the proposed project would include a new access road from Central Avenue that would improve fire and emergency vehicle access to the campus.

Mitigation Measures

See mitigation measures under Transportation/Circulation.

Residual Impact

After implementation of traffic mitigation, the impact would be less than significant.

Police Protection

Potential Impact: Near-Term Projects Could Result in the Need for Expanded Police and Law Enforcement Services

Los Angeles County Sheriff's Department

The Los Angeles County Sheriff's Department would not be the primary responder for the campus; University Police would be adequately staffed to meet increased demand created by implementation of the master plan. The Los Angeles County Sheriff's Department would be responsible for any events held at the Home Depot Center. However, the master plan does not propose any changes to the Home Depot Center, nor would it result in any impacts on that facility.

With implementation of the proposed master plan, an increase in campus population would occur and, potentially, increased traffic. This increase could create a significant impact on police services in the area of the campus. According to Chief Sloan of the University Police, any call made on campus to the Los Angeles County Sheriff's Department is forwarded to the University Police unless the call is an emergency call, in which case the Los Angeles County Sheriff's Department responds and forwards the call to University Police. For 2006, the Los Angeles County Sheriff's Department responded to five to eight calls to the campus.

Development of the proposed master plan is intended to accommodate the projected increase of approximately 2,300 FTE students and 678 employees from 2007 to 2017. According to the Los Angeles County Sheriff's Department, staffing levels at the Carson station are evaluated every year and adjusted as needed within the confines of the City's budget. Also, plans are under way for remodeling and expanding the Carson station in the near future. It is not anticipated that new police protection facilities would be required to accommodate an increase in demand, and any impacts on Los Angeles County Sheriff's Department services and response times would be less than significant.

University Police

To increase security on the CSUDH campus, especially as the university grows, University Police anticipates the need for additional personnel to provide a greater presence on the campus and in the campus parking lots. In a memo dated July 13, 2007, University Police Chief Susan Sloan indicated that the current ratio of University Police to students is 1.31 sworn officers per 1,000 students and faculty/staff personnel. Currently, responses times for University Police vary between 1 and 5 minutes, depending on incident priority and location of on-duty University Police

With implementation of the proposed master plan and the resulting enrollment level of 11,000 FTE students, Chief Sloan recognizes that there will be a need for additional police officers, parking personnel, and equipment. While there are no immediate plans to expand University Police facilities or staff, Chief Sloan stated that a total of three officers over the next 5 years would meet the future needs of the campus.

Currently, there is no official review process or growth plan for University Police. Funding for University Police is driven by budget availability, the president's discretion, and the California State University's Chancellors Office Executive Order 753.

Parking on campus is maintained by a subdivision of University Police; parking fees are used to maintain parking facilities and hire parking facility staff.

Mitigation Measures

The following mitigation measures would be implemented to ensure that operational impacts on police services would be less than significant.

PS-2 Each element of the project shall include security features, such as lighting, signage, etc. Security system designs shall be submitted to University Police ~~and the Los Angeles County Sheriff's Department~~ for review and comment.

PS-3 Upon completion of each structure, CSUDH shall provide University Police ~~and the Los Angeles County Sheriff's Department~~ with a diagram of each building, including access routes, and additional information that might facilitate police response.

Residual Impact

No residual impacts would occur.

Potential Impact: Increased Traffic on Off-Campus Streets Could Affect Police Services Response Times

Increased traffic due to increased levels of enrollment at the campus could result in congestion conditions at nearby intersections, thereby increasing response times for police services.

The traffic analysis conducted for the proposed project indicates that by 2017, ~~eight~~ seven of the 27 study intersections would operate at LOS E or F under cumulative base conditions without the project**.** With the addition of traffic generated by the proposed master plan, seven of 27 study intersections would operate at LOS E or F prior to mitigation. However, with implementation of proposed traffic mitigation measures, impacts on all but one intersection would be reduced (after mitigation, significant traffic impacts would remain at only one intersection: Avalon Boulevard and the Interstate 405 northbound ramps [PM peak hour]).Therefore, response times for police services would not be adversely affected. Additionally, the proposed project would include a new access road from Central Avenue that would improve police access to the campus.

Mitigation Measures

See mitigation measures under Transportation/Circulation.

Residual Impact

After implementation of traffic mitigation, the impact would be less than significant.

Schools

Potential Impact: The Proposed Project Could Result in the Need for Expanded School Facilities

Public school enrollment is a function of the number of households resulting from residential development or the number of new employees associated with a project. The master plan proposes 600 additional beds for students and up to 350 housing units for faculty and staff. CUSD and LAUSD provide open enrollment opportunities at schools that are not operating at capacity. Parents have the option of enrolling their children at schools close to their places of employment rather than schools that serve their neighborhoods. Therefore, the proposed project could result in student generation from new employees who would work at CSUDH and enroll their children in local schools but live outside the area.

Full buildout of the proposed master plan by 2017 would increase employment at CSUDH by approximately 678 FTE employees from fall 2007 levels, as shown in Table 3N-7 below.

Table 3N-7: Future Employee Projections

Employees (full-time equivalent)	Fall 2007	Fall 2017	Net Increase
Faculty and Staff	972	1,650	678

Source: CSUDH, 2007.

The actual number of elementary, middle, and high school students who would attend schools in the vicinity of CSUDH as a result of the proposed master plan would vary for the following reasons:

- some employees would not have school-age children,
- some employees would not relocate to the area but instead commute from outlying locations,
- some employees would live in outlying areas but would choose to enroll their children in local schools through the LAUSD and CUSD open and/or permit enrollment programs,
- some employees would choose to send their children to private schools, or
- CSUDH would draw some employees from the existing local labor pool.

Near-term buildout of the proposed master plan would result in approximately 678 new FTE employees from 2007 to 2017. According to the proposed master plan, 350 housing units are to be developed by 2017.[20] LAUSD student generation factors indicate that the near-term projects could indirectly generate 77 to 89 elementary students, 36 middle school students, and 36 to 50 high school students.[21] Since new employees and their children could live anywhere within commuting distance of CSUDH and the aforementioned increase is spread out over the next ~~10~~ 8 years, it is unlikely that any one school in the vicinity would incur a substantial increase in enrollment. Therefore, the proposed project would result in a less-than-significant impact on public schools.

The CDC/ITC is not expected to be significantly affected by implementation of the proposed master plan.

Mitigation Measures

No mitigation is necessary.

Library

Potential Impact: The Proposed Project Could Result in the Need for Expanded Library Facilities

Library needs are related to the size of the residential population, the geographic area served, and community characteristics. Projects affecting these factors, such as those that would increase the residential population in an area, may increase demand for services from the public library system.

The proposed project includes campus buildings, recreation center, surface parking ~~structures~~ lot, and student and faculty/staff housing units. In addition, the existing library would be remodeled. An addition to the library is also planned (unrelated to the Master Plan). Demand resulting from growth in the number of FTE students would be met by the proposed renovations at the campus library. Demand resulting from residents of the 350 new units would be met by on-campus and local libraries. With the additional floor space, computers, volumes, and other resources, on-campus library facilities would be able to accommodate future growth, including projected growth from the student population and future faculty/staff, without increasing demand at local branch libraries. Therefore, according to the Los Angeles County Public Library, the proposed project would not affect local library services, and the impacts of the proposed project would be less than significant (Rubio pers. comm.).

[20] Los Angeles Unified School District Generation Factors. The following student generation factors were used in calculating the range number of potential additional students generated by new households: 0.22 (low), 0.25 (high), elementary; 0.10 middle school; and 0.10 (low), 0.14 (high) high school.
[21] Ibid.

Mitigation Measures

No mitigation is necessary.

Recreational Facilities and Parks

Potential Impact: The Proposed Project Could Result in Need for Expanded Park and Recreation Facilities

The existing on-campus recreational and athletic facilities, including the sports complex and open lawns, provide ample recreational and physical fitness opportunities for the projected student body and faculty/staff populations. Several parks and recreational facilities are located close to CSUDH (please refer Figure 3N-1 for a map of all public services). As of 2006, CSUDH had approximately 8,700 FTE students and 942 faculty and staff members. Implementation of the proposed master plan would increase student enrollment by approximately 2,300 FTE students and increase faculty/staff by approximately 678 by 2017. Despite this increase in the number of students and faculty/staff, it is not expected that recreational facilities and parks located in the vicinity of CSUDH would be overburdened or faced with accelerated deterioration from increased use. The proposed master plan proposes a 110,400 gsf recreation center in the vicinity of the existing gymnasium and playfields and renovate and modernize some of the existing recreational and athletic facilities on the campus, providing students and faculty/staff with improved recreational opportunities.

Mitigation Measures

No mitigation is necessary.

Long-Term (2040) Impacts

Impacts due to long-term projects would be similar in type to the impacts described for near-term projects; however, since enrollment would grow ~~threefold~~by approximately 27 percent from 2017 to 2040, the severity of the impacts may increase substantially. Since the long-term projects are defined in concept only, it is difficult to quantitatively assess the magnitude of the impacts. Long-term plans are contingent upon the availability of funding and supporting enrollment levels. In the future, if and when individual long-term projects are proposed, the impacts on public services will be analyzed in appropriate environmental documents.

Unavoidable Significant Adverse Impacts

There are no unavoidable significant adverse impacts associated with public services.

Cumulative Impacts

Several projects are currently under construction, approved for construction, or proposed within 1.5 miles of the campus. The Carson Marketplace, which proposes to develop 1,550 residential units and 1,995,125 square feet of commercial space, is located approximately 1 mile southwest of the campus. Construction of the marketplace was scheduled to commence in spring 2006 and be completed by the end of 2010. According to the 2007 City of Carson Development Summary, the marketplace is not expected to open until 2012. Also, Phase II of the Home Depot Center project is planned and would occur adjacent to the campus. The cumulative effects of these projects are discussed below.

Police Services

The study area for cumulative impacts on police protection services would encompass an area served by the Los Angeles County Sheriff's Department. Development of related projects listed in Table 2-3 could substantially increase employee populations in the area, thereby increasing the demand for police protection services. As a result of this growth, new or expanded police facilities could be required, the construction of which may result in significant impacts on the environment. The significance of potential impacts would depend on the physical and operational characteristics of the new facilities and the sensitivity of the environment in the vicinity. Although such information is currently not known and somewhat speculative, cumulative impacts on police protection services due to related development and growth are nonetheless considered to be potentially significant. However, it should be noted that police protection services for the proposed project would be provided primarily by the on-campus University Police. Therefore, the proposed project would not contribute to a potentially significant cumulative impact on the Los Angeles County Sheriff's Department.

Fire Protection

The study area for cumulative impacts on fire protection services includes the areas served by the local LACoFD fire stations that serve the campus. The related projects in Table 2-3 include a number of commercial facilities planned for the area served by these fire stations. Development of these related projects could substantially increase the demand for fire protection services. The potential increase in demand for fire protection services may require additional personnel, equipment, and/or new fire stations to maintain existing levels of

service and response times. If new facilities are required, the construction of those facilities could result in impacts on the environment. The significance of potential impacts would depend on the physical and operational characteristics of the new facilities and the sensitivity of the environment in the vicinity. Although such information is currently not known and somewhat speculative, cumulative impacts on fire protection services due to related development and growth are nonetheless considered to be potentially significant. However, it should be noted that the proposed project's contribution to this cumulative impact would be minimal since several older buildings on the project site would be renovated and new facilities would be constructed in compliance with current fire and building codes.

Schools

Table 2-3 provides a list of related projects that are planned or are under construction in the proposed project area. Most of the related projects propose new retail and industrial spaces. The Gateway Center project proposes 38 single-family units, and another project proposes 28 townhomes. LAUSD and CUSD are the primary school districts in the area. Currently, LAUSD is implementing the two-phase New Construction Strategic Execution Plan. Phase I is in progress and will deliver approximately 78,000 new classroom seats by 2008. Phase II is just entering the planning stage; it is expected to deliver an additional 35,000 new classroom seats by 2010, as well as 940 early-childhood seats and an additional charter school seats. In addition, all new private-sector development would be required to pay school impact fees to LAUSD to help fund construction of additional classrooms. Payment of these fees is considered full mitigation under CEQA. Increased employment and new housing resulting from the proposed project would not result in significant impacts on local schools. Therefore, the proposed project would not contribute to a cumulatively considerable significant impact on local schools.

Libraries

The proposed project would have no adverse impact on local libraries; therefore, it would not contribute to cumulative library impacts. Renovation of the existing campus library would have an overall beneficial impact on library resources in the community.

Recreational Facilities and Parks

The proposed project would have no impact on local recreational facilities and parks; therefore, it would not contribute to cumulative impacts on these facilities.

Section 3O
Transportation/Circulation

Introduction

This section summarizes the results of a traffic study conducted by The Mobility Group that evaluated potential traffic, access, and parking impacts of the proposed master plan. The complete traffic study is provided in Appendix H of this EIR. The scope and methodology of the traffic study was determined in conjunction with the City of Carson.

The traffic analysis addresses the following time periods:

- AM peak hour (generally 7:30 a.m. to 8:30 a.m.), and
- PM peak hour (generally 4:45 p.m. to 5:45 p.m.).

The traffic analysis addresses the following scenarios:

- Existing Conditions,
- Future Conditions without the Project,
- Future Conditions with the Project, and
- Future Conditions with the Project with Mitigation Measures.

The traffic study includes an analysis of potential project impacts on the regional highway and transit systems in accordance with requirements of the City of Carson and the Los Angeles County Congestion Management Program (CMP). The analysis addresses 2017 as the near-term horizon year for the CSUDH Master Plan with a full quantitative evaluation. A qualitative discussion of the long-term projects is also provided. Since long-term projects (projects to be constructed beyond 2017) are defined in concept only in the master plan, it is expected that subsequent quantitative traffic analyses would be conducted when individual long-term projects are planned and designed.

The proposed near-term development includes remodeling four existing buildings and construction of two academic buildings, student housing (for 600 students), faculty/staff housing (350 condominiums), ~~an approximately 2,400-space parking structure~~ a 750- to 1,000-space surface parking lot, and a new cogeneration plant. A new entrance to the campus is proposed off of Central Avenue ~~at Beachey Place~~ that would connect to the east campus circulation system~~, including the~~

~~proposed parking structure~~. A new driveway to the faculty housing site is also proposed on University Drive west of Central Avenue. The precise location of the driveway is not known at this time but would be finalized during final design.

Setting

Existing Traffic Conditions

Regional Access Facilities

The site is afforded excellent regional access, being close to four freeways. To the north of the campus, State Route 91 (SR-91), the Artesia Freeway, runs in an east–west direction. To the west, Interstate 110 (I-110), the Harbor Freeway, runs in a north–south direction. To the west and south, Interstate 405 (I-405), the San Diego Freeway, runs in a northwest-to-southeast direction. To the east, Interstate 710 (I-710), the Long Beach Freeway, runs in the north–south direction. These freeways connect the campus to Los Angeles County and north Orange County.

Roadway System

The principal streets in the area of the proposed project include the following.

Avalon Boulevard runs in a north–south direction to the west of the campus. It connects with SR-91 to the north and the I-405 to the south. Avalon Boulevard is classified as a Major Highway in the City's general plan. It is a six-lane street, with three lanes in each direction and left-turn lanes at intersections. The street includes a landscaped median that incorporates high-tension power line superstructures with left-turn lanes at major intersections.

Victoria Street runs in an east–west direction on the north side of the campus. To the west, Victoria Street connects with I-110 as well as I-405. Victoria Street is classified as a Major Highway in the City's general plan. It is a four-lane street, with two lanes in each direction, left-turn lanes at intersections, and parking on both sides of the street adjacent to the campus.

Central Avenue is a north–south street to the east of the CSUDH campus. It connects with SR-91 to the north and extends as far south as Del Amo Boulevard. It is classified as a Major Highway in the City's general plan, with four lanes, two in each direction, and left-turn lanes at intersections. Parking is not allowed on either side of the street.

University Drive runs in an east–west direction to the south of the campus. It extends from Avalon Boulevard on the west to just east of Wilmington Street. It is classified as a Secondary Highway in the City's general plan, with four lanes, two in each direction, and a central left-turn lane. Parking is not allowed on either side of the street.

Other key streets in the area of the proposed project include the following:

Del Amo Boulevard runs in an east–west direction to the south of University Drive. Del Amo Boulevard extends to Figueroa Street to the west and beyond I-710 to the east. Del Amo Boulevard is classified as a Major Highway in the City's general plan. It is a four-lane street, with two lanes in each direction, and left-turn lanes at intersections. Parking is not allowed on either side of the street;

Main Street is a north–south street to the west of Avalon Boulevard. It also connects with SR-91. It is classified as a Major Highway in the City's general plan, with four lanes, two in each direction, and left-turn lanes at intersections. Parking is not allowed on either side of the street;

Figueroa Street is a north–south street to the west of Main Street. Figueroa Street is classified as a Major Highway in the City's general plan, with four lanes, two in each direction, and left-turn lanes at intersections. Parking is generally allowed on either side of the street;

Wilmington Avenue is a north–south street to the east of Central Avenue. It connects with SR-91 to the north and I-405 to the south. Wilmington Avenue is classified as a Major Highway in the City's general plan, with six lanes, three in each direction, and left-turn lanes at intersections in the area of the campus. Parking is not allowed on either side of the street; and

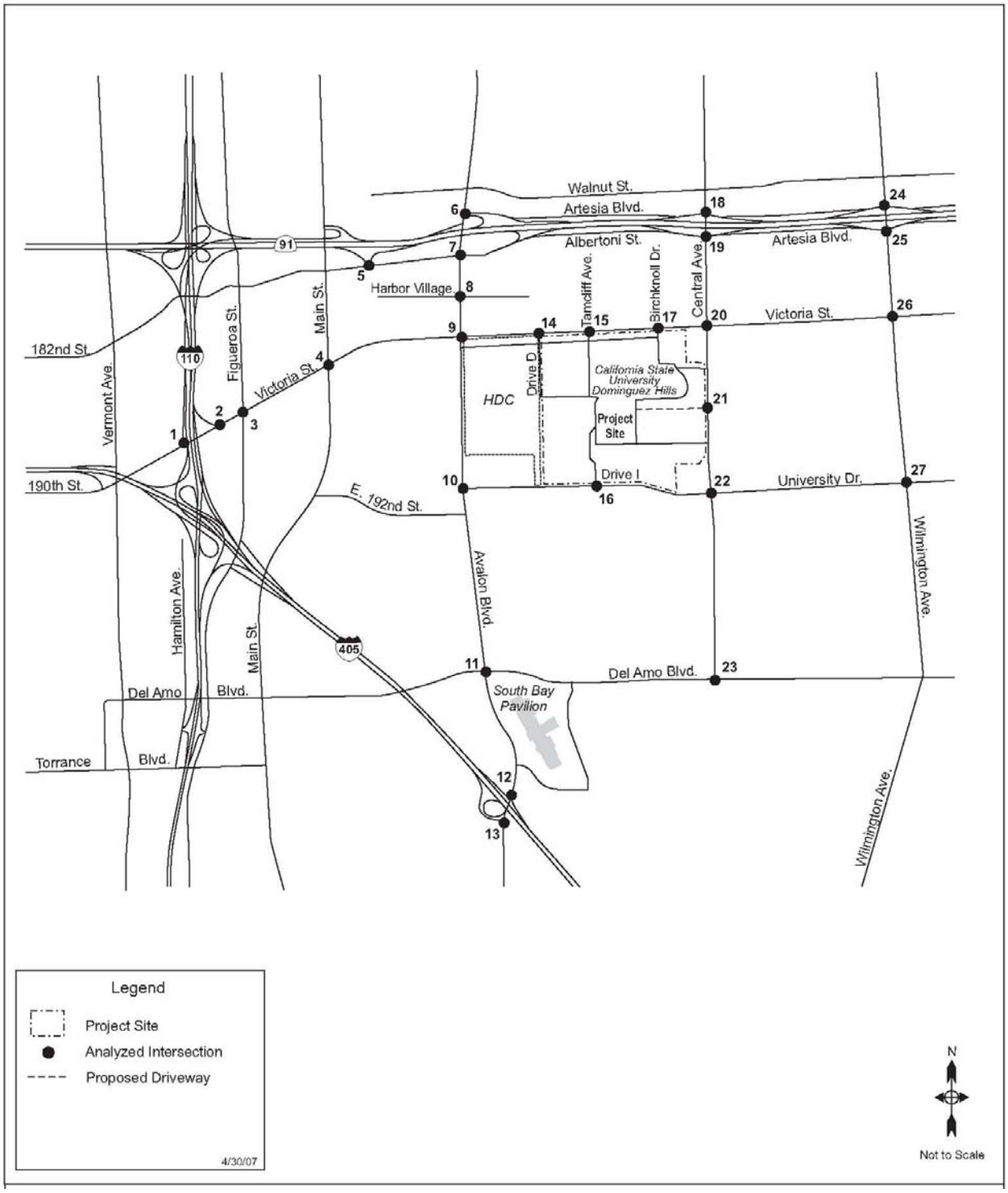
Albertoni Street, to the north of the campus, runs in an east–west direction immediately south of SR-91. It is classified as a Secondary Highway in the City's general plan, with four to six lanes and left-turn lanes at intersections. Parking is not allowed on either side of the street. Just east of Avalon Boulevard, Albertoni Street is one way eastbound, serving as a frontage road to SR-91.

Study Intersections

Traffic conditions at 27 intersections were addressed. The analyzed locations are shown in Figure 3O-1. These locations were identified, in conjunction with City of Carson staff, as the intersections most likely to be affected by the proposed project, either because of proximity to the campus or their usefulness as likely approach corridors to the campus. The intersections studied were as follows:

1. Victoria Street and I-110 southbound (SB) ramp,
2. Victoria Street and I-110 northbound (NB) on-ramp,
3. Victoria Street and Figueroa Street,
4. Victoria Street and Main Street,
5. SR-91 eastbound (EB) ramps and Albertoni Street,

Figure 3O-1: Locations of Study Intersections



6. Avalon Boulevard and Artesia Boulevard,
7. Avalon Boulevard and Albertoni Street,
8. Avalon Boulevard and Harbor Village,
9. Avalon Boulevard and Victoria Street,
10. Avalon Boulevard and University Drive,
11. Avalon Boulevard and Del Amo Boulevard,
12. Avalon Boulevard and I-405 NB ramps,
13. Avalon Boulevard and I-405 SB ramps,
14. Victoria Street and CSUDH Parkway West (Drive D),
15. Victoria Street and Tamcliff Avenue,
16. University Drive and Perimeter Road (Drive I),
17. Victoria Street and Birchknoll Drive,
18. Central Avenue and Artesia Boulevard westbound (WB),
19. Central Avenue and Artesia Boulevard EB,
20. Central Avenue and Victoria Street,
21. Central Avenue and New Access (future intersection),
22. Central Avenue and University Drive,
23. Central Avenue and Del Amo Boulevard,
24. Wilmington Avenue and Artesia Boulevard WB,
25. Wilmington Avenue and Artesia Boulevard EB,
26. Wilmington Avenue and Victoria Street, and
27. Wilmington Avenue and University Drive.

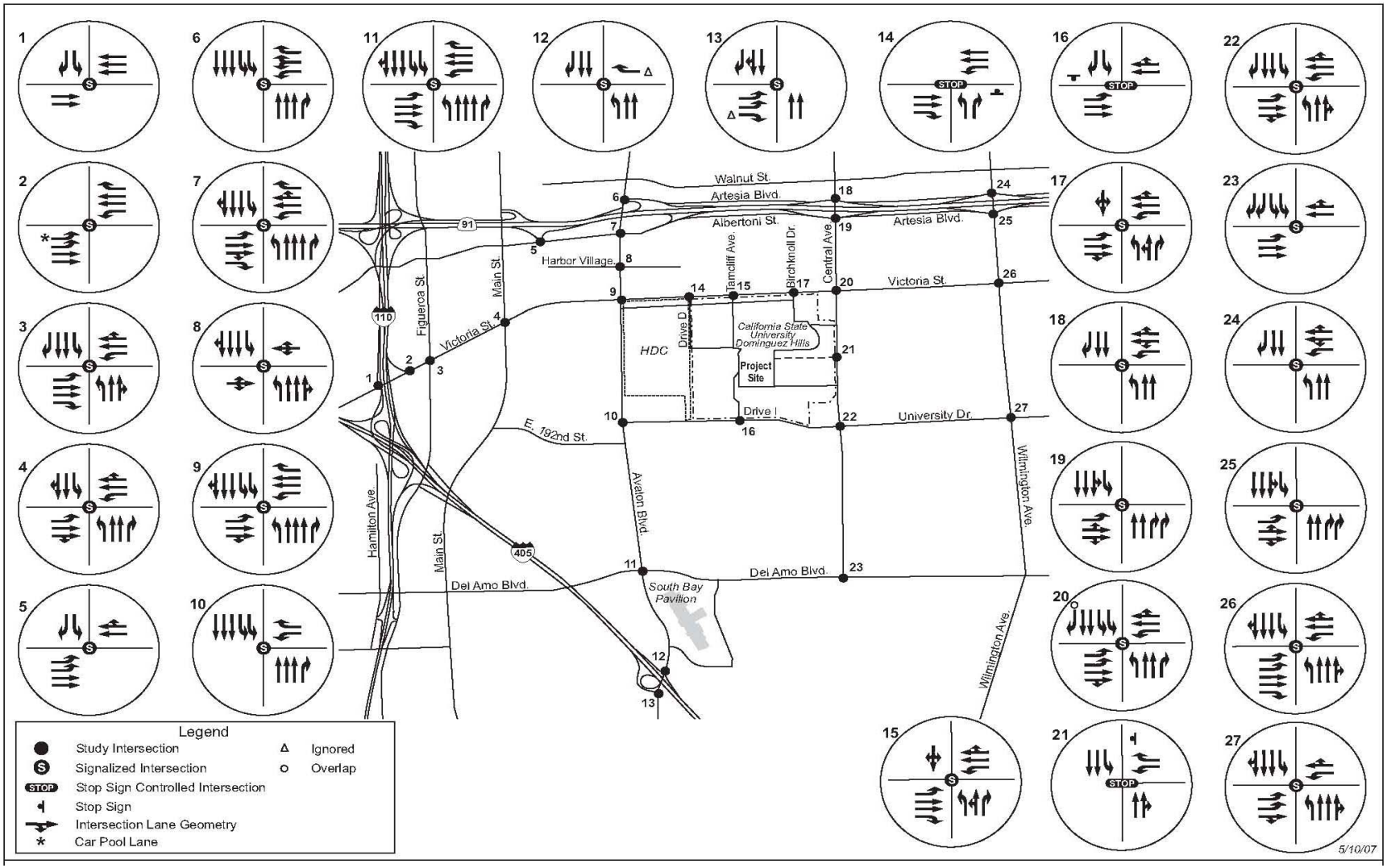
The traffic study addressed two key time periods for potential traffic impacts. These were:

- Weekday AM peak hour (typically from 7:30 a.m. to 8:30 a.m.), and
- Weekday PM peak hour (typically from 4:45 p.m. to 5:45 p.m.).

These times were selected from observed traffic counts as the periods with the highest volumes. They are also the likely combination for the most frequent occurrences of the highest project traffic levels and the highest background traffic on the existing street system.

The existing lane configurations at the 27 analyzed intersections are shown in Figure 3O-2.

Figure 3O-2: Intersection Lane Configurations



Existing Intersection Conditions

Existing Traffic Volumes

Traffic counts were taken in April 2007 for both the AM and the PM peak periods at all 27 analyzed intersections to obtain existing turning movement counts. The peak-hour traffic volumes are illustrated in Figures 3O-3 and 3O-4 for the AM and PM peak hours, respectively.

Level of Service Methodology

LOS is a measure used to describe the condition of traffic flow, ranging from excellent conditions, at LOS A, to overloaded conditions, at LOS F. LOS D is typically recognized as the satisfactory service level in urban areas (see Table 3O-1).

Intersection analysis was conducted using the Critical Movement Analysis (Planning Method) described in Transportation Research Circular 212, Transportation Research Board, Washington, DC (1980), to obtain volume/capacity (V/C) ratios for each intersection. Table 3O-2 defines the ranges for the V/C ratios and their corresponding levels of service for signalized intersections.

The majority of the 27 analyzed intersections are currently signalized. Three intersections are currently unsignalized and operated with stop signs. For the purposes of consistency of analysis, all intersections were treated as signalized intersections.

Existing Peak-Hour Levels of Service

Table 3O-2, below, summarizes the existing AM and PM peak-hour V/C ratios and corresponding levels of service at the analyzed intersections.

AM Peak Hour

During the AM peak hour, all intersections analyzed were currently operating at LOS D or better (acceptable levels of service), including many locations that operate at LOS A or LOS B.

PM Peak Hour

During the PM peak hour, 26 of the 27 intersections analyzed were currently operating at LOS D or better (acceptable levels of service), including many locations that operate at LOS A or LOS B. Only one intersection operates worse than LOS D, this being the intersection of Avalon Boulevard and Del Amo Boulevard (LOS E).

Figure 3O-3: Existing Traffic Volumes – AM Peak Hour

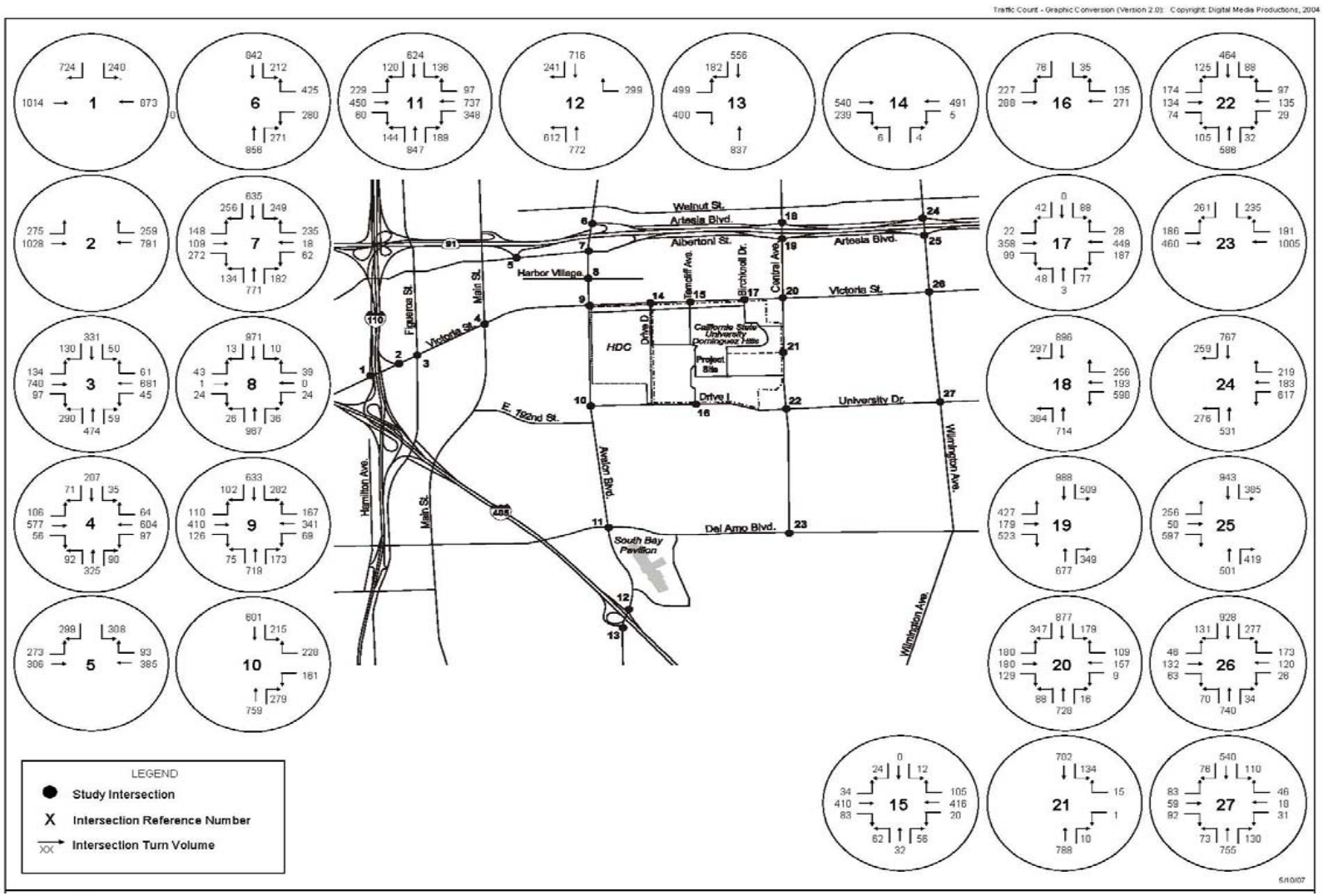


Figure 3O-4: Existing Traffic Volumes – PM Peak Hour

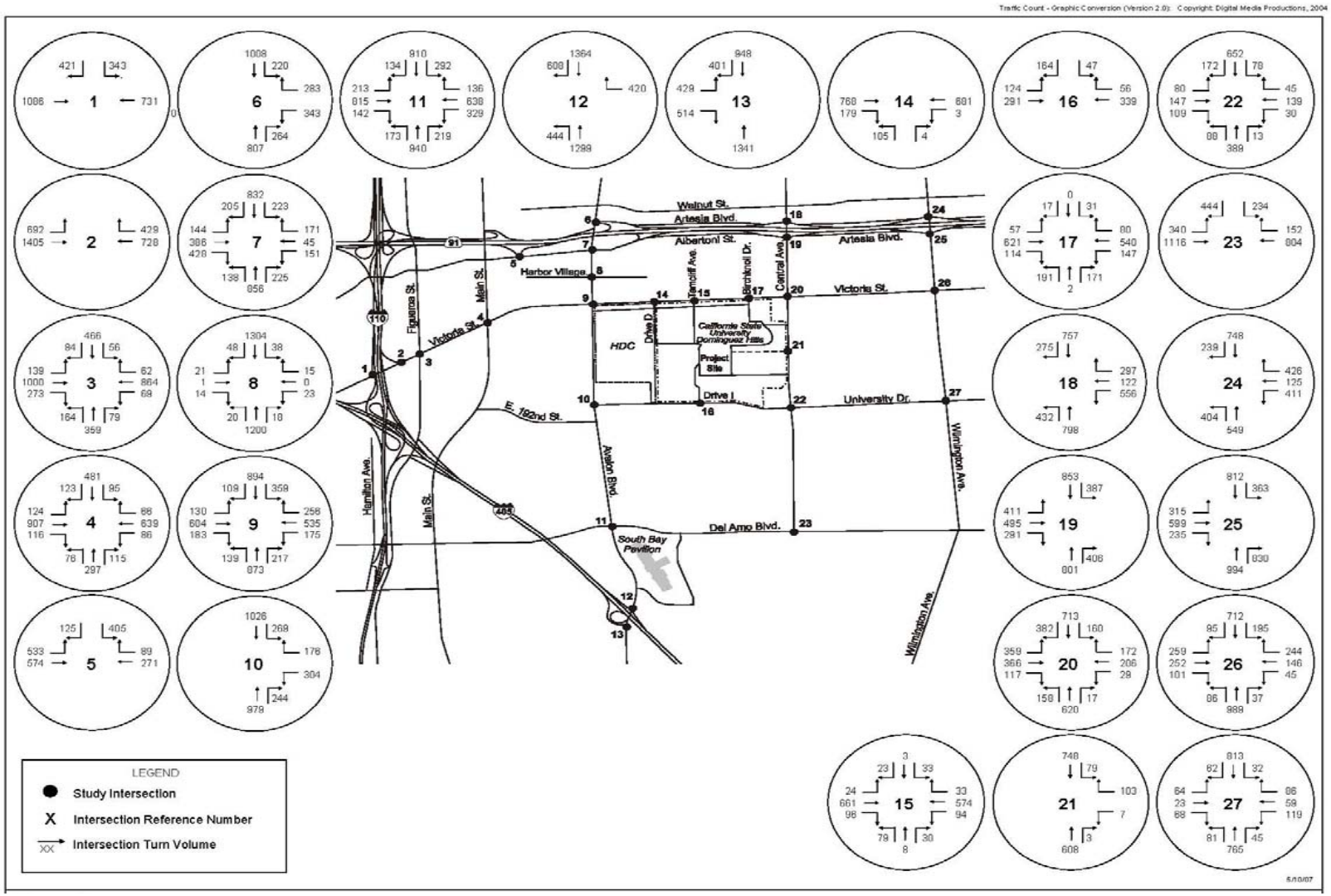


Table 3O-1: Level of Service Definitions for Signalized Intersections

LOS	Description	V/C Ratio
A	Excellent operation. All approaches to the intersection appear quite open, turning movements are easily made, and nearly all drivers find freedom of operation.	< 0.600
B	Very good operation. Many drivers begin to feel somewhat restricted within platoons of vehicles. This represents stable flow. An approach to an intersection may occasionally be fully utilized and traffic queues start to form.	0.601–.700
C	Good operation. Occasionally drivers may have to wait for more than 60 seconds, and backups may develop behind turning vehicles. Most drivers feel somewhat restricted.	0.701–.800
D	Fair operation. Cars are sometimes required to wait for more than 60 seconds during short peaks. There are no long-standing traffic queues. This level is typically associated with design practice for peak periods.	0.801–.900
E	Poor operation. Some long-standing vehicular queues develop on critical approaches to intersections. Delays may be up to several minutes.	0.901–1.000
F	Forced flow. Represents jammed conditions. Backups from locations downstream or on the cross street may restrict or prevent movement of vehicles out of the intersection approach lanes; therefore, volumes carried are not predictable. Potential for stop-and-go type traffic flow.	More than 1.001

Source: *Highway Capacity Manual*, Special Report 209, Transportation Research Board, Washington, DC, 1985, and *Interim Materials on Highway Capacity*, NCHRP Circular 212, 1982.

Existing Transit Service

The campus is currently served by a number of local and inter-city transit operations. The Carson Circuit Transit Service operates a number of local routes within the City. Los Angeles County Metropolitan Transportation Authority (Metro), Torrance Transit, and Compton Renaissance Transit provide regional bus service in the vicinity of the campus.

Metro Bus Service

Metro operates a number of bus lines in the proposed project area. These include Metro line 53/350, which utilizes Victoria Street and Central Avenue and connects CSUDH with downtown Los Angeles. Metro line 130 provides east–west transit service in the area utilizing Avalon Boulevard, which connects Redondo Beach, Hermosa Beach, and Torrance via Carson with Bellflower and Cerritos to the east and points beyond. Metro line 205 connects San Pedro to the south with Carson, Compton, and Willowbrook as well as the Imperial/Wilmington Rosa Parks Station, which connects the Metro Blue and Green Lines. Metro line 446/447 runs along Avalon Boulevard, connecting San Pedro, Carson, and downtown Los Angeles. Some Metro lines run from approximately 5:30 a.m. until about 8:30 p.m., with typical headways of about 20 minutes. Others run until 11:00 p.m. or later into the night.

Table 3O-2: Existing Conditions – Intersection Level of Service

		Existing Conditions			
		AM Peak Hour		PM Peak Hour	
	Intersection	**V/C**	**LOS**	**V/C**	**LOS**
1	Victoria Street and I-110 SB off-ramp	0.821	D	0.643	B
2	Victoria Street and I-110 NB on-ramp	0.420	A	0.678	B
3	Victoria Street and Figueroa Street	0.640	B	0.666	B
4	Victoria Street and Main Street	0.447	A	0.650	B
5	SR-91 EB Ramps and Albertoni Street	0.489	A	0.616	B
6	Avalon Boulevard and Artesia Boulevard	0.463	A	0.435	A
7	Avalon Boulevard and Albertoni Street	0.570	A	0.687	B
8	Avalon Boulevard and Harbor Village	0.323	A	0.372	A
9	Avalon Boulevard and Victoria Street	0.532	A	0.769	C
10	Avalon Boulevard and University Drive	0.439	A	0.546	A
11	Avalon Boulevard and Del Amo Boulevard	0.720	C	0.915	E
12	Avalon Boulevard and I-405 NB Ramps	0.681	B	0.790	C
13	Avalon Boulevard and I-405 SB Ramps	0.462	A	0.604	B
14	Victoria Street and Drive D	0.234	A	0.410	A
15	Victoria Street and Tamcliff Avenue	0.254	A	0.354	A
16	University Drive and Drive I	0.422	A	0.405	A
17	Victoria Street and Birchknoll Drive	0.422	A	0.486	A
18	Central Avenue and Artesia Boulevard WB	0.842	D	0.809	D
19	Central Avenue and Artesia Boulevard EB	0.876	D	0.796	C
20	Central Avenue and Victoria Street	0.552	A	0.655	B
21	Central Avenue and Beachey Place	0.457	A	0.406	A
22	Central Avenue and University Drive	0.458	A	0.391	A
23	Central Avenue and Del Amo Boulevard	0.618	B	0.708	C
24	Wilmington Avenue and Artesia Blvd. WB	0.715	C	0.845	D
25	Wilmington Avenue and Artesia Blvd. EB	0.834	D	0.860	D
26	Wilmington Avenue and Victoria Street	0.533	A	0.672	B
27	Wilmington Avenue and University Drive	0.427	A	0.424	A

Source: The Mobility Group, 2007.

Compton Renaissance Transit

Compton Renaissance Transit provides local service in the City of Compton and one cross-town route, all centered around the Compton Transit Center at the Artesia Blue Line Station. Route 5 cross-town service runs through the study area. This connects the CSUDH campus, via Victoria Street and Central Avenue, with the Artesia Blue Line station. Hours of operation are

- Monday through Friday: 7:30 a.m. – 3:30 p.m.
- Saturday and Sunday: 9:00 a.m. – 2:30 p.m.

Torrance Transit

Torrance Transit operates Route 6 through the study area along Victoria Street and Central Avenue. It provides east–west connectivity between Torrance and the Metro Blue Line station at Artesia. The service operates with half-hour headways in the peak hours. It does not operate on weekends. Weekday hours of operation are

- Monday through Friday: 5:00 a.m. – 7:52 p.m.

Carson Circuit Routes

Eight bus routes serve the City of Carson within the Carson Circuit (CC): routes A, B, C, D, E, F, G, and H. Of these, routes A, E, and H serve the roadways within the proposed project area, including Victoria Street, Avalon Boulevard, and University Drive. Buses run every 40 minutes on the eight Carson Circuit routes during the following hours of operation:

- Monday through Friday: 5:20 a.m. – 6:40 p.m.
- Saturday: 10:40 a.m. – 5:20 p.m.

The Carson Circuit does not operate on Sundays, Thanksgiving Day, or Christmas Day. All Carson Circuit routes run in one direction. To reduce transfer time from one Carson Circuit route to another, all buses meet every 40 minutes at the bus terminal behind the South Bay Pavilion.

Existing Parking Conditions

The campus currently provides approximately ~~4,362~~ 4,533 paved on-site parking spaces for use by staff, students, and visitors. With few exceptions, the parking lots closest to Victoria Street are virtually fully utilized throughout much of the day and even the night because of evening classes at CSUDH. The parking lots to the south, closest to University Drive, and the parking lot to the southeast are not fully utilized and quite often have unoccupied spaces. These lots are farther from the central campus than the other parking lots.

On weekends, when there are few classes (except for certain functions, such as extended education classes) and only occasional athletic and extra-curricular activities, on-campus parking is typically largely unutilized, particularly the hours after mid- to late Saturday morning and when school is not in session. This is also the case on weekdays during summer months (June through September) and during breaks when school is not in session and CSUDH operates at reduced levels.

Many of the on-site campus parking spaces are used by the Home Depot Center (HDC) to accommodate higher attendance events. These events usually (but not always) occur on weekends or during the summer period and, therefore, do not conflict with CSUDH parking needs. For the relatively few times when a Home Depot Center event occurs on a weekday or weeknight when CSUDH is in session, there are operational and parking management agreements to ensure both CSUDH and HDC parking needs are accommodated on-site.

In the vicinity of CSUDH, on-street parking is generally available on both sides of Victoria Street, adjacent to the campus. This on-street parking is heavily utilized in the daytime and in the evening on weekdays.

Impacts and Mitigation

Thresholds of Significance

City of Carson

The City of Carson has established a threshold criterion to determine if a project has a significant traffic impact at a specific location. A project impact is considered significant if the V/C ratio at an intersection increases by 0.02 or more due to the project and the resultant LOS is E or F.

County of Los Angeles

The impact analysis used the Los Angeles County CMP threshold of significance, which states that a project impact is significant if it causes a net increase in the demand-to-capacity (D/C) ratio on a freeway segment of 2 percent or more (V/C ratio increase greater than or equal to 0.02), which causes LOS F conditions. If the facility is already at LOS F, a significant impact occurs when the proposed project increases traffic demand on a CMP facility by 2 percent of capacity (V/C increase of 0.02 or more).

Project Impacts

Proposed project impacts regarding traffic, site access, and parking are addressed in the following sections.

Near-Term (2017) Impacts

Traffic and Circulation

Potential Impact: The Proposed Near-Term Projects Could Result in Increased Traffic Volumes on Local Roads and Highways

Future 2017 Without-Project Traffic Conditions

Future traffic conditions without the project (no-project condition) were first estimated to evaluate the potential impacts of the proposed near-term projects. In conjunction with CSUDH staff, 2017 (the near-term development horizon for the master plan) was the year selected for this future baseline analysis. Future traffic forecasts were estimated by predicting two separate components of traffic growth in the study area, i.e., ambient growth and cumulative project growth.

Ambient Growth

The first component is ambient growth, which is general growth in traffic volumes due to other developments in the proposed project area and regional growth and development outside the area. In conjunction with the City of Carson, a growth rate of 1 percent per year was assumed for ambient traffic growth. The existing traffic counts were therefore adjusted upward by a total of 10 percent to represent ambient growth to 2017.

Cumulative Project Growth

The second component of future growth and traffic volumes relates to specific development projects in the area that are either under construction, approved, or under formal planning consideration and therefore could be in place by 2017 when the proposed project would be completed.

A list of proposed development projects that could affect traffic conditions in the proposed project area (within about a 1-mile radius) was prepared based on information obtained from a variety of sources, including the cities of Carson, Compton, Gardena, and Los Angeles as well as the County of Los Angeles. These are generally approved projects, either under construction or expected to be completed by 2017. A total of 13 potential development projects were identified, the locations of which are shown in Figure 3O-5 and listed in Table 3O-3.

Figure 3O-5: Locations of Related Projects

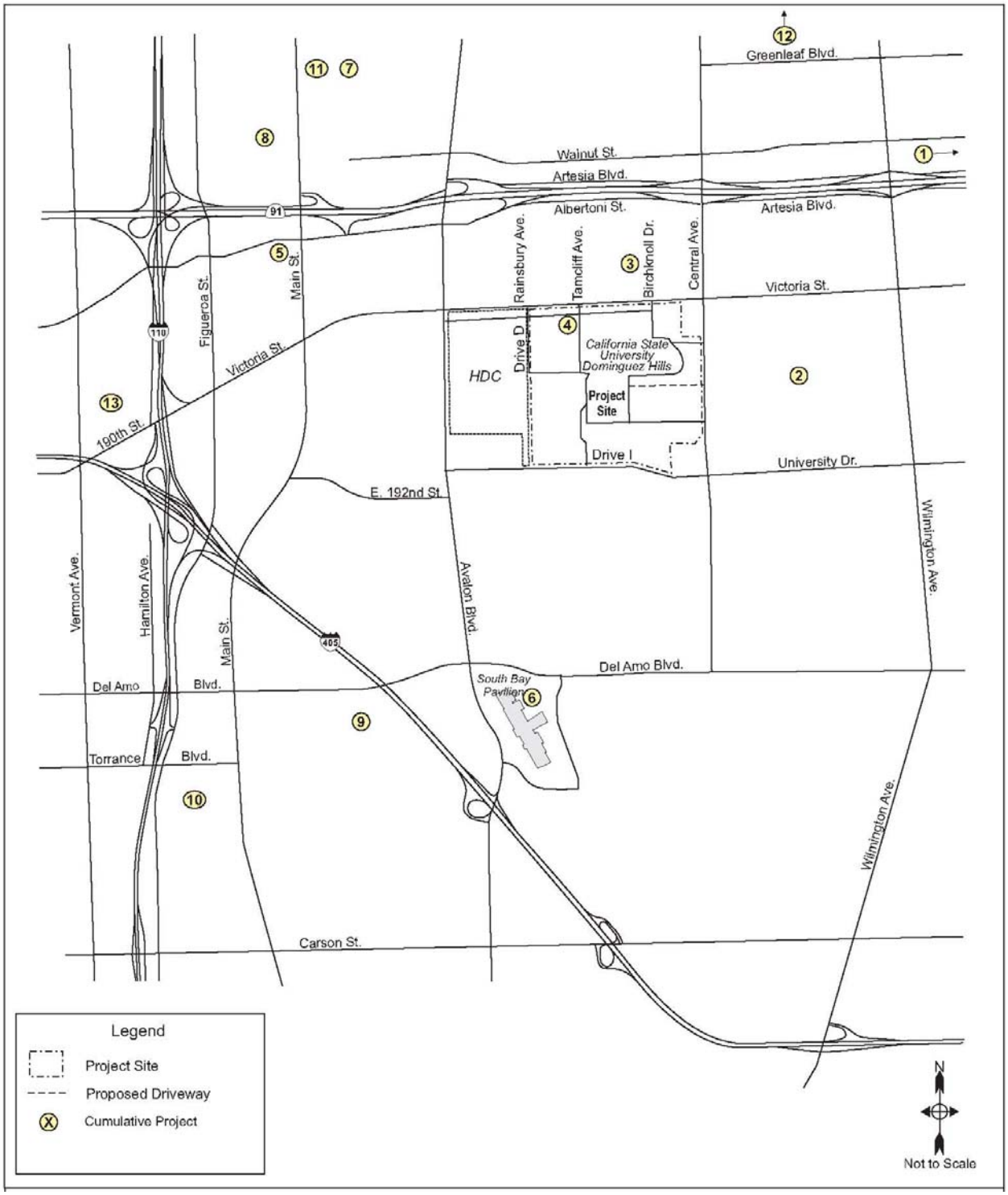


Table 3O-3: Related Project List and Trip Generation Estimates

Site No.	Location/Address	Project Description			Daily Trips	AM Peak Hour			PM Peak Hour		
						In	Out	Total	In	Out	Total
1	Gateway Town Center	509,666	sf	Shopping center	21,885	320	205	525	917	994	1,911
		38	du	Single-family housing	364	7	22	29	24	14	38
		2,000	seats	Movie theater	3,520	18	2	20	58	102	160
	Subtotal				25,769	345	229	574	999	1,110	2,109
2	Dominguez Technology Center	840,997	sf	Technology	5,862	681	93	774	99	725	824
		693,822	sf	Industrial	2,317	280	46	326	64	255	319
		567,673	sf	Office	1,885	239	33	272	44	217	261
				Less: currently 90% built out	9,058	1,080	155	1,235	186	1,077	1,264
	Subtotal				1,006	120	17	137	21	120	140
3	Dominguez Hills Village	150	children	Childcare	672	64	56	120	58	65	123
4	CSUDH/Home Depot Center Phase II	200	rooms	Hotel		187	51	238	85	181	266
		30,000	sf	Administrative offices		41	6	47	8	37	45
		30,000	sf	Athletic performance center		27	0	27	0	27	27
		50,000	sf	Training facilities		15	0	15	0	15	15
		240	beds	Dormitories		50	0	50	0	50	50
	Subtotal					320	57	377	93	310	403
5	Prime Wheel Expansion [1]	165,000	sf	Warehouse and office	1,292	140	27	167	44	150	194
	Prime Wheel Expansion [2]	99,123	sf	Warehouse	492	37	8	45	12	35	47
	Subtotal				1,784	177	35	212	56	185	241
6	South Bay Pavilion	1,009,207	sf	Future Development	30,516	382	245	627	1,382	1,497	2,879
		783,753	sf	Less: existing after demolition	25,891	328	210	538	1,169	1,267	2,436
		225,454	sf	Incremental development	4,625	54	35	89	213	230	443
				Less: 10% pass-by trips	463	5	4	9	21	23	44
				Total net incremental project trips	4,162	49	31	80	192	207	399
				Less: currently 80% built out	3,330	39	25	64	154	166	319

Site No.	Location/Address	Project Description			Daily Trips	AM Peak Hour			PM Peak Hour		
						In	Out	Total	In	Out	Total
	Subtotal				832	10	6	16	38	41	80
7	249 East Gardena Boulevard	78,408	sf	Warehousing/manufacturing	300	29	28	57	21	37	58
8	17420 Broadway	40,000	sf	Four-unit industrial/manufacturing	153	15	14	29	11	19	30
		10,000	sf	Office buildings	110	14	2	16	3	12	15
	Subtotal				263	29	16	45	14	31	45
9	Carson Marketplace	1,370,000	sf	Regional retail center	36,129	466	280	746	1,576	1,710	3,286
		130,000	sf	Neighborhood retail center	5,285	100	64	164	228	240	468
		1,550	du	Residential	7,671	102	462	564	453	230	683
		300	rooms	Hotel	3,058	98	62	160	94	83	177
		81,125	sf	Restaurants	11,127	418	328	746	383	273	656
		214,000	sf	Commercial recreation/entertainment	5,681	82	48	130	221	270	491
	Subtotal				68,951	1,266	1,244	2,510	2,955	2,806	5,761
10	20881 South Main Street	127,345	sf	Church	1,160	50	42	92	44	40	84
11	16900 South Main Street	90,000	sf	Industrial	627	73	10	83	11	77	88
12	Alondra Blvd./Dwight Avenue	28	du	Townhouses	164	2	10	12	10	5	15
		4,500	sf	Church	41	2	1	3	2	1	3
	Subtotal				205	4	11	15	12	6	18
13	777 190th Street	125,800	sf	Shopping center	5,402	79	51	130	226	245	472
		186,450	sf	Self-storage	466	17	11	28	25	24	48
	Subtotal				5,868	96	62	158	251	269	520
				Total Trips	107,438	2,582	1,813	4,396	4,573	5,097	9,670

Notes:
du = dwelling unit; sf = square feet
Source: The Mobility Group, 2007.

Future Without-Project Traffic Forecasts

Projected traffic from related projects was estimated and added to the street network in the study area to obtain traffic forecasts for the future no-project condition, according to the following process.

Trip Generation

Trip generation estimates for each project were taken directly from EIRs or technical studies previously conducted for those projects where such information was available for each of the two time periods being analyzed. In other cases, trip generation was estimated by using trip rates in Trip Generation – 7th Edition (Institute of Transportation Engineers [ITE] 2004). As shown in Table 3O-3, the cumulative projects are expected to generate approximately 4,400 AM peak-hour trips and 9,670 PM peak-hour trips.

Trip Distribution

The distribution of the trips generated by the cumulative projects is dependent on a number of factors, including the type and density of land uses, the geographic distribution of population and employment from which project users will be drawn, and the characteristics of the surrounding street system. Where available, trip distribution patterns were taken directly, or estimated, from EIRs or technical studies previously conducted for the related projects. Where such information was not directly available, trip distributions were estimated based on consideration of the factors listed above.

Trip Assignment

Traffic was then assigned to the street network to the study area based on the trip generation estimates and trip distribution information described above. It should be noted that in certain cases not all cumulative project traffic would be added to the roadways in the study area. While some of this traffic would traverse roadways in the study area, some of the traffic would also disperse from some of the cumulative projects to other parts of the region without passing through the study area. This process, along with the addition of the ambient growth in traffic described earlier, provided projections for future (2017) traffic volumes without the project for each of the two time periods, representing the future without-project conditions. These projections are shown in Figure 9 for the AM peak hour and in Figure 10 for the PM peak hour of the traffic study attached as Appendix H.

Future Roadway Improvements

In agreement with the City of Carson, the following intersection improvements, which will be completed by the Carson Marketplace project, were assumed to be in place by 2017. These improvements, which were identified in the Carson Marketplace EIR, are as follows.

Avalon Boulevard and I-405 Southbound On-Ramp. As part of the Carson Marketplace project, this intersection will be reconfigured such that the west leg will become a two-way street (Lenardo Drive) that can access the Carson Marketplace. The I-405 southbound off-ramp and on-ramp that currently terminate at Avalon Boulevard will be relocated to terminate on Lenardo Drive west of Avalon Boulevard. At the intersection of Lenardo Drive and Avalon Boulevard, a new east leg will be created, comprising a southbound on-ramp to I-405.

Avalon Boulevard and I-405 Northbound On-Ramp/Off-Ramp. This intersection would be improved by adding left-turn capability from the I-405 northbound off-ramp to southbound Avalon Boulevard. Subsequent to the release of the draft EIR for public review in November 2007, improvements for this intersection were fully funded under the Carson Marketplace project. However, the final designs for the improvements are yet to be approved. Also, the City of Compton and the City of Carson have plans for the following improvements at the intersection of Central Avenue and Artesia Boulevard. It is assumed that both plans would be in place by 2017.

Central Avenue and Artesia Boulevard Westbound. An improvement at this intersection is funded and planned for implementation in the next year or two. This improvement would modify the southbound approach from the current two through lanes and one right-turn lane to three through lanes and one right-turn lane.

Central Avenue and Artesia Boulevard Eastbound. An improvement at this intersection is also funded and planned for implementation in the next year or two. This improvement would modify the southbound approach from two through lanes, one shared through/left lane, and one left-turn lane to two through lanes and two left-turn lanes.

Avalon Boulevard and Victoria Street. Since the release of the draft EIR for public review in November 2007, improvements for this intersection have been carried out as part of another project in the City of Carson. The improvements made at the intersection included restriping of the westbound approach of Victoria Street to the intersection from one left-turn lane, one through lane, and one shared through/right lane to one left-turn lane, two through lanes, and one right-turn lane.

Future 2017 Without-Project Traffic – Intersection Analysis

The future without-project traffic projections were evaluated to determine the V/C ratio and LOS for the analyzed intersections for each of the two time periods. The results are shown in Table 3O-4, which also compares the future without-project conditions to the existing conditions for each location.

AM Peak Hour

During the AM peak hour under the future without-project conditions, 24 of the 27 study intersections would operate at LOS D or better. A total of three intersections would operate worse than LOS D, those being as follows:

Table 3O-4: Intersection Level of Service – Future Without-Project Conditions

		AM Peak Hour				PM Peak Hour			
		Existing Conditions		Future Without-Project Conditions		Existing Conditions		Future Without-Project Conditions	
No.	Intersection	V/C	LOS	V/C	LOS	V/C	LOS	V/C	LOS
1	Victoria Street and I-110 SB Ramp	0.821	D	0.968	E	0.643	B	0.802	D
2	Victoria Street and I-110 NB On-Ramp	0.420	A	0.491	A	0.678	B	0.813	D
3	Victoria Street and Figueroa Street	0.640	B	0.748	C	0.666	B	0.863	D
4	Victoria Street and Main Street	0.447	A	0.573	A	0.650	B	0.817	D
5	SR-91 EB Ramps and Albertoni Street	0.489	A	0.665	B	0.616	B	0.705	C
6	Avalon Boulevard and Artesia Boulevard	0.463	A	0.531	A	0.435	A	0.509	A
7	Avalon Boulevard and Albertoni Street	0.570	A	0.639	B	0.687	B	0.788	C
8	Avalon Boulevard and Harbor Village	0.323	A	0.375	A	0.372	A	0.437	A
9	Avalon Boulevard and Victoria Street	0.532	A	0.692	B	0.769	C	0.926	E
10	Avalon Boulevard and University Drive	0.439	A	0.485	A	0.546	A	0.631	B
11	Avalon Boulevard and Del Amo Boulevard	0.720	C	0.896	D	0.915	E	1.209	F
12	Avalon Boulevard and I-405 NB Ramps	0.681	B	0.638	B	0.790	C	0.921	E
13	Avalon Boulevard and I-405 SB Ramps	0.462	A	0.533	A	0.604	B	0.706	C
14	Victoria Street and Drive D	0.234	A	0.279	A	0.410	A	0.484	A
15	Victoria Street and Tamcliff Avenue	0.254	A	0.310	A	0.354	A	0.414	A
16	University Drive and Drive I	0.422	A	0.433	A	0.405	A	0.419	A
17	Victoria Street and Birchknoll Drive	0.422	A	0.452	A	0.486	A	0.541	A
18	Central Avenue and Artesia Boulevard WB	0.842	D	0.842	D	0.809	D	0.836	D
19	Central Avenue and Artesia Boulevard EB	0.876	D	0.902	E	0.796	C	0.812	D
20	Central Avenue and Victoria Street	0.552	A	0.634	B	0.655	B	0.764	C
21	Central Avenue and Beachey Pl.	0.457	A	0.513	A	0.406	A	0.456	A
22	Central Avenue and University Drive	0.458	A	0.520	A	0.391	A	0.446	A
23	Central Avenue and Del Amo Boulevard	0.618	B	0.727	C	0.708	C	0.853	D
24	Wilmington Avenue and Artesia Blvd. WB	0.715	C	0.808	D	0.845	D	0.945	E
25	Wilmington Avenue and Artesia Blvd. EB	0.834	D	0.938	E	0.860	D	0.989	E
26	Wilmington Avenue and Victoria Street	0.533	A	0.593	A	0.672	B	0.764	C
27	Wilmington Avenue and University Drive	0.427	A	0.480	A	0.424	A	0.479	A

Source: The Mobility Group, 2007.

- Victoria Street and I-110 SB off-ramp (LOS E),
- Central Avenue and Artesia Boulevard EB (LOS E), and
- Wilmington Avenue and Artesia Blvd EB (LOS E).

PM Peak Hour

During the PM peak hour under the future without-project conditions,22 of the 27 study intersections would operate at LOS D or better. A total of five intersections would operate worse than LOS D, those being:

- Avalon Boulevard and Victoria Street (LOS E),
- Avalon Boulevard and Del Amo Boulevard (LOS F),
- Avalon Boulevard and I-405 NB ramps (LOS E),
- Wilmington Avenue and Artesia Blvd WB (LOS E), and
- Wilmington Avenue and Artesia Blvd EB (LOS E).

Future 2017 With-Project Traffic Conditions

Project Trip Generation

Trip generation was estimated for the project based on an analysis of the planned growth in the master plan to the near-term horizon of 2017. This growth comprises the following three types:

- an increase in FTE students from the 2007 level of approximately 9,000 FTE students to a future level of 11,000 FTE students.
- the addition of on-site student housing for 600 students, and
- the provision of 350 on-site condominiums for faculty/staff.

The standard source for trip generation rates is the publication *Trip Generation – 7th Edition* (ITE 2004), which identifies trip rates for many land uses from a national database of observed trip behavior.

Campus Student Growth

The ITE trip generation rate for universities and colleges was used to estimate the additional trips from student growth. These trip rates are based on the total number of students rather than FTE students. Data provided by CSUDH were used to make the following conversions:

	2007	2017
FTE Students	8,900	11,000
Students	14,000	17,400

Student Housing

The proposed student housing would provide on-campus apartment units for 600 students. Trips were estimated using the ITE trip generation category for apartments, which is the closest functioning residential land use.

The vehicle trip rate for on-campus student housing might be expected to be lower than the regular rate for apartment housing because students can walk to campus without making a vehicle trip. Nevertheless, for the purposes of preparing a conservative (worst case) analysis, no adjustments or reductions were made to the ITE trip rates.

Faculty/Staff Housing

The proposed faculty/staff housing would provide 350 condominium units on campus. Trips were estimated using the ITE trip generation category for condominiums. Just as with student housing, it might also be expected that the vehicle trip rate for on-campus faculty/staff housing might be lower than the typical rate for condominium housing because trips would be made within the campus without using a vehicle. Nevertheless, no adjustments or reductions were made to the ITE trip rates in order to prepare a conservative (worst case) analysis.

The analysis estimates that by 2017 the master plan would generate an additional 11,472 daily trips, 1,022 AM peak-hour trips, and 1,050 PM peak-hour trips. The detailed trip generation estimates are summarized in Table 3O-5.

Project Trip Distribution

The distribution of project trips determines which streets traffic would be used to travel to and from the campus. The distribution pattern assumed for this development project was based upon careful consideration of a number of factors, including the likely origins of new students, the likely destinations for trips from the student and faculty/staff housing facilities, and the characteristic of the roadway system in the area of the proposed project.

In addition to this overall distribution of trips, the likely effect of two elements of the proposed master plan on the distribution of campus trips to campus driveways was also considered. ~~One element of the master plan is to construct a 2,400-space parking garage on the east side of the campus by 2017. This would provide 1,800 additional parking spaces on campus (allowing replacement of the existing surface parking spaces at that location).~~ One element of the master plan is to construct a 750- to 1,000-space surface parking lot on the east side of the campus by 2017. A second element of the master plan proposes a new campus driveway off of Central Avenue ~~at Beachey Place~~ to provide improved access to the east campus. This location was chosen because it is a central location for the east campus. It would be able to efficiently serve both existing uses and the proposed new uses, including the new surface parking lot ~~parking garage~~ and the proposed housing. The driveway would be located midway between Victoria Street and University Drive on Central Avenue and, therefore, would be the ideal location for a new signalized intersection.

Table 3O-5: CSUDH Master Plan EIR – Trip Generation Estimates

DAILY

Land Use Assumptions	Source[1] and Code	Quantity	Units	Daily Trip Rate	Daily Total Trips
Proposed Uses					
CSUDH Campus – Existing (2007) [2,3]	ITE 550	14,000	person	2.26	31,660
CSUDH Campus – Future [2,3]	ITE 550	17,400	person	2.26	39,242
Net Campus					7,582
Student Housing [6,7]	ITE 220	600	person	3.38	2,028
Faculty Housing [10,11]	ITE 230	350	du	5.32	1,862
Net Total Trips					**11,472**

AM PEAK

Land Use Assumptions	Source[1] and Code	Quantity	Units	AM Peak Hour Trip Rate In	Out	Total	AM Peak Hour Total Trips In	Out	Total
Proposed Uses									
Campus – Existing (2007) [2,4]	ITE 550	14,000	person	0.16	0.04	0.21	2,297	574	2,871
Campus – Future [2,4]	ITE 550	17,400	person	0.16	0.04	0.21	2,868	717	3,585
Net Campus							571	143	714
Student Housing [6,8,14]	ITE 220	600	person	0.06	0.22	0.28	33	134	167
Faculty Housing [10,12]	ITE 230	350	du	0.07	0.33	0.40	24	117	141
Net Total Trips							**628**	**394**	**1,022**

PM PEAK

Land Use Assumptions	Source[1] and Code	Quantity	Units	PM Peak Hour Trip Rate In	Out	Total	PM Peak Hour Total Trips In	Out	Total
Proposed Uses									
Campus – Existing (2007) [2,5]	ITE 550	14,000	person	0.06	0.14	0.20	836	1950	2785
Campus – Future [2,5]	ITE 550	17,400	person	0.06	0.14	0.20	1030	2402	3431
Net Campus							194	452	646
Student Housing [6,9,15]	ITE 220	600	person	0.26	0.14	0.39	153	83	236
Faculty Housing [10,13]	ITE 230	350	du	0.32	0.16	0.48	113	55	168
Total							**460**	**590**	**1,050**

Notes:

1. ITE rates from *Trip Generation, 7th Edition,* Institute of Transportation Engineers, Washington, DC, 2004, except where otherwise noted.
2. ITE Code 550 for universities and colleges was used.
3. Equation (T = 2.23(X)+440) was used to estimate university daily trips.
4. Equation (T = 0.21(X)-69.14) was used to estimate university AM trips.
5. Equation (T = 0.19(X)+125.35) was used to estimate university PM trips.
6. ITE Code 220 for apartments was used.
7. Equation (T = 3.43(X)-30.02) was used to estimate apartment daily trips; X is the number of persons.
8. Equation (T = 0.26(X)+10.99) was used to estimate apartment AM trips; X is the number of persons.
9. Equation (T = 0.39(X)+2.03) was used to estimate apartment PM trips; X is the number of persons.
10. ITE Code 230 for condominiums and townhouses was used.
11. Equation (Ln(T) = 0.85Ln(X)+2.55) was used to estimate for condominium and townhouse daily trips.
12. Equation (Ln(T) = 0.80Ln(X)+0.26) was used to estimate condominium and townhouse AM trips.
13. Equation (Ln(T) = 0.82Ln(X)+0.32) was used to estimate condominium and townhouse PM trips.
14. Directional distribution is not available; the AM distribution for apartment (ITE Code 220) vs. units was used.
15. Directional distribution is not available; the PM distribution for apartment (ITE Code 220) vs. units was used.

Trip totals may differ marginally due to rounding.
Source: The Mobility Group, 2007.

Both these elements of the master plan could change the distribution of campus trips at campus driveways.

The existing distribution of traffic to campus driveways was obtained from the traffic counts taken in April 2007 (see Table 3O-6). An evaluation of campus parking, driveway locations, and the surrounding street system was made to estimate the predicted future distribution of traffic to campus driveways (see Table 3O-6). As would be expected, the percentage of traffic using existing campus driveways is expected to decline in the future as traffic diverts to the new driveway on Central Avenue. The existing and the 2017 trip distribution with the proposed project are summarized in Table 3O-6.

Future 2017 With-Project Intersection Analysis

Future traffic volumes with the proposed project were estimated by assigning project traffic to the roadway network based on the trip generation and trip distribution parameters described above. The resulting total future traffic volumes are shown in Figure 12 and Figure 13 for the AM peak hour and PM peak hour, respectively, in the traffic study attached as Appendix H of this EIR.

Table 3O-6: Distribution of Campus Trips to Campus Driveways

Driveway	Existing	Master Plan 2017
Dominguez Hills Parkway West	18%	14%
Tamcliffe/Toro Center Drive	19%	15%
Birchknoll Drive	39%	35%
Beachey Place	0%	17%
Toro Center Drive/University Drive	24%	19%
Total	100%	100%

The analysis then evaluated the potential for significant impacts to result from the proposed project by comparing the LOS at study intersections without the project and with the project. The results of the future with-project intersection LOS analysis are shown in Table 3O-7 for each time period.

Weekday AM Peak-Hour Project Impacts

As shown in Table 3O-7, below, the project would result in a significant traffic impact at four intersections in the AM peak hour. These intersections are as follows (with the resultant LOS in parentheses):

- Victoria Street and I-110 SB Off-Ramp (LOS F),
- Avalon Boulevard and Del Amo Boulevard (LOS E),
- Central Avenue and Artesia Boulevard WB (LOS E), and
- Central Avenue and Artesia Boulevard EB (LOS E).

Weekday PM Peak-Hour Project Impacts

As also shown in Table 3O-7, the project would result in significant traffic impacts at five intersections in the PM peak hour. These intersections are as follows (with the resultant LOS in parentheses):

- Victoria Street and Figueroa Street (LOS E),
- Avalon Boulevard and Victoria Street (LOS E),
- Avalon Boulevard and Del Amo Boulevard (LOS F),
- Avalon Boulevard and I-405 NB Ramps (LOS E),
- Central Avenue and Artesia Boulevard WB (LOS E), and

The intersection of Avalon Boulevard and Del Amo Boulevard would operate at LOS F without the proposed project. The remaining four affected intersections would operate at LOS E without the proposed project and would continue to operate at LOS E with the proposed project.

Table 3O-7: Intersection Level of Service – Future With-Project Conditions

		AM Peak						PM Peak					
		Future Without-Project Conditions		Future With-Project Conditions		Change in V/C	Significant Impact	Future Without-Project Conditions		Future With-Project Conditions		Change in V/C	Significant Impact
No.	Intersection	V/C	LOS	V/C	LOS			V/C	LOS	V/C	LOS		
1	Victoria Street and I-110 SB Off-Ramp	0.968	E	1.004	F	0.036	Yes	0.802	D	0.829	D	0.027	No
2	Victoria Street and I-110 NB On-Ramp	0.491	A	0.514	A	0.023	No	0.813	D	0.836	D	0.023	No
3	Victoria Street and Figueroa Street	0.748	C	0.773	C	0.025	No	0.863	D	0.903	E	0.040	Yes
4	Victoria Street and Main Street	0.573	A	0.616	B	0.043	No	0.817	D	0.846	D	0.029	No
5	SR-91 EB Ramps and Albertoni Street	0.665	B	0.665	B	0.000	No	0.705	C	0.745	C	0.040	No
6	Avalon Boulevard and Artesia Boulevard	0.531	A	0.542	A	0.011	No	0.509	A	0.557	A	0.048	No
7	Avalon Boulevard and Albertoni Street	0.639	B	0.659	B	0.020	No	0.788	C	0.833	D	0.045	No
8	Avalon Boulevard and Harbor Village	0.375	A	0.409	A	0.034	No	0.437	A	0.453	A	0.016	No
9	Avalon Boulevard and Victoria Street	0.692	B	0.797	C	0.105	No	0.926	E	0.984	E	0.058	Yes
10	Avalon Boulevard and University Drive	0.485	A	0.584	A	0.099	No	0.631	B	0.717	C	0.086	No
11	Avalon Boulevard and Del Amo Boulevard	0.896	D	0.932	E	0.036	Yes	1.209	F	1.234	F	0.025	Yes
12	Avalon Boulevard and I-405 NB Ramps	0.638	B	0.658	B	0.020	No	0.921	E	0.950	E	0.029	Yes
13	Avalon Boulevard and I-405 SB Ramps	0.533	A	0.540	A	0.007	No	0.706	C	0.710	C	0.004	No

		AM Peak						PM Peak					
		Future Without-Project Conditions		Future With-Project Conditions		Change in V/C	Significant Impact	Future Without-Project Conditions		Future With-Project Conditions		Change in V/C	Significant Impact
No.	Intersection	V/C	LOS	V/C	LOS			V/C	LOS	V/C	LOS		
14	Victoria Street and Drive D	0.279	A	0.375	A	0.096	No	0.484	A	0.572	A	0.088	No
15	Victoria Street and Tamcliff Avenue	0.310	A	0.341	A	0.031	No	0.414	A	0.448	A	0.034	No
16	University Drive and Drive I	0.433	A	0.560	A	0.127	No	0.419	A	0.576	A	0.157	No
17	Victoria Street and Birchknoll Drive	0.452	A	0.549	A	0.097	No	0.541	A	0.641	B	0.100	No
18	Central Avenue and Artesia Boulevard WB	0.842	D	0.914	E	0.072	Yes	0.836	D	0.908	E	0.072	Yes
19	Central Avenue and Artesia Boulevard EB	0.902	E	0.989	E	0.087	Yes	0.812	D	0.866	D	0.054	No
20	Central Avenue and Victoria Street	0.634	B	0.675	B	0.041	No	0.764	C	0.831	D	0.067	No
21	Central Avenue and Beachey Place	0.513	A	0.728	C	0.215	No	0.456	A	0.821	D	0.365	No
22	Central Avenue and University Drive	0.520	A	0.541	A	0.021	No	0.446	A	0.468	A	0.022	No
23	Central Avenue and Del Amo Boulevard	0.727	C	0.741	C	0.014	No	0.853	D	0.864	D	0.011	No
24	Wilmington Avenue and Artesia Boulevard WB	0.808	D	0.818	D	0.010	No	0.945	E	0.946	E	0.001	No
25	Wilmington Avenue and Artesia Boulevard EB	0.938	E	0.946	E	0.008	No	0.989	E	0.996	E	0.007	No
26	Wilmington Avenue and Victoria Street	0.593	A	0.600	A	0.007	No	0.764	C	0.775	C	0.011	No
27	Wilmington Avenue and University Drive	0.480	A	0.480	A	0.000	No	0.479	A	0.479	A	0.000	No

Source: The Mobility Group, 2007.

Subsequent to the release of the draft EIR for public review in November 2007, improvements for the intersection of Avalon Boulevard and Victoria Street (improvements proposed as mitigation measure T-3 in the draft EIR) were carried out as part of another project in the City of Carson. Implementation of the improvements has reduced the impacts of the proposed project to less-than-significant levels. Therefore, no additional mitigation is required.

Mitigation Measures

The impact analysis is conservative (worst case) because it assumes a list of other related projects that could occur by 2017 and a growth rate for other background traffic of 1 percent per year. The analysis also assumed worst-case trip generation for the proposed project, with no reductions in on-campus trips for either the student or faculty housing facility. If these background and cumulative project trip-growth levels do not occur by 2017 and proposed project trips are lower than estimated, then it is possible that some of the significant traffic impacts identified for the proposed project may not occur because traffic LOS conditions could be better than estimated in the analysis. Nevertheless, mitigation measures are provided for all identified significant traffic impacts, as described below.

Victoria Street and I-110 Southbound Off-Ramp

The earlier analysis determined that the proposed project would cause a significant impact at the intersection of Victoria Street and the I-110 southbound off-ramp in the AM peak hour, changing the LOS from E (V/C ratio of 0.968) to F (V/C of 1.004). This is a very long off-ramp, which is currently striped for one right-turn lane and one left-turn lane at the intersection with Victoria Street.

T-1 Restripe the I-110 southbound off-ramp at Victoria Street for one right-turn lane and one shared right-/left-turn lane.

This could be done without any widening and would improve the LOS, changing it to D (V/C of 0.873). This measure would fully mitigate the AM peak-hour impact.

Victoria Street and Figueroa Street

The earlier analysis determined that the proposed project would cause a significant impact at the intersection of Victoria Street and Figueroa Boulevard in the PM peak hour, changing the LOS from D (V/C of 0.863) to E (V/C of 0.903).

T-2 Restripe the westbound approach of Victoria Street to the intersection from one left-turn lane, one through lane, and one shared through/right lane to one left-turn lane, two through lanes, and one right-turn lane.

This could be done without any roadway widening and would improve the LOS, changing it to D (V/C of 0.880). This would fully mitigate the PM peak-hour impact.

~~**Avalon Boulevard and Victoria Street**~~

~~The earlier analysis determined that the proposed project would cause a significant impact at the intersection of Avalon Boulevard and Victoria Street in the PM peak hour. While the LOS would remain E, the V/C would increase from 0.926 to 0.984.~~

~~**T-3** Restripe the eastbound approach of Avalon Boulevard to the intersection from one left-turn lane, one through lane, and one shared through/right-turn lane to one left-turn lane, two through lanes, and one right-turn lane.~~

~~This could be done without any roadway widening. The LOS would remain E, but the V/C would be reduced to 0.910. This measure would fully mitigate the PM peak-hour impact.~~

Avalon Boulevard and Del Amo Boulevard

The earlier analysis determined that the proposed project would cause a significant impact at the intersection of Avalon Boulevard and Del Amo Boulevard in the AM peak hour, changing the LOS from D (V/C of 0.896) to E (V/C of 0.932), and in the PM peak hour, increasing the V/C from 1.209 to 1.234 (LOS would remain at F).

T-4 Convert the northbound single left-turn lane at Avalon Boulevard to a dual left-turn lane.

This would require some reconstruction of the current median but would not require any street widening. The proposed mitigation measure would improve the AM peak-hour LOS, changing it from E (V/C of 0.932) to D (V/C of 0.876), and would improve the PM peak-hour V/C, changing it from 1.234 to 1.128, although the LOS would remain at F. This measure would fully mitigate both the AM and PM peak-hour impacts.

Avalon Boulevard and the I-405 Northbound Ramps

The earlier analysis determined that the proposed project would cause a significant impact at the intersection of Avalon Boulevard and the I-405 northbound ramps in the PM peak hour. While the LOS would remain E, the V/C would increase from 0.921 to 0.950.

Various mitigations were explored for this location. The only effective measure in terms of reducing the V/C ratio was to reconfigure the southbound approach to the intersection from one free right-turn lane and two through lanes to one shared

through/right lane and two through lanes. This measure is not recommended, however, because, even though it would technically mitigate the impact (reduce the V/C ratio), it could potentially cause other traffic problems (long queues back to the proceeding intersection and weaving problems at the downstream intersection).

Significant improvements for this intersection are currently being planned and designed by the City of Carson and Caltrans for the Carson Marketplace project. Since the final detailed design configuration for this intersection has not yet been determined, no further mitigation evaluation was pursued for the proposed project. The future improved configuration for this intersection may eliminate the significant impact caused by the proposed project. If not, then this impact would remain a significant unmitigated impact, although the LOS would remain at E. Subsequent to the release of the draft EIR for public review in November 2007, improvements for this intersection have been fully funded under the Carson Marketplace project. However, because the final designs for the improvements are yet to be approved, the impacts in the PM peak hour are considered potentially unmitigated for the purposes of this EIR.

Central Avenue and Artesia Boulevard Westbound

The earlier analysis determined that the proposed project would cause a significant impact at the intersection of Central Avenue and Artesia Boulevard westbound in the AM peak hour, changing the LOS from D (V/C of 0.842) to E (V/C of 0.914), and in the PM peak hour, increasing the V/C from 0.836 (LOS D) to 0.908 (LOS E).

T-5 Reconfigure the westbound approach of Artesia Boulevard from one left-turn lane, one shared left/through lane and one shared through/right-turn lane, to two left-turn lanes, one through lane and one right-turn lane.

This could be accomplished within the existing right-of-way by restriping and minor widening of the roadway on the south side. This would improve the AM peak-hour LOS, changing it from E (V/C of 0.914) to D (V/C of 0.899), and the PM peak-hour V/C, changing it from 0.908 (LOS E) to 0.887 (LOS D). This measure would fully mitigate the AM peak-hour impact.

Central Avenue and Albertoni/Artesia Boulevard Eastbound

The earlier analysis determined that the proposed project would cause a significant impact at the intersection of Central Avenue and Albertoni/Artesia Boulevard eastbound in the AM peak hour, changing the V/C from 0.902 to 0.989, although the LOS would remain at E.

T-6 Reconfigure the northbound approach of Central Avenue from two right-turn lanes and two through lanes to two right-turn lanes and three through lanes.

This could be accomplished, without any roadway widening, by adding a northbound through lane in the location of the existing median. Because this lane would feed directly into a left-turn lane at the next intersection, advance signage would need to be installed to advise motorists. This would improve the AM peak-hour LOS, changing it from E (V/C of 0.989) to E (V/C of 0.911), and would improve the PM peak-hour LOS, changing it from D (V/C of 0.866) to C (V/C of 0.747). This measure would fully mitigate AM peak-hour impact.

Congestion Management Program Compliance

The CMP requires new development projects to analyze potential project impacts on CMP monitoring locations. The CMP requires a traffic study to analyze traffic conditions at all arterial monitoring locations where the proposed project would add 50 or more trips during either the AM or PM weekday peak hours. The CMP also requires traffic studies to analyze mainline freeway monitoring locations where the proposed project would add 150 or more trips in either direction during either the AM or PM weekday peak hours. If, based on these criteria, the traffic study identifies no locations for study, then no further traffic analysis is required.

Arterial Monitoring Locations

A review of the CMP found that the following arterial monitoring locations might be close enough to the campus to be affected by the proposed project:

- Artesia Boulevard and Vermont Avenue,
- Artesia Boulevard and Crenshaw Avenue,
- 190th Street and Western Avenue,
- SR-91 EB off-ramp and Alameda Street, and
- Alameda Street and Compton Boulevard.

The project trip generation and trip distribution characteristics were used to calculate the number of project trips likely to pass through the arterial monitoring locations identified above. This analysis found that the proposed project would add more than 50 peak-hour trips through three of the five intersections. These intersections are as follows:

- Artesia Boulevard and Vermont Avenue,
- Artesia Boulevard and Crenshaw Avenue, and
- 190th Street and Western Avenue.

Traffic operations were analyzed at these three locations. Existing conditions were analyzed based on 2007 traffic counts. These were then growth factored to 2017 to represent future without-project conditions. The growth factors were calculated from the subregional traffic growth factor in the 2004 Congestion Management Program for Los Angeles County (and averaged 0.59 percent growth rate per year). Future with-project conditions were then analyzed by adding project traffic.

Intersection Impact Analysis

Without the project, all three intersections are forecast to operate at LOS F. The project would cause slight increases in the V/C ratio at all three intersections. However, these increases would all be less than the threshold for a significant impact. It is therefore concluded that the project would not cause a significant traffic impact at any CMP arterial monitoring location.

Freeway Monitoring Locations

A review of the CMP found that the following freeway monitoring locations might be close enough to the campus to be affected by the proposed project:

- I-405 at Santa Fe Avenue,
- I-405 south of I-110 at the Carson scales,
- I-405 north of Inglewood Avenue, and
- SR-91 east of Alameda Street/Santa Fe Avenue.

In order to conduct a more comprehensive analysis of potential freeway impacts, seven additional locations were added to this study. These locations are as follows:

- I-110 south of Torrance Avenue,
- I-110 north of SR-91,
- I-405 between Avalon Boulevard and Carson Avenue,
- I-405 west of Vermont Avenue,
- SR-91 between Central Avenue and Wilmington Avenue,
- SR-91 between Avalon Boulevard and Central Avenue, and
- SR-91 between Main Street and Avalon Boulevard..

Freeway Analysis

Existing traffic volumes in the AM and PM peak hours for the freeway segments were obtained from either the *2004 Congestion Management Program for Los Angeles County* (Metro) or the Caltrans *2006 Traffic Volumes on California State Highways*. These data were adjusted to represent 2007 conditions by applying a growth factor of 1 percent per year.

Freeway levels of service were determined by calculating demand/capacity (D/C) ratios per the definitions shown in Table 3O-8. Existing levels of service were calculated for each freeway segment using a conservative capacity of 2,000 vehicles per hour per freeway mainline lane (per the 2004 CMP) for all analysis locations. The existing D/C ratios and levels of service are shown in Table 3O-9 for the AM peak hour and Table 3O-10 for the PM peak hour.

Future 2017 base freeway traffic volumes without the proposed project were projected by factoring existing volumes by a growth rate of 1 percent per year. These future base volumes, along with D/C ratios and levels of service, are also shown in Tables 3O-9 and 3O-10.

The number of project vehicle trips expected to pass through the 11 locations (including the four CMP monitoring locations) was estimated based on the project trip distribution and the project trip generation identified earlier in this section. This was added to the future without-project base volumes to obtain future with-project total volumes on the freeway segments. Both the project-only trips and the future total trips with the project are shown in Tables 3O-9 and 3O-10, along with the total with-project D/C ratios and levels of service.

Table 3O-8: Level of Service Definitions for Freeway Mainline Segments

Level of Service	Demand/Capacity Ratio
A	0.00 – 0.35
B	> 0.35 – 0.54
C	> 0.54 – 0.77
D	> 0.77 – 0.93
E	> 0.93 – 1.00
F (0)	> 1.00 – 1.25
F (1)	> 1.25 – 1.35
F (2)	> 1.35 – 1.45
F (3)	>1.45

Source: *2004 Congestion Management Program for Los Angeles County*, Los Angeles County Metropolitan Transportation Authority, July 2004. Exhibit B-6.

Freeway Mainline Impact Analysis

The proposed project would add more trips to the freeway system in the PM peak hour rather than in the AM peak hour. Because of the numerous freeways, freeway ramps, and access routes serving the proposed project site, project trips would be dispersed over multiple routes. The greatest number of project trips would occur on SR-91 between Main Street and Avalon Boulevard, on SR-91 between Avalon Boulevard and Central Avenue, and on I-110 north of SR-91.

Table 3O-9: Freeway Impact Analysis – AM Peak Hour

				Existing (2007)					Cumulative (2017) Base				Cumulative Plus Project (2017)						
No.	Freeway Segments	CMP Location	DIR	Demand	Number of Lanes	Capacity	D/C	LOS	Demand	Capacity	D/C	LOS	Project Trips	Demand	Capacity	D/C	LOS	Change in D/C	Significant Impact
1	I-110 south of Torrance[1, 2]	No	NB	9,402	4	8,000	1.175	F(0)	10,386	8,000	1.298	F(1)	44	10,430	8,000	1.304	F(1)	0.006	No
			SB	7,378	4	8,000	0.922	D	8,150	8,000	1.019	F(0)	28	8,178	8,000	1.022	F(0)	0.003	No
2	I-110 north of SR-91[1, 2]	No	NB	10,314	5	10,000	1.031	F(0)	11,393	10,000	1.139	F(0)	59	11,452	10,000	1.145	F(0)	0.006	No
			SB	8,886	5.5	11,000	0.808	D	9,816	11,000	0.892	D	95	9,911	11,000	0.901	D	0.009	No
3	I-405 and Santa Fe Avenue[3]	Yes	NB	8,557	4	8,000	1.070	F(0)	9,452	8,000	1.182	F(0)	69	9,521	8,000	1.190	F(0)	0.008	No
			SB	8,089	4	8,000	1.011	F(0)	8,935	8,000	1.117	F(0)	43	8,978	8,000	1.122	F(0)	0.005	No
4	I-405 b/w Avalon Blvd. and Carson Street[1, 2]	No	NB	9,378	4.5	9,000	1.042	F(0)	10,359	9,000	1.151	F(0)	69	10,428	9,000	1.159	F(0)	0.008	No
			SB	8,273	4.5	9,000	0.919	D	9,138	9,000	1.015	F(0)	43	9,181	9,000	1.020	F(0)	0.005	No
5	I-405 b/w Avalon Blvd. and I-110 Interchange[3]	Yes	NB	10,615	5	10,000	1.062	F(0)	11,726	10,000	1.173	F(0)	0	11,726	10,000	1.173	F(0)	0.000	No
			SB	9,176	5	10,000	0.918	D	10,136	10,000	1.014	F(0)	0	10,136	10,000	1.014	F(0)	0.000	No
6	I-405 west of Vermont Ave.[1, 2]	No	NB	9,805	6	12,000	0.817	D	10,831	12,000	0.903	D	51	10,882	12,000	0.907	D	0.004	No
			SB	6,831	4.5	9,000	0.759	C	7,545	9,000	0.838	D	82	7,627	9,000	0.847	D	0.009	No
7	I-405 north of Inglewood Ave.[3]	Yes	NB	11,435	4	8,000	1.429	F(2)	12,632	8,000	1.579	F(3)	51	12,683	8,000	1.585	F(3)	0.006	No
			SB	8,231	4	8,000	1.029	F(0)	9,092	8,000	1.137	F(0)	82	9,174	8,000	1.147	F(0)	0.010	No
8	SR-91 east of Alameda/Santa Fe Ave.[3]	Yes	EB	7,056	6	12,000	0.588	C	7,795	12,000	0.650	C	47	7,842	12,000	0.653	C	0.003	No
			WB	12,612	6	12,000	1.051	F(0)	13,932	12,000	1.161	F(0)	75	14,007	12,000	1.167	F(0)	0.006	No
9	SR-91 b/w Central Ave. and Wilmington Ave.[1, 2]	No	EB	5,765	5	10,000	0.577	C	6,368	10,000	0.637	C	35	6,403	10,000	0.640	C	0.003	No
			WB	10,143	5	10,000	1.014	F(0)	11,205	10,000	1.120	F(0)	56	11,261	10,000	1.126	F(0)	0.006	No

				Existing (2007)					Cumulative (2017) Base				Cumulative Plus Project (2017)						
No.	**Freeway Segments**	**CMP Location**	**DIR**	**Demand**	**Number of Lanes**	**Capacity**	**D/C**	**LOS**	**Demand**	**Capacity**	**D/C**	**LOS**	**Project Trips**	**Demand**	**Capacity**	**D/C**	**LOS**	**Change in D/C**	**Significant Impact**
10	SR-91 b/w Avalon Blvd. and Central Ave.[1, 2]	No	EB	5,676	5	10,000	0.568	C	6,270	10,000	0.627	C	81	6,351	10,000	0.635	C	0.008	No
			WB	9,987	5	10,000	0.999	E	11,032	10,000	1.103	F(0)	78	11,110	10,000	1.111	F(0)	0.008	No
11	SR-91 b/w Main St. and Avalon Blvd.[1, 2]	No	EB	5,618	5	10,000	0.562	C	6,205	10,000	0.621	C	81	6,286	10,000	0.629	C	0.008	No
			WB	9,883	6	12,000	0.824	D	10,917	12,000	0.910	D	124	11,041	12,000	0.920	D	0.010	No

Notes:

1. Existing freeway mainline traffic volumes (factored to 2007 conditions) were obtained from *2006 Traffic Volumes on California State Highways* (Caltrans). Peak-hour volumes by direction were derived by applying directional and peak-hour factors derived from this manual.

2. Capacity of auxiliary and high-occupancy vehicle (HOV) lanes were analyzed as the equivalent of half of a mainline lane.

3. The demand and capacity were obtained from Metro's 2004 Congestion Management Program for Los Angeles County.

Source: The Mobility Group, 2007.

Table 3O-10: Freeway Impact Analysis – PM Peak Hour

				Existing (2007)					Cumulative (2017) Base				Cumulative Plus Project (2017)						
No.	Freeway Segments	CMP Location	DIR	Demand	Number of Lanes	Capacity	D/C	LOS	Demand	Capacity	D/C	LOS	Project Trips	Demand	Capacity	D/C	LOS	Change in D/C	Significant Impact
1	I-110 south of Torrance[1, 2]	No	NB	7,046	4	8,000	0.881	D	7,783	8,000	0.973	E	33	7,816	8,000	0.977	E	0.004	No
			SB	8,949	4	8,000	1.119	F(0)	9,885	8,000	1.236	F(0)	42	9,927	8,000	1.241	F(0)	0.005	No
2	I-110 north of SR-91[1, 2]	No	NB	8,444	5	10,000	0.844	D	9,327	10,000	0.933	E	88	9,415	10,000	0.941	E	0.008	No
			SB	9,801	5.5	11,000	0.891	D	10,826	11,000	0.984	E	69	10,895	11,000	0.990	E	0.006	No
3	I-405 and Santa Fe Ave.[3]	Yes	NB	7,645	4	8,000	0.956	E	8,445	8,000	1.056	F(0)	51	8,496	8,000	1.062	F(0)	0.006	No
			SB	8,446	4	8,000	1.056	F(0)	9,329	8,000	1.166	F(0)	65	9,394	8,000	1.174	F(0)	0.008	No
4	I-405 b/w Avalon Blvd. and Carson Street[1, 2]	No	NB	7,859	4.5	9,000	0.873	D	8,681	9,000	0.965	E	51	8,732	9,000	0.970	E	0.005	No
			SB	9,122	4.5	9,000	1.014	F(0)	10,077	9,000	1.120	F(0)	65	10,142	9,000	1.127	F(0)	0.007	No
5	I-405 b/w Avalon Blvd. and I-110 Interchange[3]	Yes	NB	9,090	5	10,000	0.909	D	10,041	10,000	1.004	F(0)	0	10,041	10,000	1.004	F(0)	0.000	No
			SB	10,615	5	10,000	1.062	F(0)	11,726	10,000	1.173	F(0)	0	11,726	10,000	1.173	F(0)	0.000	No
6	I-405 west of Vermont Ave.[1, 2]	No	NB	8,726	6	12,000	0.727	C	9,639	12,000	0.803	D	77	9,716	12,000	0.810	D	0.007	No
			SB	9,805	4.5	9,000	1.089	F(0)	10,831	9,000	1.203	F(0)	60	10,891	9,000	1.210	F(0)	0.007	No
7	I-405 north of Inglewood Ave.[3]	Yes	NB	8,408	4	8,000	1.051	F(0)	9,288	8,000	1.161	F(0)	77	9,365	8,000	1.171	F(0)	0.010	No
			SB	8,518	4	8,000	1.065	F(0)	9,410	8,000	1.176	F(0)	60	9,470	8,000	1.184	F(0)	0.008	No
8	SR-91 east of Alameda/Santa Fe Ave.[3]	Yes	EB	16,983	6	12,000	1.415	F(2)	18,759	12,000	1.563	F(3)	71	18,830	12,000	1.569	F(3)	0.006	No
			WB	7,166	6	12,000	0.597	C	7,915	12,000	0.660	C	55	7,970	12,000	0.664	C	0.004	No

				Existing (2007)					Cumulative (2017) Base				Cumulative Plus Project (2017)						
No.	**Freeway Segments**	**CMP Location**	**DIR**	**Demand**	**Number of Lanes**	**Capacity**	**D/C**	**LOS**	**Demand**	**Capacity**	**D/C**	**LOS**	**Project Trips**	**Demand**	**Capacity**	**D/C**	**LOS**	**Change in D/C**	**Significant Impact**
9	SR-91 b/w Central Ave. and Wilmington Ave.[1, 2]	No	EB	8,489	5	10,000	0.849	D	9,377	10,000	0.938	E	53	9,430	10,000	0.943	E	0.005	No
			WB	6,854	5	10,000	0.685	C	7,571	10,000	0.757	C	41	7,612	10,000	0.761	C	0.004	No
10	SR-91 b/w Avalon Blvd. and Central Ave.[1, 2]	No	EB	8,358	5	10,000	0.836	D	9,232	10,000	0.923	D	88	9,320	10,000	0.932	E	0.009	No
			WB	6,898	5	10,000	0.690	C	7,620	10,000	0.762	C	87	7,707	10,000	0.771	D	0.009	No
11	SR-91 b/w Main St. and Avalon Blvd.[1, 2]	No	EB	8,271	5	10,000	0.827	D	9,136	10,000	0.914	D	88	9,224	10,000	0.922	D	0.008	No
			WB	6,677	6	12,000	0.556	C	7,376	12,000	0.615	C	196	7,572	12,000	0.631	C	0.016	No

Notes:

1. Existing freeway mainline traffic volumes (factored to 2007 conditions) were obtained from the *2006 Traffic Volumes on California State Highways* (Caltrans). Peak-hour volumes by direction were derived by applying directional and peak-hour factors derived from this manual.

2. Capacity of auxiliary and HOV lanes were analyzed as the equivalent of half of a mainline lane.

3. The demand and capacity were obtained from Metro's 2004 Congestion Management Program for Los Angeles County.

Source: The Mobility Group, 2007.

The proposed project would not cause 150 or more trips to be added in any direction at any of the four CMP monitoring locations. There would, therefore, be no significant freeway CMP impacts.

Regarding the seven remaining locations, the proposed project would cause freeway LOS to change at only one location, SR-91 between Avalon Boulevard and Central Avenue in the PM peak hour. However, the incremental increase in the D/C ratio would be less than significant, not only at this location but at all the locations analyzed, as shown in Tables 3O-9 and 3O-10. In virtually all cases, the increase in the D/C ratio would be less than 0.01. It is therefore concluded that there would be no significant traffic impacts on the freeway system.

CMP Transit Analysis

An analysis of potential project impacts on the transit system was performed per CMP requirements and guidelines. The analysis conservatively assumed (for the purposes of a worst-case roadway analysis) no use of transit in the trip generation calculations for incremental growth in the master plan to 2017. Given the relatively sparse transit services in the proposed project area (particularly on streets adjacent to the campus), it is unlikely that a significant number of project trips would use transit. Nevertheless, estimates of potential transit ridership were made according to recommended CMP methodology. The vehicle trip generation estimates were first multiplied by 1.4 to convert the numbers to person trips and then multiplied by 3.5 percent to estimate transit trips. By this method, the proposed project could generate approximately 560 daily transit trips and about 50 transit trips in each of the peak hours, both AM and PM.

The number of peak-hour trips in the peak direction would be approximately 31 in the AM peak hour and 29 in the PM peak hour. The hourly capacity of the transit system serving the proposed project Site was estimated (shown in detail in Table 11 of the traffic study, which is attached to this EIR as Appendix H) to be approximately 855 trips per direction. The estimated potential number of transit trips generated by the proposed project in the peak direction in the peak hours would therefore represent about 3.6 percent of total transit capacity. Because this would represent a very small proportion of overall transit system capacity, it is concluded that the proposed project would not cause the transit system to substantially exceed capacity, and therefore, the proposed project would not create any significant impacts on the transit system.

Mitigation Measures

No mitigation is necessary.

Site Access, Circulation, and Parking Analysis

Potential Impact: The Proposed Project Could Result in Inadequate Parking Supply

~~There are currently 4,362 on-site parking spaces at the campus. These serve the current campus population of 8,700 FTE students. By 2017, the master plan proposes an increase of a total of 6,162 parking spaces at the campus, a net increase of 1,800 parking spaces, with construction of a new 2,400 surface parking garage on the east side of the campus on Lot 7 (replacing 600 surface spaces). This would represent an increase of about 41 percent in on-campus parking supply.~~ There are currently 4,533 on-site parking spaces at the campus. These serve the current campus population of 8,700 FTE students. By 2017, the master plan proposes an additional 750 to 1,000 parking spaces, with construction of a new surface parking lot on the east side of the campus in proximity to Lot 7. This would represent an increase of about ~~41~~ 16 to 21 percent in on-campus parking supply.

The student population at CSUDH will grow from the current level of about 14,000 students to approximately 17,400 students by 2017, an increase of roughly 24 percent. However, the available parking would be sufficient for campus demand. In fact, by 2017 (and for some time afterward), there would be a surplus of parking on campus. This would be attributable to the construction of the ~~2400-space garage~~ new surface parking lot and the proactive policies of the university, which ensure that adequate parking is provided.

Note that additional, and separate, parking would be provided for both the new student housing facility and the new faculty/staff housing facility. Those parking areas would be sufficient to meet the needs of those facilities. It is therefore concluded that, by 2017, there would be no significant parking impacts associated with the master plan.

Mitigation Measures

No mitigation is necessary.

Project Access

Potential Impact: The Proposed Project Could Result in Changes to Access

Access to the campus in 2017 would be provided from six driveways, as follows:

- Victoria Street/Dominguez Hills Parkway West (also known as Drive D)—Existing Driveway

- Victoria Street/Tamcliff Avenue—Existing Driveway
- Victoria Street/Birchknoll Drive—Existing Driveway
- Central Avenue/Beachey Place—New Driveway
- University Drive/Faculty Housing—New Driveway
- University Drive/Toro Center Drive (also known as Drive I)—Existing Driveway

All of these driveways were discussed in the earlier intersection analysis, except for the new University Drive/Faculty Housing driveway, which is discussed below. As the analysis showed, all driveway intersections with the streets would operate at good levels of service and with no significant impacts.

The exact location of the proposed University Drive/Faculty Housing driveway is not known at this time but would probably be near the east end of the faculty/staff housing site and west of Central Avenue. Given the estimated traffic volumes generated by the faculty/staff housing, this intersection would operate at LOS A in both the AM and PM peak periods.

Driveway Signalization

The Victoria Street/Dominguez Hills Parkway West driveway (Drive D) is currently unsignalized. The proposed Home Depot Center hotel and training facility would require construction of a signal at the driveway when that project occurs. The other two driveways along Victoria Street (at Tamcliff Avenue and Birchknoll Drive) are currently signalized and will remain so. The new driveway at Central Avenue and Beachey Place is proposed to be signalized as part of the master plan by 2017. Analysis confirmed that traffic volumes at this driveway would warrant a traffic signal (see the traffic study attached as Appendix H). Analysis also indicated that projected traffic volumes at both driveways on University Drive (the new faculty/staff housing driveway and Toro Center Driveway [Drive I]) would not warrant a traffic signal (see traffic study attached as Appendix H).

Mitigation Measures

No mitigation is necessary.

Long-Term (2040) Impacts

Trip Generation

Estimates of additional trip generation for the campus between 2017 and 2040 are summarized in Table 14 of the traffic study. Trip growth would be associated with the growth in the number of FTE students, climbing from 11,000 to ~~20,000~~ 14,000 (equivalent to growth in the number of actual students, climbing from 17,400 to ~~31,350~~ 21,420), and construction of a 1,500-seat performing arts

theater. Growth from 2017 to 2040 would be expected to generate approximately ~~32,200~~ 10,423 daily vehicle trips, ~~2,930~~ 2,861 AM peak-hour trips, and ~~2,680~~ 2,809 PM peak-hour vehicle trips. These may be considered conservatively high estimates because they do not allow for any reduction in vehicle trips due to on-campus student and faculty housing or the possibility of increased use of transit and ridesharing opportunities in future years, all of which could reduce the vehicle trip total.

Potential Traffic Impacts

It is beyond the scope of this study to address traffic impacts in 2040; clearly, there may be many changes to the transportation system in the project area by that time. However, it seems reasonable to conclude that the number of additional trips that would be generated by the long-term projects could potentially cause additional significant traffic impacts. The specific location and nature of any such potential impacts will need to be addressed by subsequent environmental studies that will need to take into account campus growth, other growth in the surrounding areas, potential changes and improvements in the area's transportation system, as well as mitigation measures for potential impacts.

Parking

The existing campus provides a total of 4,362 on-site parking spaces for 8,900 FTE students (Note: Not all students or staff personnel are on campus at any one time. Both students and staff have varying schedules, so only a portion are on-site at any given time. A single space can therefore be used by multiple users throughout the course of the day). See Table 3O-11 below.

The master plan anticipates a total of ~~10,000~~ 7,285 on-site parking spaces by 2040 to accommodate a total of ~~20,000~~ 14,000 FTE students. The growing number of parking spaces represents an approximate ~~129~~ 61 percent increase (compared with the growing number of FTE students, an approximate ~~125~~ 52 percent increase). Since growth in the number of parking spaces will slightly exceed growth in the number of FTE students, it may be concluded that the master plan anticipates an adequate on-site parking supply by 2040. Further detailed parking studies will need to be conducted as part of more detailed future environmental studies to address issues associated with the master plan horizon year of 2040.

Table 30-11: Summary of Existing and Planned Parking Supply

Year	FTE Students	Parking Spaces
2006	8,900	~~4,362~~ 4,533
2040	~~20,000~~ 13,565 (rounded off to 14,000) (+~~124.7~~ 52.4%)	~~10,000~~ 7,285 (+~~129.3~~ 60.7%)

Source: CSUDH and CSUDH Master Plan, August 2006, updated 2009.

Unavoidable Significant Adverse Impacts

~~One significant traffic impact would potentially remain unmitigated in the PM peak hour at the intersection of Avalon Boulevard and the I-405 northbound ramps.~~ The draft EIR identified a potential unavoidable significant impact at the intersection of Avalon Boulevard and the I-405 northbound ramps, pending approval of the Carson Marketplace project. Subsequent to the release of the draft EIR for public review in November 2007, improvements for this intersection were fully funded as part of the Carson Marketplace project. However, because the final designs for the improvements are yet to be approved, the impacts in the PM peak hour are considered potentially unmitigated for the purposes of this EIR. Depending on the final future configuration of this intersection, as improved for the Carson Marketplace project, this may or may not remain a significant impact. With the configuration assumed for this analysis, however, there would remain a significant impact, although the LOS would remain at E for both the without-project and with-project scenarios.

It should be noted that various jurisdictions have ownership over the study intersections. Most intersections are located within the City of Carson. ~~Caltrans has shared ownership with the City of Carson over the I-405 NB ramp intersection at Avalon Boulevard.~~ The City of Compton shares ownership with the City of Carson at the intersections of Central Avenue and Artesia Boulevard WB and Central Avenue and Artesia Boulevard EB. Finally, the City of Los Angeles and Caltrans have shared ownership over the intersection of the I-110 SB ramp at Victoria Street. Although the proposed mitigation measures appear feasible based on the preliminary evaluation and field review conducted at the time of preparation of the draft EIR, their implementation depends on factors outside the control of CSUDH. If, during project development and the review process, the mitigation measures at particular intersection(s) are determined to be infeasible by the responsible agency or agencies, the project impact identified herein at any such intersection(s) would remain significant and unavoidable.

Cumulative Impacts

The geographic scope of the cumulative traffic impact analysis generally consists of the key intersections in the vicinity of the proposed project site. In consultation with the City, a scope was developed for the traffic study for this EIR that identified 27 study intersections for analysis (see discussion above). Direct project impacts on the street system in the vicinity of the proposed project site were identified using established significance criteria.

The cumulative base traffic projections used for the traffic analyses included two elements: 1) ambient growth in the existing background traffic volumes, reflecting the effects of overall regional growth and development, and 2) traffic generated by specific related projects located within or near the study area.

The intersection analysis discussed above showed that three of the 27 study intersections in the AM peak hour are projected to operate at LOS E under cumulative without-project conditions in 2017. With the addition of project-generated traffic, one of these three intersections would deteriorate to LOS F. In addition, ~~one~~ two intersections operating at LOS D under the without-project conditions would operate at LOS E with project conditions.

The intersection analysis showed that five study intersections in the PM peak hour are projected to operate at LOS E or worse under cumulative without-project conditions in 2017; one of the five intersections would operate at LOS F. With the addition of project-generated traffic, LOS at the intersections would not change for the five intersections. However, two intersections that were operating at LOS D under without-project conditions would operate at LOS E with the project; the remaining intersections would operate at the same LOS with or without the project. It should be noted that the mitigation measures for the proposed project would mitigate impacts at all project affected intersections. The proposed project would not substantially increase the number of intersections operating at LOS E or worse; therefore, the project's incremental impact on cumulative conditions is not considered significant.

Regional programs such as the RTP, the Regional Transportation Improvement Plan (RTIP) prepared by SCAG, and the Statewide Transportation Improvement Program (STIP) prepared by the California Department of Transportation are intended to address the cumulative mobility needs of Southern California. The RTP forecasts long-term transportation demands for the five-county SCAG region and identifies policies, actions, and funding sources to accommodate those demands, including construction of new transportation facilities, transportation systems management strategies, transportation demand management strategies, and land use strategies. The RTIP and STIP are programming documents that list all funded/programmed regional improvements.

Section 3P
Utilities and Service Systems

Introduction

This section addresses existing utility systems such as wastewater conveyance and treatment, water availability and supply, solid waste generation and disposal, and electrical service and availability. Stormwater facilities are discussed in Section 3I, Hydrology and Water Quality.

Setting

Water Supply

The California Water Service Company (Cal Water), Dominguez District, is an investor-owned public water utility that services approximately 87 percent of the City of Carson, including CSUDH. In 2006, CSUDH consumed approximately 46,042,400 gallons of potable water and 4,736,700 gallons of recycled water (see Table 3P-1).

Table 3P-1: CSUDH Water Consumption in 2006

	Potable Water	Recycled Water	Total
Total Annual Consumption (gallons)	46,042,400	4,736,700	50,779,100
Gallons per day (gpd)	126,144	12,977	139,121
Gallons per day per FTE student	14.5	1.5	16

Source: CSUDH, 2007.

Cal Water services approximately 38,000 customers in the City of Carson and parts of Torrance, Long Beach, and Harbor City. Cal Water owns14 wells in the

South Bay from which it derives local groundwater supplies; the remainder of the water supply is purchased from the Metropolitan Water District of Southern California (MWD) and the West Basin Municipal Water District (WBMWD). WBMWD is the only provider of recycled water in the Cal Water service area. The closest source of recycled water is the line at the intersection of Avalon Boulevard and Del Amo Boulevard (CSUDH 1998).[22]

Cal Water purchases approximately 79 percent of its water from MWD and WBMWD; approximately 14 percent of its water comes from groundwater wells, and 7 percent is recycled water from WBMWD. Cal Water also participates in the MWD-sponsored "in lieu" water program, whereby water suppliers purchase imported water from MWD at a reduced rate instead of pumping groundwater. The nonpumped groundwater stays in the basins for use in the future when imported water may not be as plentiful. The water demand for Cal Water in 2007 is expected to range from 40,000 acre-feet per year (AFY) to 41,000 AFY based on historical use patterns.

Cal Water's service demand projections are outlined in the Urban Water Management Plan, adopted in 2005. To meet water demands for the next decade, the company will rely on a mix of ground, imported, and recycled water. Cal Water projections indicate that, under normal precipitation conditions, it will have sufficient water supplies to meet the anticipated growth in customer water demand through 2015 (Cal Water 2005).

Sewer and Wastewater Services

DPW owns and operates trunk lines and a treatment plant located within the City. The local sanitary sewers running through CSUDH are owned by the City of Carson and maintained by DPW's Consolidated Sewer Maintenance District (CSMD) (District No. 8). CSMD collects user fees for operation and maintenance of existing local sewer lines. Most local sewer lines are currently 8 inches in diameter and constructed of vitrified clay pipe, which has a normal service life of 75 years or more. In the vicinity of the campus, the pipes are generally located as following: along Del Amo Boulevard running east to west, along Main Street running north to south, along Wilmington Avenue with three lines running north to south and two lines running east to west along railroad tracks, along Alameda Street with two lines running north to south, and along Broadway with two lines running north to south. The campus is served by the Del Amo trunk sewer, located in a right-of-way south of Del Amo Boulevard at Avalon Boulevard. This trunk sewer is 24 inches in diameter and has a design capacity of 8.9 million gallons per day (mgd); it conveyed a peak flow of 4.7 mgd when last measured in 1998 (CSUDH 1998). No upgrades are currently planned.

[22] The West Basin Municipal Water Recycling Program. Available: <http://www.westbasin.com/recyclingprogram.html>. Accessed: July 16, 2007.

With CSUDH's water consumption rate in 2006 being 50,779,100 gallons,[23] the existing average wastewater flow on the campus would be 40,623,280 gallons, or 40.6 million gallons, or 111,300 gpd.[24] The Joint Water Pollution Control Plant (JWPCP), operated under the Joint Outfall System, treats wastewater generated within the City. Located at 24501 South Figueroa Street in Carson, it has a design capacity of 385 mgd and processes an average flow of 329.3 mgd. The service area of the Joint Outfall System encompasses 73 cities as well as unincorporated territory, including some areas within the City of Los Angeles.

Solid Waste Services

CSUDH has implemented a waste management program to divert campus-generated solid waste away from landfills, which has substantially reduced solid waste generation on the campus. In 2006, CSUDH generated approximately 1,481.48 tons of solid waste, compared to approximately 2,344.37 tons in 2005, a reduction of 58 percent. This reduction in tonnage can be attributed to the various waste diversion programs started by CSUDH. These programs include recycling beverage containers, cardboard, newspaper, office paper, and scrap metal as well as composting. In addition, CSUDH has implemented a business source-reduction program for toner cartridges and electronic media. In 2006, CSUDH recycled 12 tons of beverage containers, 16.8 tons of cardboard, 1 ton of newspaper, 6 tons of white office paper, and 20.5 tons of mixed office paper, and it collected 11.63 tons of computers, monitors, and keyboards, which were recycled through an e-waste recycling company (California Integrated Waste Management Board 2006).

The solid waste generated by CSUDH is collected by a private hauler. The disposal service relies upon traditional methods of solid waste collection, using standard trash trucks and crews. Solid waste is taken to the company's transfer station at 2509 Rosecrans Avenue in Los Angeles where it is sorted. The transfer station has a permitted capacity of 1,500 tons per day. This solid waste is eventually deposited at the Sunshine Canyon Landfill, which had an average daily disposal rate of 6,352 tons in 2006. The Sunshine Canyon landfill is located at 14747 San Fernando Road Sylmar, CA 91342. In 1999, the Los Angeles City Council approved a general plan amendment and zoning change that allowed landfilling to resume at Sunshine Canyon (Sunshine Canyon Landfill 2007). The new permits would provide approximately 25 years of waste disposal capacity at the landfill, at a maximum disposal capacity of 12,100 tons per day (Sunshine Canyon Landfill 2007).

[23] Average daily wastewater generation is generally accepted to be 80 percent of daily water consumption.
[24] Based on wastewater generation rates from the City of Los Angeles CEQA Thresholds Guide.

Natural Gas

The Southern California Gas Company, Pacific Region, supplies natural gas to the City. As a public utility, the Southern California Gas Company is under the jurisdiction of federal and state regulatory agencies (City of Carson 2000). A medium- and high-pressure distribution pipeline system and a high-pressure transmission pipeline system transect the City boundaries. There are no current deficiencies in the natural gas supply systems that serve the City. The Southern California Gas Company regularly assesses and upgrades its systems to meet current and future needs to accommodate future expansion in residential, commercial, and industrial uses.

Electricity

Southern California Edison (SCE), Compton Service Center, currently provides electricity service to the City and supplies most of the electricity to CSUDH. Electricity produced by SCE is generated from a combination of oil, natural gas, hydroelectric, nuclear, and renewable sources. Approximately one dozen transmission facilities (66 kV) extend along Wilmington Avenue and Alameda Street and feed the SCE service area or distribute directly to select high-voltage customers (CSUDH 2005). The City is serviced through three SCE substations. The substation that serves the CSUDH campus is the Nola Substation at South Broadway and Victoria Street (City of Carson 2004). SCE regularly analyzes the capacity of its systems and projects and plans for new load growth based on commercial, industrial, and residential customer demand (City of Carson 2000).

CSUDH recently installed photovoltaic parking canopies in the northeast corner of the campus in parking lot 1. This system has the capacity to generate 526 kilowatts (kW) at peak times and 694,820 kilowatt hours (kWh) of energy per year (Rincon Consultants 2005). In 2006, total annual electricity utilization at CSUDH was 22 megawatt hours (MWh). This is approximately 2.43 kWh per student, based on an enrollment of 8,718 FTE students during the 2005–2006 academic year. At peak hours, CSUDH consumes approximately 2.3 megawatts of electricity on average, when school is in session. The proposed cogeneration plant would have a peak-hour generating capacity of 2.3 megawatts (Slimp pers. comm.). Currently, there is no power generation or cogeneration facility on the campus.

Regulatory Setting

State Regulations

Senate Bill 610

Senate Bill 610 took effect on January 1, 2002. It requires that water supply assessments occur early in the land use planning process for all large-scale development projects. The required assessments must include detailed analyses

of historic, current, and projected groundwater pumping and an evaluation of the sufficiency of the groundwater basin to sustain a new project's demands. It also requires an identification of existing water entitlements, rights, and contracts and a quantification of the prior year's water deliveries. CSU is not subject to the mandates of Senate Bill 610.

Health and Safety Code Section 17921.3

Health and Safety Code Section 17921.3 requires low-flush toilets and urinals in majority of buildings.

California Administrative Code Title 20, Section 1604(f) (Appliance Efficiency Standards)

California Administrative Code Title 20, Section 1604(f), establishes efficiency standards that govern the maximum flow rate for all new showerheads and lavatory and sink faucets, as specified in the standard approved by the American National Standards Institute on November 16, 1979, and known as ANSI A112.18.1M-1979.

California Administrative Code Title 20, Section 1606(b) (Appliance Efficiency Standards)

California Administrative Code Title 20, Section 1606(b), prohibits the sale of fixtures that do not comply with regulations. No new appliance may be sold or offered for sale in California that is not certified by its manufacturer to be in compliance with the provisions of the regulations establishing applicable efficiency standards.

California Code of Regulations Title 24, Part 6, Energy Efficiency Standards

CCR Title 24, Part 6, Energy Efficiency Standards, promotes efficient energy use in new buildings constructed in California. The standards regulate energy consumed for heating, cooling, ventilation, water heating, and lighting. Title 24 is the state's building code; its standards are enforced through the local building permit process.

Assembly Bill 75

Assembly Bill 75 requires all state agencies and large state facilities to divert at least 50 percent of solid waste from landfills. The California Integrated Waste Management Board developed and approved a "Model Integrated Waste Management Plan" in order to implement the policy.

CSU Revised Policy on Energy Conservation, Sustainable Building Practices, and Physical Plant Management of 2005

On September 21, 2005, the California State University Board of Trustees approved a revised policy on energy conservation that calls for maintaining current energy-conservation practices and reducing energy consumption by an additional 15 percent as well as reducing reliance on grid electricity by increasing self-generation to 50 megawatts and increasing the purchase of renewable energy from the current 15 percent level to 20 percent. During the mid-1970s, the California State University system began to track how much energy was being consumed and at what cost. Since then, it has reduced energy use by 50 percent. Even though technological advances have brought more electrical demands than ever into our daily routines, the California State University system continues to make 5-year energy use reduction goals and has set the 2010 energy use reduction goal at 20 percent.

Local Regulations

City of Carson General Plan Update 2004

Open Space and Conservation Element

The Open Space and Conservation Element of the City's general plan contains goals and policies for water quality and conservation and energy conservation.

Water Quality and Conservation

Goal OSC-2: Protection and conservation of Carson's water resources.

Policies

OSC-2.1 Maintain and improve water quality.

OSC-2.2 Continue to monitor land uses discharging into water sources and water recharge areas to prevent potential contamination from hazardous or toxic substances.

OSC-2.3 Minimize soil erosion and siltation from construction activities through monitoring and regulation.

OSC-2.4 Conserve the water supply available to the City of Carson and promote water conservation in the management of public properties.

OSC-2.5 Educate citizens about water conservation, encourage its practice, and monitor its effectiveness.

OSC-2.6 Facilitate the completion of the infrastructure of the reclaimed water facility in the City of Carson.

OSC-2.7 Encourage the use of reclaimed water in applications for which potable water is not necessary.

Energy Conservation

Goal OSC-3: Conservation of scarce energy resources.

Policies

OSC-3.1 Promote incentives for the use of site planning techniques, building orientation, building materials, and other measures that reduce energy consumption.

OSC-3.2 Support the development of alternative sources of energy such as roof-mounted solar panels, fuel cells, or new technology.

OSC-3.3 Work with energy providers to develop and implement programs to reduce electrical demand in residential, commercial, and industrial developments.

OSC-3.4 Support energy conservation via alternative forms of transportation.

Solid Waste Conservation

Goal OSC-4: Minimize solid waste generated within Carson.

Policies

OSC-4.1 Reduce the generation of solid waste from sources in the City in accordance with the Source Reduction and Recycling Element for Carson (separate from this general plan) and state regulations.

OSC-4.2 Develop a public education program to address waste management and proper household waste sorting and handling.

OSC-4.3 Facilitate physical collection of recyclable waste.

Impacts and Mitigation

Methodology

Demand and generation levels for the proposed project were gathered from information provided by CSUDH and calculated using standard factors from applicable agencies. Capacity of on-site infrastructure and service levels of utility providers were determined through consultation with the CSUDH physical plant staff personnel and appropriate service providers. The analyses in this section are based on FTE units and, wherever applicable, the square footage of the proposed development. FTE units are commonly used as a measure of the number of students and staff personnel present at a campus for a certain timeframe (either in class, for students, or at work, for the staff).

Thresholds of Significance

For the purposes of this EIR and in accordance with Appendix G of the *State CEQA Guidelines*, the proposed project would be considered to have a significant environmental impact on public services and utilities if it would:

- Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.
- Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental impacts.
- Not have sufficient water supplies available to serve the project from existing entitlements and resources, or require new or expanded entitlements needed.
- Result in a determination by the wastewater treatment provider that serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.
- Be served by a landfill that does not have sufficient permitted capacity to accommodate the project's solid waste disposal needs.

Project Impacts

Near-Term (2017) Impacts

Construction Impacts

Potential Impact: Construction Activities Could Result in Increased Consumption of Water

The proposed project would use water during construction for various purposes, such as dust suppression, mixing and pouring concrete, and other construction-related activities. Additionally, construction workers would consume water. Typically, the majority of water use during construction is associated with dust suppression during excavation, which is generally performed by water trucks that use nonpotable water from off-site sources. Therefore, the additional water use would not be substantial and no impact on adjacent water supply pipelines and infrastructure would occur.

Construction of the expanded facilities would result in short-term impacts, such as interrupted water services. Therefore, a less-than-significant impact would occur as a result of the proposed project.

Mitigation Measures

UT-1: The applicant shall provide reclaimed water for the proposed project's nonpotable water needs, if feasible. To the maximum extent feasible, reclaimed water shall be used during the grading and construction phase of the proposed project for dust control, soil compaction, and concrete mixing.

Potential Impact: Construction Activities Could Result in Discharge of Wastewater

Construction activities for the proposed master plan would not result in the generation of substantial amounts of wastewater. Portable toilets would be available on-site for construction workers. Consequently, construction activities would not result in the discharge of wastewater into the existing City sanitation system. No significant wastewater impacts would result from construction of the proposed master plan.

Mitigation Measures

No mitigation is necessary.

Potential Impact: Construction Activities Could Result in the Generation of Construction-Related Wastes

The proposed project would generate solid waste during the construction phase. A minimum of 50 percent of the construction and demolition debris would be diverted in accordance with Assembly Bill 75. Accordingly, all demolition debris would be sorted by qualified personnel and stored in specific dumpsters for recyclable and non-recyclable waste. All recyclable waste would be accounted for, documented, and removed from the proposed project site by a qualified recycling provider. Materials that are to be recycled or salvaged during the renovation/construction phase would include 1) glass, 2) concrete, 3) asphalt, 4) steel doors, and 5) bathroom fixtures. Therefore, the proposed project would not result in significant solid waste impacts during the renovation/construction phase of the proposed project.

Mitigation Measures

No mitigation is necessary.

Operational Impacts

Potential Impact: The Proposed Project Could Result in Increased Consumption of Water

The proposed project includes remodeling existing facilities, such as the library, and constructing new buildings, such as the student and faculty residences to accommodate an increase in student enrollment. CSUDH water demand in 2017 has been projected based on current demand rates per FTE students and typical water demand rates of single-family homes. Table 3P-2 shows the projected water demand for CSUDH in comparison to the total amount of water consumed in 2006. According to these calculations. The proposed project is expected to increase CSUDH's consumption from 50,728,254 gallons of water annually to about 110,960,000 gallons of water annually. This represents an increase of 118 percent, which is a substantial increase in water demand. However, it should be noted that CSUDH plans to use more recycled water in the future than it currently uses, something the analysis of supply does not take into account. Therefore, it is reasonable to assume that some of the demand presented in Table 3P-2 would be met by using recycled water on campus.

Table 3P-2: Current and Projected Water Consumption (2017)

Measured Item	Units	Water Demand Rate (gallons per day/unit)	Total Daily Water Demand (gpd)	Total Annual Water Demand (gallons)***
2017 FTE students	FTE students (11,000)	16 gpd/ FTE student	176,000	64,240,000
Faculty and staff housing	350 units	200 gpd/unit**	70,000	25,550,000
2017 Projected Total Consumption			**246,000**	**89,790,000**
2006 Water Consumption*			**139,121**	**50,779,100**

Notes:

* Based on water consumption provided by CSUDH.

** Standard water demand rate equals 125%of City of Los Angeles Bureau of Engineering wastewater generation rates.

*** Equals projected total daily water demand multiplied by 365 days.

According to the Cal Water Urban Water Management Plan for the Dominguez District, the 2004 water demand for the district's service area was approximately 12.3 million gallons. As such, the current CSUDH water demand (50,782,254) is approximately 0.4 percent of the estimated total annual consumption for the Cal Water Dominguez District. The projected 2017 total annual demand would be approximately 0.9 of the 2006 annual water demand for the district and 0.8 percent of the district's projected water demand in 2015. This represents a less than 1 percent increase, and as such is not considered substantial. Continued water conservation efforts at the campus, along with water from MWD, would ensure that Cal Water would be able to continue to meet the demands of its customers. Thus, sufficient water supply exists to accommodate the proposed project and impacts on water supply would not exceed the significance threshold identified above. Project impacts on water supply would be less than significant.

Mitigation Measures

No mitigation is necessary.

Potential Impact: The Proposed Near-Term Projects Would Increase Wastewater Generation

Wastewater flow on campus in 2006 was 104,384 gpd, with 8,718 FTE students during the 2006–2007 college year. The proposed CSUDH Master Plan anticipates an enrollment of 11,000 FTE students by 2017. New faculty and student housing is also proposed. Since the County of Los Angeles or City of

Carson flow rates were not available, City of Los Angeles Bureau of Engineering Criteria has been used in determining average-day flow rates for the campus. Table 3P-3 shows the projected average-day wastewater flow rates for the campus in 2017.

Table 3P-3: Average Wastewater Flow Rates (2017)

Measured Item	Units	Wastewater Generation Rate (gpd/unit)	Wastewater Flow (gpd)	Total Annual Wastewater Generated (gallons)
2017 FTE students	11,000 FTE students *	12.8 gpd/student***	140,800	51,392,000
Faculty and staff housing	350 units	160 gpd/unit**	56,000	20,440,000
2017 Total Wastewater Flow Generated			**196,800**	**71,832,000**
2006 Total Daily Wastewater Flow			**111,300**	**40,623,280**

Notes:

* This does not include wastewater generated by students living on campus.

** Based on City of Los Angeles Bureau of Engineering wastewater flow rates; county flow rates were not available.

*** Assumed to be 80 percent of 2006 water consumption.

The surface parking ~~structure~~ lot, playfields, and cogeneration plant would generate minimal wastewater.

Source: ICF Jones & Stokes, 2007.

The average wastewater flow in 2017 shows an increase of 85,500 gpd over the 2006 flow of 111,300 gpd, with an annual increase of 31,208,720 gallons over the 2006 annual wastewater generation of 40,623,280 gallons. This is an increase of about 76.8 percent in 11 years.

The Hyperion Treatment Plant treated 413 million gpd in 2006 and has a dry-weather capacity of 450 million gpd for influent wastewater and 850 million gpd for peak wet-weather capacity (City of Los Angeles CEQA Thresholds Guidebook 2006). The increase in sewage at the CSUDH campus would result in a 0.02 percent increase in the amount of wastewater treated at the Hyperion Treatment Plant during normal dry-weather conditions, or 0.018 percent of the existing dry-weather capacity of the plant. This increase is not considered substantial. Even though the wastewater flow increase is 76.8 percent of the current flow rates of CSUDH, the Hyperion Treatment Plant would be able to accommodate the increase. Therefore, the increased wastewater flow would not have a significant impact.

The wastewater flow originating from the proposed project would discharge into a local sewer line maintained by DPW for conveyance to the Del Amo trunk sewer, located in a right-of-way south of Del Amo Boulevard at Avalon Boulevard. This trunk sewer is 24 inches in diameter and has a design capacity of 8.9 mgd; it conveyed a peak flow of 4.7 mgd when last measured in 1998. Therefore, the addition of 85,000 gpd (0.085 mgd) would not adversely affect the capacity of this trunk sewer.

The proposed project would follow energy-efficient and sustainable-design guidelines. High-efficiency wastewater fixtures would be installed, which would reduce the amount of wastewater generated by the proposed project. Therefore, the proposed improvements would not result in a significant impact on wastewater conveyance.

Mitigation Measures

No mitigation is necessary.

Potential Impact: The Near-Term Projects Could Result in Increased Generation of Solid Waste

CSUDH generated 1,481 tons of solid waste in 2006, with 9,038 FTE students enrolled during the 2006–2007 academic year. Given these numbers, the resulting solid waste factor would be approximately 0.164 ton per student, or 328 pounds per FTE student. Based on the same generation rates, CSUDH would generate 1,804 tons of solid waste by 2017, assuming 11,000 FTE students. This would be an increase of 21.8 percent in a period of 11 years. The average increase per year would be 29.32 tons, approximately. This additional solid waste contribution would be negligible, and area landfills are expected to have adequate capacity to meet this demand.

The campus would continue to follow the current diversion programs to divert the maximum amount of solid waste possible from the landfills. Therefore, the impact on solid waste would be less than significant.

Mitigation Measures

No mitigation is necessary.

Potential Impact: The Proposed Near-Term Projects Could Result in New or Expanded Off-Site Distribution and Power Generating Infrastructure

In 2006, total annual electricity utilization at CSUDH was 22,000 kWh. This equates to approximately 2.43 kWh per FTE student, with 9,038 FTE students enrolled. At peak hours, CSUDH consumes approximately 2.3 megawatts, or 23,000 kW. The projected enrollment for 2017 is approximately 11,000 FTE students. Based on the existing consumption rate, this would lead to an increase in demand for electricity of 4,767 kWh per year. Peak-hour demands would increase to 2.7 megawatts by 2017.

The CSUDH Master Plan proposes to construct a cogeneration plant with a capacity of approximately 2.3 megawatts. A cogeneration plant is a power station that simultaneously generates both electricity and useful heat. While conventional power plants emit the heat created as a byproduct of electricity generation into the environment through cooling towers, fuel gas, or other means, cogeneration plants capture the heat for domestic or industrial purposes. According to a preliminary assessment, the proposed cogeneration plant would provide approximately 85 percent of the current annual electrical load requirements and has the ability to support most of the electrical load at CSUDH in the event of a power interruption. In addition, the proposed plant would provide 86 percent of the chilled water requirements at CSUDH and 98 percent of the current hot water requirements (DMJM Harris 2006). This would substantially reduce the electricity demand from outside utility providers such as SCE. Therefore, the proposed cogeneration plant, along with the recent installation of a 526 kW solar canopy system at parking lot 1, would help CSUDH achieve its goal of becoming fully independent from outside electricity providers. The impacts of constructing and operating the cogeneration plant are addressed in this chapter of the EIR.

The proposed project would be consistent with the California State University system's efforts to become more energy efficient and increase its use of clean-burning fuels and renewable energy sources. The proposed co-generation plant would have a beneficial impact on the electricity supply at the campus. Therefore, the proposed project would not result in increased energy demand that would necessitate the construction of new or expanded off-site distribution systems or power generating facilities, and no adverse impacts would result from the proposed project.

Mitigation Measures

No mitigation is necessary.

Potential Impact: The Proposed Near-Term Projects Would Result in Increased Consumption of Natural Gas

Currently, CSUDH uses approximately 43,423 million British thermal units (MMBtu) of natural gas for heating and cooling on campus. The proposed cogeneration plant would require natural gas to produce electricity but would use the generation byproducts to provide heating and cooling for the campus. According to a preliminary report, the proposed cogeneration plant would require approximately 138,000 MMBtu of natural gas to produce electricity and approximately 3,400 MMBtu to supplement the energy needed to meet the cooling load at the campus, with a minor amount for heating. This represents a natural gas demand increase of approximately 98,971 MMBtu. This is a substantial increase in natural gas demand. The Southern California Gas Company, Pacific Region, would supply natural gas to the proposed project site. The existing on-site natural gas facilities would be expanded as necessary to the cogeneration plant and meet demands of other new facilities. However, the Southern California Gas Company is expected to be able to accommodate the projected increase in demand from the proposed project. Therefore, less-than-significant impacts on natural gas infrastructure would occur as a result of the proposed project.

Mitigation Measures

No mitigation is necessary.

Long-Term (2040) Impacts

Potential Impact: The Proposed Long-Term Projects Would Increase Wastewater Generation

The wastewater flow on campus was 111,300 gpd in 2006, with 8,700 FTE students during the 2006–2007 college year. The proposed CSUDH Master Plan anticipates an enrollment of ~~20,000~~ 14,000 FTE students by 2040 and includes new academic and administrative buildings to support increased student enrollment as well as a new performing arts theater. Table 3P-4 shows the average-day wastewater flow rate projected for the campus in 2040.

The Hyperion Treatment Plant currently treats 413 million gpd and has a dry-weather capacity of 450 million gpd for influent wastewater and 850 million gpd for peak wet-weather capacity. The increase in sewage at the CSUDH campus would result in a ~~0.04~~ 0.057 percent increase in the amount of wastewater treated at the Hyperion Treatment Plant, or ~~0.03~~ 0.052 percent of the daily dry-weather capacity of the plant. This increase is not considered substantial.

The wastewater flow originating from the proposed project would discharge into a local sewer line maintained by DPW for conveyance to the Del Amo trunk sewer, located in a right-of-way south of Del Amo Boulevard at Avalon Boulevard. This trunk sewer is 24 inches in diameter and has a design capacity of 8.9 mgd; it conveyed a peak flow of 4.7 mgd when last measured in 1998. Therefore, the addition of ~~144,700~~ 235,200 gpd (~~0.145~~ 0.235 mgd) would not adversely affect the capacity of this trunk sewer.

The proposed project would follow energy-efficient and sustainable-design guidelines. High-efficiency wastewater fixtures would be installed, which would reduce the amount of wastewater generated by the proposed project. Therefore, the proposed improvements would not result in a significant impact on wastewater conveyance.

Table 3P-4: Average Wastewater Flow (2040)

Measured Item	Units	Wastewater Generation Rate (gpd/unit)	Daily Wastewater Flow (gpd)	Annual Wastewater Flow (gallons)
Year 2040	~~20,000~~ 14,000 FTE students	12.8/gpd/ student*	~~256,000~~ 179,200	~~93,440,000~~ 65,408,000
Faculty and staff housing	350 units	160 gpd/unit**	56,000	20,440,000
Total Wastewater Flow Generated in 2040			**235,200**	**85,848,000**
Total Wastewater Flow Generated in 2006			**111,300**	**40,623,280**

Note:

* Wastewater generation rate is assumed to be 80% of water consumption.

** Based on City of Los Angeles Bureau of Engineering wastewater flow rates; county flow rates were not available.

Surface parking ~~structure~~ lot, playfields, and facilities buildings would generate minimal wastewater.

sf = square feet

Source: Jones & Stokes, 2007, updated 2009.

Mitigation Measures

No mitigation is necessary.

Potential Impact: Proposed Long-Term Projects Could Result in Increased Water Consumption

With a projected enrollment of ~~20,000~~ 14,000 FTE students, the proposed project would require approximately ~~320,000~~ 294,000 gpd, which represents a ~~130~~ 111.3 percent increase over 2006 CSUDH water demand. Cal Water's 2005 Urban Water Management Plan contains water demand and water supply projections up to 2025. As such, it is not possible to determine whether water demand would exceed supply for the proposed project in 2040. Consequently, the incremental impact of the proposed project could result in a potentially significant impact on water resources in the project area.

Mitigation Measures

No mitigation is necessary.

Potential Impact: The Proposed Long-Term Projects Would Increase Solid Waste Generation

By 2040, CSUDH is projected to have an enrollment of ~~20,000~~ 14,000 FTE students. A solid waste generation factor of 0.164 ton per student, or 328 pounds, yields a total of ~~3,280~~ 2,296 tons. This would mean an increase of ~~1,476~~ 815 tons. However, the increase would be distributed over a span of 23 years, which amounts to about ~~64~~ 35.4 tons each year.

Since the sanitation district does not have plans regarding solid waste generation and landfills that look ahead as far as 2040, it is difficult to determine the impact of the master plan after 2017. With uncertain landfill capacities in the future, it is assumed that the county will open new landfills or expand the capacity of existing ones to dispose of solid waste. There could also be changes in regulations related to diversion goals during the period.

CSUDH would continue its current diversion programs and adhere to all applicable federal, state, and local regulations. This would ensure that CSUDH diverts the maximum amount of solid waste possible from the landfill and that impacts remain less than significant for the long term.

Mitigation Measures

No mitigation is necessary.

Potential Impact: The Proposed Long-Term Projects Would Increase Consumption of Natural Gas and/or Electricity

For future projects, CSUDH is exploring options to provide incremental amounts of power using alternative technologies. In 2006, CSUDH installed a solar panel canopy system with a capacity of 526 kW. In addition, the proposed cogeneration plant is considered a cleaner, more efficient energy technology compared to traditional energy producing technologies. It uses the heat produced as a byproduct of generation for campus heating and cooling needs, and hence increasing the efficiency of the system. One of the objectives of the proposed project is to promote the principles of environmental stewardship, which includes developing a campus with an energy-efficient design. The master plan would ensure that all new buildings incorporate standard energy-conservation measures, including the U.S. Green Building Council's LEED™ "green building" rating system. In addition, the long-term objective of CSUDH is, to the extent feasible, to produce all or most of the electricity it needs from renewable energy sources. Therefore, long-term impacts on energy utilities would be less than significant.

Mitigation Measures

No mitigation is necessary.

Unavoidable Significant Adverse Impacts

No adverse impacts would result due to the proposed project.

Cumulative Impacts

Water

Groundwater supplies vary substantially, but purchases from MWD make it possible for Cal Water to deliver 100 percent of the needed water supply. The maximum water supply capability of MWD in 2005 was 2,817,630 af, while the total projected water demand that year was 1,969,700 af, resulting in a surplus of 847,930 af. In 2010, the surplus is projected to be 1,266,200 af.[25] The projected 2017 total annual water demand from the proposed project would be approximately 0.9 percent of Cal Water's 2006 annual water demand for the Dominguez District and 0.8 percent of the district's projected water demand in 2015. This increase of less than 1 percent is not considered substantial. However, cumulative growth and development in the City and in other areas served by Cal Water and MWD could substantially increase water demand.

[25] Metropolitan Water District of Southern California. Regional Urban Water Management Plan, September 2005.

While Cal Water has indicated that there is a sufficient supply of water to meet the City of Carson's projected needs under various demand scenarios, cumulative development could require the development of new water supply facilities and infrastructure, the construction of which could have significant impacts on the environment. Consequently, the incremental impact of the proposed project could contribute to an adverse cumulative water supply impact.

Wastewater

Wastewater from the proposed project would be conveyed to the Hyperion Treatment Plant. The plant presently serves more than 4 million people. Increased sewage at the CSUDH campus resulting from the proposed project would result in a 0.02 percent increase in the amount of wastewater treated at the Hyperion Treatment Plant during normal dry-weather conditions. This increase is equal to 0.018 percent of the existing dry-weather capacity of the plant. It would not exceed the capacity of the treatment plant or the existing sewer system or lead to sewage spills and overflow conditions. However, cumulative growth and development in the area served by the Hyperion Treatment Plant could substantially increase demand for wastewater treatment. New or expanded wastewater treatment facilities could be required, the construction of which could have significant impacts on the environment. Consequently, the incremental impact of the proposed project could contribute to an adverse cumulative wastewater impact.

Solid Waste

Solid waste from the proposed project would be hauled to landfills within Los Angeles County. Cumulative impacts on landfills serving the county could occur as a result of the proposed project when coupled with larger residential and employee populations stemming from planned and pending development and regional growth. The proposed project would implement waste diversion methods; however, due to diminishing landfill capacity in the region, new landfills or waste disposal facilities could be required to accommodate solid waste generated by other development in the county, the construction of which could have significant impacts on the environment. Consequently, the incremental impact of the proposed project could contribute to a significant cumulative impact on solid waste facilities.

Energy

SCE's service area covers 50,000 square miles. It includes 430 cities and communities and encompasses 11 counties in central, coastal, and Southern California (SCE 2007). The Southern California Gas Company has a service area that encompasses 23,000 square miles of diverse terrain throughout most of central and Southern California, from Visalia to the Mexican border (Southern

California Gas Company 2007). Planned and pending development in the areas served by these energy providers could result in substantial cumulative increases in energy demand. However, these providers are expected to have adequate energy supplies to meet campus demands in the near future. Further, by 2017, CSUDH is expected to generate most the energy it needs with construction of the proposed cogeneration plant. Nonetheless, it is possible that new or improved transmission and distribution facilities (e.g., transmission lines, towers, substations, transformers, pipelines, and metering and pumping stations) would be required to meet demand generated by the related projects. Construction of these facilities could have an adverse impact on the environment, depending on location, characteristics, sensitivity of affected resources, etc. Consequently, the incremental impact of the project on energy supplies could contribute to an adverse cumulative energy supply impact.

Chapter 4
Alternatives Analysis

Introduction and Overview

CEQA requires an EIR to describe a range of reasonable alternatives to the project, or to the location of the project, that could feasibly avoid or lessen any significant environmental impacts while substantially attaining the basic objectives of the project. An EIR should also evaluate the comparative merits of the alternatives. This chapter describes potential alternatives to the proposed project that were considered, identifies alternatives that were eliminated from further consideration and reasons for dismissal, and analyzes several alternatives in comparison to the potential environmental impacts associated with the proposed project.

Key provisions of the *State CEQA Guidelines* (Section 15126.6) pertaining to the alternatives analysis are summarized below.

- The discussion of alternatives will 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 those alternatives would impede to some degree the attainment of the project objectives or be more costly.
- The No-Project Alternative will be evaluated along with its impacts. The no-project analysis will discuss the existing conditions at the time the notice of preparation was published as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved based on current plans and consistent with available infrastructure and community services.
- The range of alternatives required in an EIR is governed by a "rule of reason"; therefore, the EIR must evaluate only those alternatives necessary to permit a reasoned choice. Alternatives will be limited to those that would avoid or substantially lessen any of the significant effects of the project.
- An EIR need not consider an alternative when the effects cannot be reasonably ascertained, implementation is remote and speculative, and its selection would not achieve basic project objectives.

The range of feasible alternatives is selected and discussed in a manner meant to foster meaningful public participation and informed decision making. Among the factors that may be taken into account when addressing the feasibility of alternatives (as described in CEQA Section 15126.6[f][1]) are environmental

impacts, site suitability, economic viability, social and political acceptability, technological capacity, availability of infrastructure, general plan consistency, regulatory limitations, jurisdictional boundaries, and whether the proponent could reasonably acquire, control, or otherwise have access to the alternative site.

Project Goals

The intent of the ~~2006~~ 2009 master plan is to map out a trajectory for growth and change that will enhance the physical campus, reinforce the university's strengths, ameliorate its weaknesses, and support the university's mandate to provide high-quality education to a large student body. Specifically, the master plan facilitates the university's ability to

- support the faculty and staff with appropriate teaching, research, and administrative facilities;
- reinforce the sense of campus community by providing in-class and out-of-class opportunities for faculty, student, and staff collaboration;
- make available the appropriate facilities for informal recreation, and intercollegiate athletics;
- serve as an accessible, attractive, safe, and welcoming campus for students, staff, faculty, and the community;
- serve as a regional center for intellectual, athletic, cultural, and life-long learning;
- adequately manage and maintain all campus facilities;
- preserve a balance between open space and built structures;
- maintain its stewardship of campus landscape and natural resources; and
- continue its good relations with the City of Carson and the surrounding community.

Alternatives to the Proposed Project

During the master planning and project development process, several alternatives were considered. These alternatives and their environmental impacts are provided below.

Alternative 1 (No-Project Alternative)

Section 15126.6 (e) of the *State CEQA Guidelines* requires the analysis of a No-Project Alternative. This no-project analysis must discuss the existing condition as well as what would reasonably be expected to occur in the foreseeable future if the project were not approved. Section 15126.6(e)(3)(B) of the *State CEQA Guidelines* states

> If the project is … a development project on an identifiable property, the "no project" alternative is the circumstance under which the project does not proceed. Here the discussion would compare the environmental effects of the property remaining in its existing state against environmental effects that would occur if the project were approved. If disapproval of the project under consideration would result in predictable actions by others, such as the proposal of some other project, this "no project" consequence should be discussed. In certain instances, the "no project" alternative means "no build," wherein the existing environmental setting is maintained. However, where failure to proceed with the project will not result in preservation of existing environmental conditions, the analysis should identify the practical result of the project's non-approval and not create and analyze a set of artificial assumptions that would be required to preserve the existing physical environment.

In accordance with the *State CEQA Guidelines*, the No-Project Alternative analysis includes a discussion of the No-Build Alternative as well as what would reasonably be expected to occur in the foreseeable future if the project were not approved based on current plans and site zoning consistent with available infrastructure and community services. The No-Project Alternative is neither required nor expected to meet the project's objectives or avoid or reduce any of the significant impacts associated with the proposed project. Both the No-Project/No-Build and the No-Project/Reasonably Foreseeable Development Alternatives are discussed herein.

Alternative 1a (No-Project/No-Build Alternative)

Under the No-Project/No-Build Alternative, the proposed improvements in the master plan would not be constructed, and the campus would remain in its current condition. This alternative assumes that no changes to the campus would occur. The existing buildings on campus would remain in their current condition. No new educational buildings or parking structures would be constructed. No utility improvements, such as the cogeneration plant, would be constructed, and no renovation projects would be undertaken. Minimal increases in enrollment and faculty/staff levels would occur under this alternative.

Under this alternative, no improvements, as proposed under the master plan, would be implemented. As a consequence, the No-Project/No-Build Alternative would not result in any of the significant or potentially significant impacts of the proposed project described in Chapter 3 of this EIR. However, the No-Project Alternative would also not result in extensive improvements to existing facilities and construction of new facilities.

Additionally, the No-Project Alternative would offer no capacity or space enhancements, and deterioration of existing buildings would continue. This alternative would also not fulfill any of the project goals.

Aesthetics/Visual Resources: The No-Project/No-Build Alternative would not result in construction of new buildings or renovations to existing buildings. The proposed project would result in new buildings that do not exist at present. Some of the mature trees may be affected during construction of the proposed project. However, none of these impacts would be significant. The No-Project/No-Build Alternative would not result in new construction, and no trees would be affected.

Air Quality: The No-Project/No-Build Alternative would not result in the potentially significant air quality impacts that could occur under the proposed project. No impacts on air quality would occur under the No-Build Alternative.

Biological Resources: The No-Project/No-Build Alternative would not result in the potentially significant impacts on biological resources that could occur under the proposed project. However, for the proposed project, these impacts would be less than significant after mitigation.

Cultural Resources: Since the amount of construction that would occur under the No-Project/No Build Alternative would be very limited, it would be much less likely than the proposed project to disturb, destroy, or alter any unknown archaeological or paleontological resources that may be present on the site. No impacts on cultural resources would occur under this alternative.

Geology and Soils: Under the No-Project/No-Build Alternative, no new construction would occur, but existing structures would remain subject to seismic hazards. Under the proposed project, existing buildings and proposed new structures would be subject to seismic hazards due to distant ground shaking or liquefaction resulting from seismic activity on earthquake faults in the region. These hazards, however, could be reduced or mitigated to an acceptable level of risk through proper building design and construction. Therefore, lesser impacts would occur under the No-Project/No Build Alternative.

Hazardous Materials: The No-Project/No-Build Alternative would not result in people being exposed to asbestos-containing materials or lead-based paints, which could be encountered during renovation activities for the proposed project. However, for the proposed project, these impacts would be less than significant after mitigation.

Hydrology and Water Quality: The No-Project/No-Build Alternative would not result in new construction that could generate pollutants, which could be conveyed by stormwater to local surface water or groundwater resources. This would be a less-than-significant impact under the proposed project since construction would employ best management practices in compliance with NPDES permit requirements to minimize polluted runoff. The No-Project/No-Build Alternative, unlike the proposed project, would not increase the amount of impervious surfaces in the project area and result in additional polluted stormwater runoff. However, best management practices would be implemented in the design of new facilities to capture, filter, or treat stormwater runoff from new facilities to the extent practicable.

Land Use: No unavoidable significant adverse land use impacts would occur under the proposed project or the No-Project/No-Build Alternative.

Mineral Resources and Agriculture: No unavoidable significant adverse mineral impacts would occur under the proposed project or the No-Project/No-Build Alternative.

Noise: The No-Project/No-Build Alternative would not result in new construction or increased noise levels. The proposed project would result in significant construction-related noise impacts. However, these impacts would be temporary and intermittent, lasting only for the period of construction.

Population, Employment, and Housing: Under the No-Project/No-Build Alternative, campus enrollment and faculty/staff employment would grow at a minimal rate. No housing would be provided on campus for students, faculty, and staff.

Public Services: The No-Project/No-Build Alternative would not result in the less-than-significant impacts on public services that would result from the proposed project. The No-Project/No-Build Alternative would also not result in the increase in demand for police and fire protection services that would occur under the proposed project. However, the benefits derived from having more educational and community facilities at CSUDH would not exist under the No-Project/No-Build Alternative.

Transportation/Traffic: Under the No-Project/No-Build Alternative, increased ambient traffic resulting from other development projects in the City and region would increase traffic on local streets and regional highways. However, since no on-campus housing would be constructed under the No-Project/No-Build Alternative, the number of trips generated from the campus would be less compared to the proposed project. Therefore, a lesser impact is assumed under the No-Project/No-Build Alternative. However, vehicle miles traveled by students, staff, and faculty would not be reduced. Also, there would be no access improvements under the No-Project/No-Build Alternative.

Public Utilities: The increases in consumption or generation under the No-Project/No-Build Alternative would be less than the increases that would occur under the proposed project, although neither alternative would result in unavoidable significant adverse impacts on utilities or service providers.

Alternative 1b (No-Project/Reasonably Foreseeable Development Alternative)

It is reasonable to assume that in the absence of a master plan, development at the campus would be piecemeal. Renovations and space upgrades would take place on an as-needed basis. It is possible that new temporary structures would be constructed to accommodate future students. The student, staff, and faculty levels would grow at a minimal rate.

Under the No-Project/Reasonably Foreseeable Development Alternative, it is reasonable to assume that renovations and additions to existing facilities would occur on an as-needed basis.

Aesthetics/Visual Resources: The visual impacts of No-Project/Reasonably Foreseeable Development Alternative would be less than those of the proposed project given the assumption that no large-scale construction projects would be

undertaken with the No-Project/Reasonably Foreseeable Development Alternative. Since this alternative would include less new development, it may also not result in some of the aesthetic or visual enhancements that could occur under the proposed project.

Air Quality: It is expected that construction and operation of the No-Project/Reasonably Foreseeable Development Alternative would result in less-than-significant impacts only if relatively minor construction and renovation projects occur. Construction and operation of the proposed project would result in significant air quality impacts.

Biological Resources: The No-Project/Reasonably Foreseeable Development Alternative would not result in potentially significant impacts on biological resources, which could occur under the proposed project and affect nesting migratory birds due to the removal of trees or vegetation. However, for the proposed project, these impacts would be less than significant after mitigation.

Cultural Resources: The potential for the No-Project/Reasonably Foreseeable Development Alternative to disturb cultural resources would be less than the potential under the proposed project because of the lower level of development. The proposed project has the potential to disturb, destroy, or alter unknown archaeological or paleontological resources that may be present on campus due to earth moving to construct new facilities. Less-than-significant impacts on cultural resources would occur under this alternative or the proposed project.

Geology/Soils/Seismicity: Under the No-Project/Reasonably Foreseeable Development Alternative, since no major construction would be proposed, no potentially significant impacts on geology/soils/seismicity would occur. It is assumed that any new additions or renovations would comply with building codes. A lesser impact than that of the proposed project is expected.

Hazardous Materials: Under the No-Project/Reasonably Foreseeable Development Alternative, renovation of older buildings could result in people being exposed to asbestos-containing materials and/or lead-based paint, a potentially significant but mitigable impact. The renovation activities under the proposed project would result in similar impacts.

Hydrology and Water Quality: The No-Project/Reasonably Foreseeable Development Alternative would result in a smaller increase in the amount of impervious surfaces than the increase that would occur under the proposed project. Thus, this alternative would result in less polluted stormwater runoff than the amount generated by the proposed project; however, impacts would be mitigated under both alternatives with implementation of best management practices.

Land Use: No unavoidable significant adverse land use impacts would occur under the No-Project/Reasonably Foreseeable Development Alternative or the proposed project.

Mineral Resources and Agriculture: No unavoidable significant adverse mineral resources impacts would occur under the No-Project/Reasonably Foreseeable Development Alternative or the proposed project.

Noise: The renovations and additions under the No-Project/Reasonably Foreseeable Development Alternative are unlikely to increase noise levels to a level of significance. The proposed project would result in significant construction-related noise impacts. Therefore, lesser construction noise impacts are likely.

Population, Employment, and Housing: No new on-campus staff and student housing would be provided under the No-Project/Reasonably Foreseeable Development Alternative. Therefore, there would be no increase in on-campus population.

Public Services: The No-Project/Reasonably Foreseeable Development Alternative and the proposed project would result in less-than-significant impacts on public services. The No-Project/Reasonably Foreseeable Development Alternative would result in less of an increase in demand for police and fire protection services than the increase that would occur under the proposed project.

Transportation/Traffic: Under this alternative, increased ambient traffic resulting from other development projects in the City and region would increase traffic on local streets and regional highways. However, since no on-campus housing would be constructed under this alternative, the number of trips generated from the campus would be less compared to the proposed project. Therefore, a lesser impact is assumed under the No-Project/Reasonably Foreseeable Development Alternative. However, vehicle miles traveled by students, staff, and faculty would not be reduced. Also, there would be no access improvements under the No-Project/Reasonably Foreseeable Development Alternative.

Public Utilities: The increases in consumption or generation under the No-Project/Reasonably Foreseeable Development Alternative would be less than the increases that would occur under the proposed project, although neither alternative would result in unavoidable significant adverse impacts on utilities or service providers.

Alternative 2 (Slower Enrollment Growth Rate)

The master plan assumes an average annual student enrollment growth rate of approximately 2.5 percent, which is in keeping with the overall vision for growth within the CSU system. However, in the last 5 years, the growth rate has been lower. The enrollment growth target for academic year 2007–2008 is 1.3 percent. From 2001 to 2007, the enrollment growth rate fell by approximately 2.52 percent. This alternative assumes that the slower or negative growth trends would continue. This slow or negative growth rate would mean that facilities would be constructed later than the dates anticipated in the master plan. If enrollment levels are not high enough, some facilities may not be built at all.

Aesthetics/Visual Resources: Under Alternative 2, fewer new buildings would be constructed; therefore, no impacts on aesthetics would occur. Since the demand for new buildings and infrastructure on campus is tied closely to enrollment levels and the availability of funds, it is likely that low growth rates would mean fewer new buildings being constructed on campus. Under both the proposed project and Alternative 2, no substantial changes in views or aesthetics would occur.

Air Quality: Under Alternative 2, fewer new buildings would be constructed; therefore, impacts on air quality would be lesser than those that would occur under the proposed project.

Biological Resources: Under Alternative 2, fewer mature trees would be affected since fewer new buildings would be constructed. Impacts on biological resources would be less than significant after mitigation under this alternative and the proposed project.

Cultural Resources: Under Alternative 2, fewer buildings would be constructed. However, the potential for discovery from construction of fewer buildings would be similar to the potential under the proposed project.

Geology/Soils/Seismicity: Compliance with building regulations would ensure that impacts on geology/soils/seismicity would remain less than significant for the alternative and the proposed project.

Hazardous Materials: Renovation of older buildings under both Alternative 2 and the proposed project could result in people being exposed to asbestos-containing materials and/or lead-based paint, a potentially significant but mitigable impact.

Hydrology and Water Quality: Alternative 2 would result in a smaller increase in the amount of impervious surfaces in the project area than the increase that would occur under the proposed project. Thus, this alternative would result in less polluted stormwater runoff than the amount generated by the proposed project; however, impacts would be mitigated under both alternatives with implementation of best management practices.

Land Use: No unavoidable significant adverse land use impacts would occur under this alternative or the proposed project.

Mineral Resources and Agriculture: No unavoidable significant adverse mineral resources impacts would occur under this alternative or the proposed project.

Noise: If enrollment levels continue to increase at a slow rate or decrease, fewer buildings would be required at the campus. However, any development on campus has the potential to disturb on-campus sensitive receptors. Therefore, similar or slightly lesser noise impacts are assumed. The proposed project would result in significant construction-related noise impacts.

Population, Employment, and Housing: Student and staff housing may not be constructed under this alternative or would be constructed in years beyond 2017. The proposed project would not result in significant impacts on population, employment, or housing.

Public Services: This alternative and the proposed project would result in less-than-significant impacts on public services.

Transportation/Traffic: The traffic generated as a result of Alternative 2 would be less than that of the proposed project.

Public Utilities: The increases in consumption or generation under Alternative 2 would be less than the increases that would occur under the proposed project, although neither alternative would result in unavoidable significant adverse impacts on utilities or service providers.

Alternative 3 (No On-Campus Student and Faculty Housing)

Alternative 3 assumes a scenario where no new on-campus housing is provided. Under this alternative, students and faculty would continue to commute long distances to reach the campus. Given the high cost of real estate in the Southern California region, without on-campus faculty housing as an incentive, many qualified prospective faculty members would not choose to work at CSUDH.

Aesthetics/Visual Resources: Under Alternative 3, on-campus student and faculty housing would not be constructed; the existing unobstructed views of the South Bay would remain for those looking southward from the campus and also from areas to the east. Nonetheless, the obstruction of these views as a result of the proposed project is not considered a significant impact.

Air Quality: Lesser air quality impacts would occur under this alternative since housing would not be constructed.

Biological Resources: The site for the faculty and student housing facilities does include water features that could be potentially jurisdictional. If housing is not constructed, no impacts on potential jurisdictional waters would occur. However, with implementation of mitigation, the impacts of the proposed project on jurisdictional waters would be less than significant.

Cultural Resources: Under Alternative 3, the potential for discovery from construction would be similar to the potential under the proposed project. The proposed project has the potential to disturb, destroy, or alter unknown archaeological or paleontological resources that may be present on the project site due to earth moving to construct new facilities.

Geology/Soils/Seismicity: Under Alternative 3, since housing would not be constructed, the potential for loss of human life at an on-campus student or faculty housing facility due to a seismic event or other geologic hazard would be

eliminated. However, compliance with building regulations and the use of sound engineering practices would ensure that impacts related to geology/soils/seismicity remain less than significant for the proposed project.

Hazardous Materials: Renovation of older buildings under both Alternative 3 and the proposed project could result in people being exposed to asbestos-containing materials and/or lead-based paint, a potentially significant but mitigable impact.

Hydrology and Water Quality: Alternative 3 would result in a smaller increase in the amount of impervious surfaces in the project area than the increase that would occur under the proposed project. Thus, this alternative would result in less polluted stormwater runoff than the amount generated by the proposed project; however, impacts would be mitigated under both alternatives with implementation of best management practices.

Land Use: No unavoidable significant adverse land use impacts would occur under Alternative 3 or the proposed project. Since on-campus student and faculty housing would not be provided, housing options for students and faculty would be reduced.

Mineral Resources and Agriculture: No unavoidable significant adverse mineral resources impacts would occur under Alternative 3 or the proposed project.

Noise: Since no housing would be constructed under Alternative 3, construction noise impacts on residents across from University Drive would be reduced. The proposed project would result in significant construction-related noise impacts.

Population, Employment, and Housing: Under Alternative 3, student and faculty housing would not be constructed. The on-campus population would not increase. However, the proposed project would not result in significant impacts on population, employment, or housing.

Public Services: Since on-campus population would not increase under Alternative 3, lesser impacts on public services are assumed. This alternative and the proposed project would result in less-than-significant impacts on public services.

Transportation/Traffic: With on-campus student and faculty/staff housing, students and faculty/staff who choose to live on campus would travel fewer vehicle miles because they would be able to walk to classes. The traffic generated as a result of this alternative would be ~~less~~ more compared to the traffic generated under the proposed project.

Public Utilities: Increases in consumption or generation under Alternative 3 would be less than the increases that would occur under the proposed project, although neither alternative would result in unavoidable significant adverse impacts on utilities or service providers.

Comparison of Alternatives

This section presents an analysis of the project alternatives, including Alternative 1a (No-Project/No-Build Alternative), Alternative 1b (No-Project/Reasonably Foreseeable Development), Alternative 2 (Slower Enrollment Growth Rate), and Alternative 3 (No On-Campus Student and Faculty Housing). Furthermore, it provides a comparison of the impacts associated with the alternatives and the proposed project for those environmental issues addressed in this document. In all cases, the comparison of impacts assumes that all feasible mitigation measures, as identified in this document, have been implemented for the impacts resulting from the proposed project. Similarly, in all cases where it can be safely assumed that there are feasible mitigation measures for impacts caused by the alternative, it is assumed that those mitigation measures would be implemented. In accordance with the *State CEQA Guidelines*, Section 15626.6(d), the discussion of the environmental effects of the alternatives may be less than that provided for the proposed project. The summary comparison of alternatives is provided in Table 4-1 below. This table describes the level of impact after mitigation with implementation of the proposed project and identifies whether other alternatives would result in a similar, greater, or lesser impacts than the master plan for each impact category.

Alternative 1a (No-Project/No-Build Alternative)

While Alternative 1a would result in less severe impacts than those of the proposed project, it would not fulfill the following project objectives, which guide the university to

- support the faculty and staff with appropriate teaching, research, and administrative facilities;
- reinforce the sense of campus community by providing in-class and out-of-class opportunities for faculty, student, and staff collaboration;
- serve as a regional center for intellectual, athletic, cultural, and life-long learning; and
- adequately manage and maintain all campus facilities.

Table 4-1: Comparative Environmental Analysis of Alternatives to the Proposed Project

Resource Area	Proposed Project (after mitigation)	Alternative 1a (No Project/ No Build)	Alternative 1b (No-Project/ Reasonably Foreseeable Development)	Alternative 2 (Slower Enrollment Growth Rate)	Alternative 3 (No On-Campus Student or Faculty Housing)
Visual Resources	Less than significant	Less	Less	Less	Less
Air Quality	Less than significant	Less	Less	Less	Less
Biological Resources	Less than significant	Less	Less	Less	Less
Cultural Resources	Less than significant	Less	Less	Similar	Similar
Geology/ Seismicity/Soils	Less than significant	Similar	Similar	Less	Less
Hazardous Materials	Less than significant	Less	Less	Similar	Similar
Hydrology and Water Quality	Less than significant	Less	Less	Less	Less
Land Use	Less than significant	Similar	Similar	Similar	Similar
Mineral Resources and Agriculture	No impact	Similar	Similar	Similar	Similar
Noise	Significant for construction noise	Less	Less	Less	Less
Population, Employment, and Housing	Less than significant	Less	Less	Less	Less
Public Services	Less than significant	Less	Less	Less	Less
Transportation/ Traffic	Significant at one intersection	Less	Less	Less	~~Less~~ More
Utilities	Less than significant	Less	Less	Less	Less

Source: Jones & Stokes, 2006.

Alternative 1b (No-Project/Reasonably Foreseeable Development Alternative)

Under Alternative 1b, piecemeal development of the campus would potentially be undertaken. A comparison between the environmental impacts of Alternative 1b and the proposed project indicates that Alternative 1b would result in less severe impacts. While Alternative 1b would result in less severe impacts than those of the proposed project, it would not fulfill the following project objectives, which guide the university to

- support the faculty and staff with appropriate teaching, research, and administrative facilities;
- reinforce the sense of campus community by providing in-class and out-of-class opportunities for faculty, student, and staff collaboration;
- serve as a regional center for intellectual, athletic, cultural, and life-long learning; and
- adequately manage and maintain all campus facilities.

Alternative 2 (Slower Enrollment Growth Rate)

A comparison between the environmental impacts of Alternative 2 and the proposed project indicates that Alternative 2 would result in lesser impacts than those of the proposed project. However, slower enrollment growth does not represent the vision of the CSU system for the university and does not fulfill the following goal of the master plan, which calls for CSUDH to

- serve as a regional center for intellectual, athletic, cultural, and life-long learning.

Alternative 3 (No On-Campus Student and Faculty Housing)

A comparison between the environmental impacts of Alternative 3 and the proposed project indicates that Alternative 3 would result in lesser impacts than those of the proposed project. Due to high and often prohibitive housing costs in the Los Angeles region, it is critical for CSUDH to provide housing on campus to attract talented faculty and staff. Without qualified faculty and staff, the university will not be able to realize its master plan goals, which guide the university to

- reinforce the sense of campus community by providing in-class and out-of-class opportunities for faculty, student, and staff collaboration;
- serve as an accessible, attractive, safe, and welcoming campus for students, staff, faculty, and the community;

- serve as a regional center for intellectual, athletic, cultural, and life-long learning; and
- adequately manage and maintain all campus facilities.

Environmentally Superior Alternative

The environmentally superior alternative would be the No-Project/No-Build Alternative because of the absence of significant environmental impacts. However, as discussed above, the No-Project/No-Build Alternative would not fulfill any of the project objectives. Under the No-Project/No-Build Alternative, improvements would be limited, and consequently, the needs of the campus and community would not be met.

According to the *State CEQA Guidelines*, if the environmentally superior alternative is the No-Project Alternative, the EIR shall identify an environmentally superior alternative among the other alternatives.

The analysis presented above and summarized in Table 4-1 indicates that Alternative 2 (Slower Enrollment Growth) and Alternative 3 (No On-Campus Student and Faculty Housing) would be the environmentally superior alternatives. However, Alternative 2 would not meet the overall vision of the CSU system for campus growth of 2.5 percent annually, and it would not serve the goal of providing a regional center for intellectual, athletic, cultural, and life-long learning. Alternative 3 would result in the loss of affordable on-campus housing options for existing and future faculty and staff. Given the prohibitive cost of living in the region, CSUDH would not be able to successfully attract the most qualified faculty and staff.

Chapter 5

Impacts Overview

Introduction

This chapter provides an overview of the proposed project's environmental impacts, including unavoidable significant impacts, impacts considered to be less than significant, and growth-inducing impacts. Cross-references are made throughout this chapter to other sections in this EIR where more detailed discussions of the proposed project's impacts can be found.

Unavoidable Significant Adverse Impacts

Section 15126(b) of the *State CEQA Guidelines* requires a description of any significant effects that cannot be avoided if the project is implemented. According to the environmental impact analysis presented in Chapter 3 of this EIR, unavoidable significant adverse impacts were identified in three resource areas, air quality, noise (construction only), and traffic (at one intersection in the PM peak hour only) would result from implementation of the proposed project.

The proposed project, in combination with related projects and other development in the area, could result in potentially significant cumulative impacts after mitigation in the following areas: air quality, biological resources (for burrowing owls if found on site), public services (fire and police), and utilities (water supply, wastewater, solid waste, and electricity). However, it should be noted that the proposed project's contribution to some of these significant cumulative impacts would be minimal.

Impacts Found Not to Be Significant

This EIR found a number of potentially adverse impacts to be less than significant prior to or after mitigation. These are discussed in Chapter 3 in each of the following categories: Aesthetics; Biological Resources; Historical Resources; Archaeological Resources; Paleontological Resources; Geology and Soils; Hazards and Hazardous Materials; Hydrology and Water Quality; Land Use; Mineral Resources and Agriculture; Population, Employment, and Housing; Noise; Public Services; and Utilities and Service Systems.

Irreversible Environmental Changes

Construction and operation of individual buildings and facilities proposed under the proposed project would result in an irreversible commitment of nonrenewable resources, including fossil fuels, water, natural gas, and building materials such as lumber, concrete, and steel (see Chapter 3, Section 3P, for a discussion of utilities and service systems). Use of these resources, however, would not substantially deplete existing supplies. Additionally, such consumption is justified given the anticipated community and social benefits of the proposed project. It should also be recognized that the use of any particular area on the site would not be irreversible. Buildings and other improvements constructed on the site could at some time in the future be demolished, altered, or converted to make way for other uses as future generations see fit.

Growth-Inducing Impacts

According to Section 21100(b)5 of CEQA, "the growth-inducing impact of the proposed project" shall be discussed in the EIR. The *State CEQA Guidelines* (Section 15126.2[d]) further state that the EIR shall "discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment."

It is anticipated that the proposed master plan would induce some growth in the project area. In 2006, there were an estimated 13,671 students enrolled at CSUDH and 972 faculty and staff members employed at the campus. In 2017, with implementation of the near-term projects proposed under the master plan, CSUDH enrollment would reach approximately 17,400, with 1,650 employees. In 2040, with implementation of long-term projects, CSUDH enrollment would reach approximately ~~31,500~~ 21,420, and there would be ~~2,000~~ 1,820 employees. The increased number of students and employees at the campus would increase the demand for goods and services in the area. Since the campus is located in a developed urban area, it is expected that existing businesses in the area could accommodate a good percentage of this demand; however, the increased student population may induce a limited amount of new development. This new development could result in impacts on the environment. However, it should also be noted that it is unlikely that the proposed project would induce development beyond that anticipated in local land use plans. Also, the project is consistent and in conformance with growth-related policies, goals, and objectives of local and regional plans. Consequently, the proposed project is not expected to result in significant growth-inducing impacts on the environment.

Chapter 6
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McLeod, Sam, Ph.D. Vertebrate paleontology. Natural History Museum of Los Angeles County. April 2007—letter.

Rubio, Malou. Head, staff services. Los Angeles County Public Library. July 2007—telephone conversation.

Sharp, Randy. Director, physical plant. California State University, Dominguez Hills. June 2007— telephone conversation and email correspondence.

Slimp, Steven L. Assistant director, physical plant. California State University, Dominguez Hills. June 2007—letter.

Sloan, Susan. Chief, University Police. California State University, Dominguez Hills. July 2007—letter.

Thomlinson, Dr. John. Biology department chair. California State University, Dominguez Hills. April 23, 2007—meeting.

Todd, John R. Chief, Forestry Division, Prevention Services Bureau. Los Angeles County Fire Department. June 14, 2007—letter.

Wall, Karen J. Associate vice president, administration and finance. California State University, Dominguez Hills. April 23, 2007—email.

Zendejas, Maria. Receptionist. Compton Unified School District. July 2007—telephone conversation.

Chapter 7
List of Preparers

ICF Jones & Stokes (EIR preparation and management)

Lee Lisecki, project director
Bob Stark, project manager
Shilpa Trisal, deputy project manager
Ted Lee, senior biologist
Marisa Flores, biologist
Mike Greene, senior acoustical engineer
Keith Cooper, senior air quality specialist
Victor Ortiz, air quality specialist
Bert Dudley, environmental planner
Teresa Tapia, environmental planner
Hina Gupta, environmental planner
Catharine Wood, archaeologist
Carson Anderson, senior architectural historian
Katy Lain, architectural historian
John Mathias, technical editor
Namrata Belliappa, graphics editor

The Mobility Group (traffic study)

Mike Bates, principal transportation engineer
Eric Ji, transportation engineer

Chapter 8

Responses to Comments on the Draft EIR

The draft EIR for the proposed California State University, Dominguez Hills Master Plan was made available for public review for a period of 45 days beginning November 19, 2007, and ending January 7, 2008. During this review period, few written comments were submitted to the lead agency. A public meeting for the project was held on December 6, 2007, on the campus. Previously, a public scoping workshop was held on April 16, 2007, to provide information on the proposed project and EIR process and receive additional comments.

In accordance with the requirements of the California Environmental Quality Act (CEQA), each comment letter is included in this final EIR, as are the lead agency responses to any environmental concerns raised in the comments. Each comment letter is labeled with a reference letter and number corresponding to the list below. Individual comments are referenced in the margin, and responses follow each letter.

The public agencies, organizations, and individual citizens that submitted comments on the draft EIR during the public review period are listed below.

The draft EIR notice of availability was published in the *Daily Breeze* on November 20, 2007.

A. Public Agencies

No.	Agency	Name	Date
1	Native American Heritage Commission	Dave Singleton	12/07/07
2	Southern California Association of Governments	Laverne Jones	12/13/07
3	Department of Toxic Substances Control	Ken Chiang	12/13/07
4	City of Carson, California	Victor Rollinger	01/07/08
5	U.S. Department of the Interior, Fish and Wildlife Service	Karen A. Goebel	01/08/08

B. Private Organizations

No.	Organization	Name	Date
—	None received		—

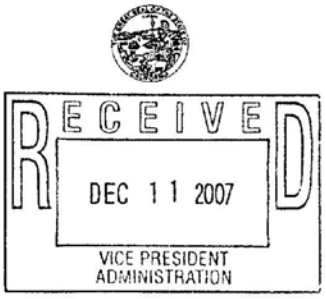
C. Private Citizens/Individuals

No.	Name	Date
1	Richard Malamud	11/19/07
2	Candice Groat	12/14/07
3	John Thomlinson	12/12/07
4	Sally Moite	01/01/08

Comment Letter A1

STATE OF CALIFORNIA — Arnold Schwarzenegger, Governor

NATIVE AMERICAN HERITAGE COMMISSION
915 CAPITOL MALL, ROOM 364
SACRAMENTO, CA 95814
(916) 653-6251
Fax (916) 657-5390
Web Site www.nahc.ca.gov
e-mail: ds_nahc@pacbell.net



December 7, 2007

Ms. Mary Ann Rodriguez
BOARD OF TRUSTEES OF THE CALIFORNIA STATE UNIVERSITY
1000 East Victoria Street
Carson, CA 90747

Re: SCH#2007031129; CEQA Notice of Completion; draft Environmental Impact Report (DEIR) for Master Plan; California State University, Dominguez Hills; Los Angeles County California

Dear Ms. Rodriguez:

The Native American Heritage Commission is the state agency designated to protect California's Native American Cultural Resources. The California Environmental Quality Act (CEQA) requires that any project that causes a substantial adverse change in the significance of an historical resource, that includes archaeological resources, is a 'significant effect' requiring the preparation of an Environmental Impact Report (EIR) per CEQA guidelines § 15064.5(b)(c). In order to comply with this provision, the lead agency is required to assess whether the project will have an adverse impact on these resources within the 'area of potential effect (APE)', and if so, to mitigate that effect. To adequately assess the project-related impacts on historical resources, the Commission recommends the following action:

√ Contact the appropriate California Historic Resources Information Center (CHRIS). Contact information for the Information Center nearest you is available from the State Office of Historic Preservation (916/653-7278)/ http://www.ohp.parks.ca.gov/1068/files/IC%20Roster.pdf The record search will determine:

- If a part or the entire APE has been previously surveyed for cultural resources.
- If any known cultural resources have already been recorded in or adjacent to the APE.
- If the probability is low, moderate, or high that cultural resources are located in the APE.
- If a survey is required to determine whether previously unrecorded cultural resources are present.

√ If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.

- The final report containing site forms, site significance, and mitigation measurers should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for pubic disclosure.
- The final written report should be submitted within 3 months after work has been completed to the appropriate regional archaeological Information Center.

√ Contact the Native American Heritage Commission (NAHC) for:

* A Sacred Lands File (SLF) search of the project area and information on tribal contacts in the project vicinity that may have additional cultural resource information. Please provide this office with the following citation format to assist with the Sacred Lands File search request: USGS 7.5-minute quadrangle citation with name, township, range and section; .

- The NAHC advises the use of Native American Monitors to ensure proper identification and care given cultural resources that may be discovered. The NAHC recommends that contact be made with Native American Contacts on the attached list to get their input on potential project impact (APE). In some cases, the existence of a Native American cultural resources may be known only to a local tribe(s).

√ Lack of surface evidence of archeological resources does not preclude their subsurface existence.

- Lead agencies should include in their mitigation plan provisions for the identification and evaluation of accidentally discovered archeological resources, per California Environmental Quality Act (CEQA) §15064.5 (f). In areas of identified archaeological sensitivity, a certified archaeologist and a culturally affiliated Native American, with knowledge in cultural resources, should monitor all ground-disturbing activities.
- Lead agencies should include in their mitigation plan provisions for the disposition of recovered artifacts, in consultation with culturally affiliated Native Americans.

√ Lead agencies should include provisions for discovery of Native American human remains or unmarked cemeteries in their mitigation plans.

* CEQA Guidelines, Section 15064.5(d) requires the lead agency to work with the Native Americans identified by this Commission if the initial Study identifies the presence or likely presence of Native American human remains within the APE. CEQA Guidelines provide for agreements with Native American, identified by the

A1-1

Comment Letter A1

NAHC, to assure the appropriate and dignified treatment of Native American human remains and any associated grave liens.

√ Health and Safety Code §7050.5, Public Resources Code §5097.98 and Sec. §15064.5 (d) of the CEQA Guidelines mandate procedures to be followed in the event of an accidental discovery of any human remains in a location other than a dedicated cemetery.

√ Lead agencies should consider avoidance, as defined in § 15370 of the CEQA Guidelines, when significant cultural resources are discovered during the course of project planning and implementation

A1-1 cont'd

Please feel free to contact me at (916) 653-6251 if you have any questions.

Sincerely,

Dave Singleton
Program Analyst

Attachment: List of Native American Contacts

Cc: State Clearinghouse

Comment Letter A1

Native American Contacts
Los Angeles County
December 7, 2007

LA City/County Native American Indian Comm
Ron Andrade, Director
3175 West 6th Street, Rm. 403
Los Angeles , CA 90020
(213) 351-5324
(213) 386-3995 FAX

Gabrielino/Tongva Council / Gabrielino Tongva Nation
Sam Dunlap, Tribal Secretary
761 Terminal Street; Bldg 1, 2nd floor Gabrielino Tongva
Los Angeles , CA 90021
office @tongvatribe.net
(213) 489-5001 - Officer
(909) 262-9351 - cell
(213) 489-5002 Fax

Ti'At Society
Cindi Alvitre
6515 E. Seaside Walk, #C Gabrielino
Long Beach , CA 90803
calvitre@yahoo.com
(714) 504-2468 Cell

Gabrielino Tongva Indians of California Tribal Council
Robert Dorame, Tribal Chair/Cultural Resources
5450 Slauson, Ave, Suite 151 PMB Gabrielino Tongva
Culver City , CA 90230
gtongva@verizon.net
562-761-6417 - voice
562-925-7989 - fax

Tongva Ancestral Territorial Tribal Nation
John Tommy Rosas, Tribal Adminstrator
4712 Admiralty Way, Suite 172 Gabrielino Tongva
Marina Del Rey , CA 90292
310-570-6567

Gabrieleno/Tongva San Gabriel Band of Mission
Indians - Anthony Morales, Chairperson
PO Box 693 Gabrielino Tongva
San Gabriel , CA 91778
ChiefRBwife@aol.com
(626) 286-1632
(626) 286-1758 - Home
(626) 286-1262 Fax

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native American with regard to cultural resources for the proposed SCH#2007031129; CEQA Notice of Completion; draft Environmental Impact Report (DEIR) for the Master Plan: California State university, Dominguez Hills; Los Angeles County, California.

Response to the December 7, 2007, Comment Letter from the Native American Heritage Commission

Response to Comment A1-1

The steps outlined by the Native American Heritage Commission have already been completed as part of the technical analysis for prehistoric cultural resources presented in the draft EIR. Mitigation measures prescribing procedures for the unanticipated discovery of archaeological resources or human remains are already incorporated in the draft EIR in mitigation measures AR-1 through AR-3 and PR-1 through PR-5; these measures require compliance with Public Resources Code Section 5097 and California Health and Safety Code Section 7050.5.

Comment Letter A2

SOUTHERN CALIFORNIA
ASSOCIATION of GOVERNMENTS

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818 West Seventh Street
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Los Angeles, California
90017-3435

t (213) 236-1800
f (213) 236-1825

www.scag.ca.gov

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DEC 18 2007
VICE PRESIDENT
ADMINISTRATION

December 13, 2007

Ms. Mary Ann Rodriguez
Vice President, Administration and Finance
California State University, Dominguez Hills
1000 East Victoria Street
Carson, CA 90747

RE: SCAG Clearinghouse No. I 20070710 California State University, Dominguez Hills Master Plan

Dear Ms. Rodriguez:

Thank you for submitting the **California State University, Dominguez Hills Master Plan** for review and comment. As areawide clearinghouse for regionally significant projects, SCAG reviews the consistency of local plans, projects and programs with regional plans. This activity is based on SCAG's responsibilities as a regional planning organization pursuant to state and federal laws and regulations. Guidance provided by these reviews is intended to assist local agencies and project sponsors to take actions that contribute to the attainment of regional goals and policies.

We have reviewed the **California State University, Dominguez Hills Master Plan**, and have determined that the proposed Project is not regionally significant per SCAG Intergovernmental Review (IGR) Criteria and California Environmental Quality Act (CEQA) Guidelines (Section 15206). Therefore, the proposed Project does not warrant comments at this time. Should there be a change in the scope of the proposed Project, we would appreciate the opportunity to review and comment at that time. A2-1

A description of the proposed Project was published in SCAG's **November 1-30, 2007** Intergovernmental Review Clearinghouse Report for public review and comment.

The project title and SCAG Clearinghouse number should be used in all correspondence with SCAG concerning this Project. Correspondence should be sent to the attention of the Clearinghouse Coordinator. If you have any questions, please contact me at (213) 236-1857. Thank you.

Sincerely,

Laverne Jones

LAVERNE JONES, Planning Technician
Program Development and Evaluation Division

Doc #142251

Response to the December 13, 2007, Comment Letter from the Southern California Association of Governments

Response to Comment A2-1

The comment from the Southern California Association of Governments, stating that the proposed project is not of regional significance, is noted. No response is required.

Comment Letter A3

Linda S. Adams
Secretary for
Environmental Protection

Department of Toxic Substances Control

Maureen F. Gorsen, Director
1011 North Grandview Avenue
Glendale, California 91201

Arnold Schwarzenegger
Governor

December 13, 2007

Ms. Mary Ann Rodriguez
Vice President, Administration and Finance
California State University, Dominguez Hills
1000 East Victoria Street
Carson, CA 90747

DRAFT ENVIRONMENTAL IMPACT REPORT FOR CALIFORNIA STATE UNIVERSITY DOMINGUEZ HILLS MASTER PLAN, 1000 EAST VICTORIA STREET, CARSON, LOS ANGELES COUNTY, CALIFORNIA (SCH 2007031129)

Dear Ms. Rodriguez:

The Department of Toxic Substances Control (DTSC) has reviewed the draft Environmental Impact Report (DEIR), dated November 2007, for the subject project. The due date to submit comments is January 7, 2008.

Based on a review of the DEIR, DTSC would like to provide the following comments:

1. The project consists of the framework plan for future campus development.

2. Since the site area has been used for agricultural purposes, pesticides (e.g., DDT, DDE, toxaphene) and fertilizers (usually containing heavy metals) commonly used as part of agricultural operations may be present. These agricultural chemicals are persistent and bio-accumulative toxic substances. DTSC has developed the *"Interim Guidance for Sampling Agricultural Soils (Second Revision), dated August 2002."* This Guidance should be followed for sampling agricultural properties where development is anticipated. A3-1

3. If demolition of old structures will occur, lead based paint and organochlorine pesticides (from termiticide applications) may be potential environmental concerns at the site. DTSC recommends that these environmental concerns be investigated and possibly mitigated, in accordance with DTSC's *"Interim Guidance, Evaluation of School Sites with Potential Soil Contamination as a Result of Lead From Lead-Based Paint, Organochlorine Pesticides from Termiticides, and Polychlorinated Biphenyls from Electrical Transformers, dated June 9, 2006."* A3-2

Printed on Recycled Paper

4. According to the DEIR, the project site is located within a historic oil-producing region, specifically the Dominguez Oil Field. DTSC recommends that an environmental review, such as a Preliminary Endangerment Assessment (PEA), be conducted to determine whether there has been or may have been a release or threatened release of a hazardous material, or whether a naturally occurring hazardous material is present, based on reasonably available information about the property and the area in its vicinity. The PEA should include a soil gas survey in accordance with DTSC's *"Advisory – Active Soil Gas Investigations, dated January 2003."* This environmental assessment should be conducted as part of the environmental impact report process. A3-3

If you would like to discuss this matter further, please contact Ms. Andrea Juarez at (714) 484-5340 or me at (818) 551-2860.

Sincerely,

FOR: Ken Chiang
Senior Hazardous Substances Scientist
School Program and Engineering/Geology Support Division

cc: Mr. Guenther W. Moskat (via email)
CEQA Tracking Center – Sacramento HQ

State Clearinghouse (via email)
Office of Planning and Research

Ms. Andrea Juarez
School Program - Cypress

SP&E/GD Reading File - Glendale

CEQA Reading File – Glendale

Response to the December 13, 2007, Comment Letter from the Department of Toxic Substances Control

Response to Comment A3-1

Comment noted. Any soil sampling conducted prior to construction or during construction will comply with Department of Toxic Substances Control (DTSC) regulations, including DTSC's Interim Guidance for Sampling Agricultural Fields for School Sites (August 2002). Mitigation measure HM-1 has been revised per the suggestion in the comment. Please see the underlined text under HM-1 for the revision.

HM-1 During excavation for any proposed structures related to the master plan, the contractor shall observe the exposed soil for visual evidence of contamination. If visual contamination indicators are observed during excavation or grading activities, all work shall stop, and an investigation shall be designed and performed to verify the presence and extent of contamination at the site. A qualified and approved environmental consultant shall perform the review and investigation. Results shall be reviewed and approved by the Los Angeles County Fire Department Health Hazardous Materials Division or DTSC prior to construction. The investigation shall include collecting samples for laboratory analysis and quantifying contaminant levels within the proposed excavation and surface disturbance areas. Subsurface investigation shall determine appropriate worker protection and hazardous material handling and disposal procedures appropriate for the subject site. Any soil sampling conducted in areas previously used for agriculture shall comply with DTSC's Interim Guidance for Sampling Agricultural Fields for School Sites (August 2002).

Response to Comment A3-2

Comment noted. Prior to renovation or demolition of old structures, all building material will be tested for lead-based paint and organochlorine pesticides (from termite applications) based on DTSC's recommendations. Mitigation measure HM-9 has been revised per the suggestion in the comment. Please see the underlined text under HM-9 for the revision.

HM-9 Prior to renovation or demolition of any buildings on campus, the CSUDH environmental compliance specialist from the Office of Environmental Health and Occupational Safety shall conduct a survey to determine the presence or absence of ACM and lead-based paints. Abatement of asbestos and lead-based paint shall be conducted in accordance with SCAQMD Rule 1403 and DTSC's Interim Guidance, Evaluation of School Sites with Potential Soil Contamination as a Result of Lead from Lead-Based Paint, Organochlorine Pesticides from Termiticides, and Polychlorinated Biphenyls from Electrical Transformers (June 9, 2006), prior to any demolition or construction activities.

Response to Comment A3-3

On February 12, 2008, Bert Dudley (ICF Jones & Stokes) spoke with Ms. Andrea Juarez, school program manager at DTSC, Cypress Office, regarding DTSC's letter in response (dated December 13, 2007) to the CSUDH Master Plan Draft EIR. Comment 4 of DTSC's letter discussed the historic oil-producing region of the Dominguez Oil Field, of which the CSUDH campus is a part. Ms. Juarez informed Mr. Dudley that if proof can be provided showing proper closure of the historic oil wells on campus, no further investigation will be necessary.

Twenty-eight historic wells were identified on Division of Oil, Gas, and Geothermal Resources (DOGGR) oil and gas maps (available: <http://www.conservation.ca.gov/dog/maps/Pages/d1_index_map1.aspx>) for areas within the boundaries of the CSUDH campus and the Home Depot Center complex. Closure letters for all 28 wells are available and have been included in Appendix E of this EIR.

Since closure letters on known historic wells are available, a Preliminary Endangerment Assessment will not be required. Additionally, adequate mitigation measures are included in the EIR to address concerns regarding abandoned wells.

Comment Letter A4

CITY OF CARSON

January 7, 2008

California State University, Dominguez Hills
Ms. Mary Ann Rodriquez, Vice President
Administration and Finance
1000 East Victoria Street
Carson, California 90747

Re: Carson comments to the Draft EIR for the California State University, Dominguez Hills Master Plan located in Carson, California

Dear Ms. Mary Ann Rodriquez:

In response to the California State University, Dominguez Hills Master Plan "Notice of Public Hearing and Availability of Environmental Impact Report" dated December 6, 2007; please accept the following as the official comments from the City of Carson ("Carson") to said Draft EIR for the above proposed project ("Project").

The project description identifies the following: The Master Plan proposes short/near term and long term projects. The short/near term include: construction of new academic buildings (a science/health professions laboratory building and an extended education complex addition); a parking structure with 2,400 parking spaces on lot 7; a new campus entrance off Central Avenue at Beachey Place; housing for students and faculty staff; renovation of the existing Cain Library, social and behavioral sciences building, natural sciences and mathematics building (classrooms and offices); student fitness center/gymnasium; and construction of a cogeneration plant. These short term projects would be constructed in phases over the next 10 years, until 2017 and contingent upon an enrollment level of 11,000 FTE (full time equivalent) students and the availability of funding.

Long term projects would accommodate 20,000 FTE students. Growth trends have identified university enrollment reaching 20,000 FTE students by 2040. Long term development includes: academic/administrative facilities; campus life/student support facilities; access, circulation and parking projects; campus infrastructure and athletic fields.

CITY HALL • 701 E. CARSON STREET • P.O. BOX 6234 • CARSON, CA 90749 • (310) 830-7600
WEBSITE: ci.carson.ca.us

Comment Letter A4

Specifically, the Draft EIR should address the following Carson concerns:

Chapter 3 Environmental Analysis:

1. Chapter 3, page 3I-14 – Under Mitigation Measures HYD-1, last paragraph: Drainage shall be designed in accordance with the California State University, and applicable agencies, flood control design criteria including that of the City of Carson and County of Los Angeles Department of Public Works. A4-1

2. Chapter 3, page 3O-29 – Avalon Boulevard and Del Amo Blvd.: Median reconstruction if necessary shall be designed and constructed per city of Carson Standard and to the satisfaction of the City Engineer. A4-2

3. Chapter 3, page 3O-30 – Central Avenue/Albertoni/Artesia Blvd.: Median reconstruction if necessary shall be designed and constructed per city of Carson Standard and to the satisfaction of the City Engineer. A4-3

4. Chapter 3, page 3P-2 – Sewer and Wastewater Services: The information provided regarding the existing 24 inch diameter sewer trunk line capacity was based on measurements obtained in 1998. The Draft EIR does not include updated information available from the County Sanitation District of Los Angeles regarding the existing capacity of the line. The Draft EIR should be revised to reflect current data and should indicate that a sewer area study will be submitted to the County Sanitation District of Los Angeles to determine if capacity is available in the sewerage system to be used as the outlet for the sewer serving this development. If the system is found to have insufficient capacity, the problem must be resolved to the satisfaction of the County Sanitation District of Los Angeles and in coordination with the City Engineer. A4-4

5. Public improvements are needed to adequately protect the public safety and welfare from impacts caused by growth of the CSUDH campus. The Draft EIR must address the missing public improvements. Any missing public improvements shall be addressed at such time that any permits are requested for work to be performed in the public right of way. The following public improvements have been identified as a standard or necessary improvements to support the continued growth of the CSUDH campus: A4-5

    a. Repair of any broken or damaged improvements such as curb, gutter and sidewalk, fronting the proposed development per City of Carson standard and to the satisfaction of the city Engineer. A4-5a

    b. Construction of new driveway approaches per City of Carson standard and in compliance with the ADA requirements. The University shall protect or relocate existing facilities to accommodate the proposed driveway approach. A4-5b

Comment Letter A4

c. Where sidewalks meander around the proposed driveway and extending beyond the public right-of-way, the required described sidewalk easements shall be submitted to the city for review, approval and acceptance. | A4-5c

d. Installation of raised landscaped median on Victoria Street per City of Carson standard and to the satisfaction of the City Engineer. | A4-5d

e. The public parkway area along Avalon Blvd. is 12' wide. A 6'-7" area behind the curb is concrete and the remaining 5'-5" is unimproved earth. During heavy rainfall or irrigation water runoff, soil from the project site is washed across the sidewalk and into the gutter, violating National Pollution Discharge Elimination System requirements. The unimproved area must be paved with concrete to match the existing sidewalk or landscaped and irrigated. The same situation exists along Victoria Street. It is recommended that a uniform sidewalk width along Avalon Blvd. and Victoria St. be provided per City of Carson standard and to the satisfaction of the City Engineer. | A4-5e

f. The proposed project increases pedestrian activity accessing the University from the public street area. Handicap ramps must be provided in order to comply with the ADA requirements. | A4-5f

g. Installation of concrete sidewalk along University Dr. per City of Carson standard and to the satisfaction of the City Engineer. | A4-5g

h. The proposed project increases the demand for public transit serving the University. Bus shelters are necessary at existing bus stops on Avalon Blvd. and Victoria St. | A4-5h

i. All existing overhead utility lines, below 50 KV, and all new utility lines shall be underground to the satisfaction of the City Engineer. | A4-5i

j. Installation of street lights on concrete marbelite poles with underground wiring along University Drive to the satisfaction of the City Engineer. | A4-5j

k. Annexation of the area to the L.A. County Lighting Maintenance District, for the purpose of operating and maintaining the streetlights. The annexation shall be completed prior to the occupancy of proposed facilities. | A4-5k

l. Any missing improvements in the public right-of-way fronting the proposed development shall be installed or constructed by the applicant prior to occupancy of the proposed facilities. | A4-5l

m. Any improvement damaged during the proposed construction shall be removed and reconstructed per City standard plan and to the satisfaction of the City Engineer. | A4-5m

3

Comment Letter A4

n. Submit improvement plans to the Engineering Services Division showing all the required improvements within the public right-of-way for review and approval of the City Engineer. A4-5n

o. A City issued construction permit is required for any work to be done, or for connections to City utilities within the public right-of-way. A4-5o

Traffic Concerns:

6. The proposed intersection improvements that are recommended as mitigation measures for the significant traffic impacts that were identified are acceptable in concept; however, the detailed design plans for these proposed improvements must be reviewed and approved by the City of Carson Engineering Division. A4-6

7. The analysis did not include an evaluation of pedestrian access and circulation. The mitigation section of this Draft EIR must address the safety of pedestrian access and circulation. Further, as mitigation the Draft EIR must address the provision of sidewalks along public roadways on the perimeter of the campus including but not limited to University Drive. A4-7

Proposed Staff/Faculty & Student Housing:

8. In reference to near-term (2017) projects, the Draft EIR identifies up to 350 units (998,757 square feet of floor area) for staff/faculty housing and approximately 300 beds (798,280 square feet of floor area) for student housing. However, the Draft EIR does not identify a preliminary site plan depicting housing access and necessary parking spaces for proposed housing units. The Draft EIR mitigation section must address housing parking and access to ensure that sufficient housing parking and safe project access is provided to minimize traffic impacts on affected and adjacent Carson streets and to future housing occupants. A4-8

9. The Draft EIR does not adequately address the impacts on existing city parks due to increased population due to proposed staff/faculty housing and student housing. The Draft EIR mitigation section must address the increased demand for park and recreation services and ensure that adequate measures are included to allow the City of Carson to maintain acceptable service levels; including but not limited to the payment of a fee for the purpose of developing new, or rehabilitating existing, city park and recreational facilities serving future residents and also address the provision of additional private recreational space within the proposed residential developments. A4-9

4

Comment Letter A4

In closing, the City of Carson thanks California State University, Dominguez Hills for this opportunity to comment and is prepared to work with the University to make this Master Plan project a success. However, the success of the Master Plan can not sacrifice the health, safety and welfare of pedestrian and vehicular traffic along major Carson roadways abutting the campus. Therefore, the Draft EIR must acknowledge and address the above stated Carson comments and concerns.

If you may have any questions on this matter please feel free to contact Zak Gonzalez II, Associate Planner at (310) 952-1761,

Sincerely,

Victor Rollinger, by

Victor Rollinger, Development Services Manager

CC: Sheri Repp, Planning Manager

5

Response to the January 7, 2008, Comment Letter from the City of Carson

Response to Comment A4-1

Comment noted. Mitigation measure HYD-1 has been revised to include the Los Angeles County Department of Public Works. Please see revised mitigation measure HYD-1 below.

HYD-1 **Implement a Drainage Concept Plan.** As part of the master plan, the applicant shall implement a drainage concept plan. This plan shall address the following topics.

- A calculation of predevelopment runoff conditions and post-development runoff scenarios using appropriate engineering methods. This analysis shall evaluate potential changes in runoff through specific design criteria and account for increased surface runoff.
- An assessment of existing drainage facilities within the project area and an inventory of necessary upgrades, replacements, redesigns, and/or rehabilitation.
- A description of the proposed maintenance program for the on-site drainage system.
- Standards for drainage systems to be installed on a project-specific basis.
- If structures are proposed in localized flood areas, measures shall be implemented to eliminate localized flooding hazards prior to construction of proposed structures.

Drainage systems shall be designed in accordance with California State University and applicable agencies' flood control design criteria (including the City of Carson and Los Angeles County Department of Public Works, as applicable). As a performance standard, measures to be implemented shall provide no net increase in peak stormwater discharge relative to current conditions and ensure that localized flooding and the potential impacts are maintained at or below current levels. The measures shall also ensure that people and structures are not exposed to additional flood risk. The project shall implement measures provided in the drainage concept plan.

Response to Comment A4-2

Comment noted. If implementation of mitigation measure T-4 requires reconstruction of a median along Avalon Boulevard, the median, or any portion of the median affected by the project, will be constructed in accordance with City of Carson standards and procedures.

Response to Comment A4-3
Comment noted. If implementation of mitigation measure T-6 requires reconstruction of a median along Central Avenue, the median, or any portion of the median affected by the project, will be constructed in accordance with applicable standards and procedures.

Response to Comment A4-4
Comment noted. The Los Angeles County Department of Public Works was contacted to obtain the most current data available on the capacity of the Del Amo trunk sewer. According to the county, the most recent data available is from 2003. The Del Amo trunk sewer is 18 to 27 inches in diameter between Avalon Boulevard and Central Avenue and has a design capacity of 2.46 million gallons per day (mgd) to 5.18 mgd. The sewer conveyed a peak flow of 1.37 mgd when last measured in 2003 (Frazen pers. comm.). This information has been updated in the EIR. However, this recent data does not change the conclusions presented in the draft EIR; therefore, a sewer area study is not required. However, if in the future sewer capacity problems become known, CSUDH will consider preparing a sewer area study, as recommended.

Response to Comment A4-5
Comment noted.

Response to Comment A4-5a
If construction activities related to the master plan result in damage to curbs, gutters, and sidewalks fronting the campus, CSUDH will repair such damage and return the curbs, gutters, and sidewalks to their original state.

Response to Comment A4-5b
Comment noted. The proposed driveway approaches on Beachey Place will be constructed per standards of the State Architect and applicable provisions of the Americans with Disabilities Act (ADA).

Response to Comment A4-5c
Comment noted. All sidewalks constructed by CSUDH will meet ADA standards and will be approved by an engineer, architect, or building official who holds Delegation Authority from California's Department of Architectural Services.

Response to Comment A4-5d
Comment noted. The environmental analysis conducted for the proposed master plan does not identify installation of a raised landscaped median as a mitigation measure or a project requirement. Development of the master plan would not result in the need for a raised landscaped median along Victoria Street.

Response to Comment A4-5e
The master plan does not propose any development along Avalon Boulevard. As part of mitigation measure HYD-1, a drainage concept plan will be prepared. As a performance standard for mitigation measure HYD-1, no net increase in peak stormwater discharge relative to current conditions will occur; this will ensure that localized flooding and potential impacts are maintained at or below current

levels. Additionally, construction for the proposed master plan will comply with NPDES requirements and implement best management practices to control stormwater runoff from construction sites. Therefore, with implementation of mitigation measure HYD-1 and NPDES requirements, the master plan will not result in any net increase in peak stormwater discharge relative to current conditions.

Response to Comment A4-5f

In accordance with ADA requirements, ramps will be provided at all buildings and facilities constructed as part of the master plan.

Response to Comment A4-5g

Comment noted. If CSUDH decides to construct any sidewalks along University Drive, all pertinent and applicable guidelines and ordinances will be considered. CSUDH works within the guidelines established by the State Architect.

Response to Comment A4-5h

Comment noted. CSUDH is committed to encouraging the use of public transit for trips to/from the campus. CSUDH will install bus shelters at bus stops immediately adjacent to the academic campus as needed along Victoria Street between Tamcliffe Avenue and Central Avenue, on University Drive between Toro Center Drive and Central Avenue, and on Central Avenue between Charles Willard Street and Glen Curtiss Street.

Response to Comment A4-5i

Construction and operation of the master plan would not result in any impacts on existing overhead electrical utility lines. Therefore, undergrounding of existing overhead electrical utility lines is not required. Any new electrical utility lines required will be underground.

Response to Comment A4-5j

CSUDH will install streetlights along University Drive similar to the streetlights along other streets fronting the campus according to state building codes; the streetlights shall be inspected and approved by the State Architect's office.

Response to Comment A4-5k

Comment noted. Comment does not address an environmental impact or concern.

Response to Comment A4-5l

Comment noted. If master plan construction activities damage any facilities in the public right-of-way, such facilities will be repaired and returned to their original state.

Response to Comment A4-5m

If master plan construction activities damage any facilities in the public right-of-way, such facilities will be repaired and returned to their original state.

Response to Comment A4-5n
Any proposed improvements, including traffic mitigation measures within the City's right-of-way, will be coordinated with the City of Carson.

Response to Comment A4-5o
CSUDH will seek required permits from all agencies with jurisdiction prior to construction.

Response to Comment A4-6
Comment noted. Transportation improvements proposed as part of the mitigation measures will be coordinated with the agencies having jurisdiction.

Response to Comment A4-7
As stated in the traffic study prepared for the master plan, the majority of all trips to/from the campus would involve driving or taking mass transit. It is expected that there would be very few walk-in trips. There could be some pedestrian movements from bus stops on Victoria Street, which would be accommodated by existing street sidewalks. There could also be pedestrian movements between on-campus student and faculty housing and campus facilities, which would be accommodated by the on-campus circulation system with its various pedestrian routes and pathways.

CSUDH will provide sidewalks on public streets adjacent to the active campus property where they do not currently exist to ensure the continuity of pedestrian facilities and routes on public streets adjacent to the campus. The only location where a new sidewalk is expected to be necessary is on the north side of University Drive between Toro Center Drive and a point approximately 550 feet west of Central Avenue where there is currently no sidewalk.

With the provision of this new public street sidewalk, there will be sidewalks all around the active campus. Along with the provision of on-site pedestrian paths and facilities (as discussed in Section 4 of the master plan), there will be adequate and safe pedestrian facilities; there will be no significant pedestrian access or circulation impacts caused by the proposed master plan.

Response to Comment A4-8
A parking analysis conducted as part of the traffic study identified adequate parking for student and faculty housing. Access to the future staff and faculty housing would be from University Drive, as identified in the EIR. Access driveways will be designed according to applicable regulations.

By 2017, the master plan projects a parking demand for 5,283 to 5,533 parking spaces at the campus, or an increase of 750 to 1,000 parking spaces from the current parking supply of 4,533 spaces. Construction of a 750- to 1,000-space surface parking lot on the eastside of campus would be enough to meet future parking needs in 2017.

The student population at CSUDH will grow from the current level of about 14,000 students in 2007 to approximately 17,400 students by 2017, an increase of roughly 24 percent. However, the available parking would be enough for campus

demand. In fact, by 2017 (and for some time afterward), there would be a surplus of about 30 parking spaces on campus. This would be attributable to the construction of the surface parking lot, Lot 8, and the proactive policies of the university, which ensure that adequate parking is provided.

Note that additional, and separate, parking would be provided for both the new student housing facility and the new faculty/staff housing facility. Those parking areas would be enough to meet the needs of those facilities.

Response to Comment A4-9

The CSUDH campus offers a variety of recreational facilities for the students, faculty, staff, and the general public. At present, use of city parks and recreational facilities by CSUDH students and faculty is not known. However, the general public does use CSUDH recreational facilities. Based on the analysis presented in the EIR, CSUDH has adequate recreational facilities on-campus. Additionally, a recreation center is planned, to be possibly located near the existing gymnasium, providing additional opportunities for recreation. With the existing and planned recreational facilities, CSUDH would continue to provide its students, faculty, and staff with adequate recreational resources on-campus.

Comment Letter A5

Ecological Services
Carlsbad Fish and Wildlife Office
6010 Hidden Valley Road
Carlsbad, California 92011

In Reply Refer To:
FWS-LA-08B0157-08TA0151

JAN 8 2008

Mary Ann Rodriguez
Vice President, Administration and Finance
California State University, Dominguez Hills
1000 East Victoria Street
Carson, California 90745

Subj: Draft Environmental Impact Report for the California State University, Dominguez Hills Master Plan, Los Angeles County, California

Dear Ms. Rodriguez:

We have reviewed the Draft Environmental Impact Report (DEIR) for the above referenced proposed project to construct new academic and student service facilities as well as remodeled existing facilities at California State University, Dominguez Hills. The DEIR was received on November 26, 2007. The master plan proposes several near-term projects, including construction of new academic buildings, a parking structure, a new campus entrance, new housing, and renovation of the existing Cain Library, science buildings, and gymnasium. Construction of a cogeneration plant is also part of the master plan. These near-term projects would be constructed in phases over the next 10 years, until 2017. Long-term development envisioned in the master plan include academic/administrative facilities, campus life and student support facilities, access, circulation, parking projects, campus infrastructure, and athletic fields.

The Service's primary mission is to work with others to conserve, protect, and enhance fish, wildlife, and plants and their habitats for the continuing benefit of the American people. Specifically, the Service administers the Endangered Species Act of 1973 (Act), as amended, and provides support to other Federal agencies in accordance with the provisions of the Fish and Wildlife Coordination Act. Section 7 of the Act requires Federal agencies to consult with the Service should it be determined that their actions may affect federally listed threatened or endangered species or their critical habitats. Section 9 of the Act prohibits the take (e.g., harm, harassment, pursuit, injury, kill) of federally listed wildlife. Take incidental to otherwise lawful activities can be authorized under the provisions of section 7 (Federal consultations) or permitted under section 10 of the Act.

Comment Letter A5

On October 31, 2005, PCR Services Corporation conducted dry season surveys for fairy shrimp at a seasonally wet depression east of the extended education building at the proposed development site. During the dry season survey, two transects were established across the widest portion of the area ensuring that samples were collected from the deepest portions of the depression. Soil samples were collected from the top centimeter or one centimeter below overburden. The ten soil samples were collected from the potential shrimp habitat, except where removing such a quantity would have had a detrimental effect on the habitat. Soil samples were transported to PCR's laboratory on the same day, cataloged, and then sieved. The samples were prepared for examination in the laboratory by dissolving the clumps of soil in water and sequentially sieving the material through 500-, 300-, and 150-micron pore-size screens. The screens were then rinsed with approximately 100 milliliters of a saturated brine solution. The material floating on the brine solution was decanted onto a paper filter and water was removed via vacuum suction. The material left on the filter was examined under a BioQuip 660 Series Stereo Zoom microscope. Distinctive branchiopod cysts were identified to genus using a microscope. Following cyst identification, three of the five cysts collected and analyzed were hydrated on November 10, 2005. The cysts were submerged in deionized water and monitored over a two-month period. The vernal pool branchiopod dry season sampling resulted in positive detections of fairy shrimp cysts from two sieve aliquots. A total of five cysts were identified during the investigation. All the cysts identified were of the *Branchinecta* genus. Wet surveys were attempted October 17, 2005 following 0.34 inches of accumulated precipitation. However, the study area did not remain inundated long enough to initiate surveys.

Our primary concerns regarding the proposed project are: 1) campus development proposed for the vacant lot adjacent to the extended education complex that would result in impacts to a seasonally wet depression that provides habitat for species in the genus *Branchinecta*; 2) the *Branchinecta* cysts found in the seasonally wet depression are of the same genus as the federally endangered San Diego fairy shrimp (*Branchinecta sandiegonensis*) and the federally threatened vernal pool fairy shrimp (*Branchinecta lynchii*) both of which have the potential to occur at this seasonally wet depression; and 3) the federally threatened Riverside fairy shrimp (*Streptocephalus woottoni*) has the potential to occur at this seasonally wet depression. A5-1

As discussed in the DEIR, insufficient inundation occurred during the wet season-surveys (2005-2006) for fairy shrimp to emerge, therefore this survey is inadequate. The *Interim Survey Guidelines to Permittees for Recovery Permits under Section 10(a)(1)(A) of the Endangered Species Act for the Listed Vernal Pool Branchiopods* (April 19, 1996) recommends a complete survey consisting of sampling for either: 1) two full wet season surveys done within a 5-year period; or 2) two consecutive seasons of one full wet season survey and one dry season survey (or one dry season survey and one full wet season survey). Therefore, we recommend following the above survey guidelines for the seasonally wet depression with surveys conducted by a biologist that holds a valid Service ESA Section 10(a)(1)(A) permit for identifying fairy shrimp. Alternatively, if impacts to the seasonally wet depression and its watershed are avoided, then further survey work would not be recommended. A5-2

Comment Letter A5

Lastly, the seasonally wet depression within the proposed project site is one of a select few remaining in the greater Los Angeles Basin that contains fairy shrimp. Other known locations that contain fairy shrimp include Madrona Marsh in Torrence and Fairview Park in Costa Mesa. Therefore, this is a particularly rare habitat type that we recommend be considered for conservation and/or avoidance. A5-3

Should you have any questions regarding the provided information, or your responsibilities under the Act, please contact Fish and Wildlife Biologist Anna Schmidt of my staff at (760) 431-9440, extension 227.

Sincerely,

for Karen A. Goebel
Assistant Field Supervisor

Response to the January 8, 2008, Comment Letter from the U.S. Department of the Interior, Fish and Wildlife Service

Response to Comment A5-1

Avoidance measures have been incorporated so that the engineered limits of disturbance do not encroach into the depression or its watershed. If avoidance of the depression and its watershed is not feasible, mitigation measure 3C-1b will determine whether listed fairy shrimp occur within the depression.

In CSUDH's judgment, the potential for Riverside fairy shrimp to occur within the depression is less than reasonable based on the hydrology and highly disturbed condition of the depression (see comments for species in Appendix B).

3C-1b Focused Survey for Fairy Shrimp. A focused survey for fairy shrimp, consisting of either two wet season surveys or one dry season and one wet season survey, shall occur within the seasonally wet depression. Focused surveys shall conform with recommendations for such surveys from the USFWS. If San Diego fairy shrimp and/or vernal pool fairy shrimp are present within the depression, consultation with USFWS under the federal ESA shall be performed. Prior to approval of grading or improvement plans, permits or approvals (i.e., take authorization) shall be obtained from USFWS. To reduce impacts to fairy shrimp to a level that is less than significant under CEQA, project design, incorporating any mitigation measures, will assure that there shall be no substantial reduction in the number or restriction in the range of any endangered, rare, or threatened fairy shrimp.

Response to Comment A5-2

A complete focused survey consisting of either two full wet season surveys or one full wet season survey and one dry season has been incorporated into mitigation measure 3C-1b.

Response to Comment A5-3

If feasible, the proposed project will avoid the depression and its watershed during project build-out (mitigation measure 3C-1a).

3C-1a Avoidance. If feasible, the limits of disturbance of the proposed extended education complex addition should be engineered so that direct impacts and indirect impacts to the depression and its watershed resulting in a change of hydrology to the depression do not occur. This includes avoidance of grading activities, construction, and/or materials laydown in the depression or its watershed. Prior to any potential project-level impacts, the watershed must be delineated by a qualified biologist or survey crew to ensure that the watershed will not be affected. If direct and indirect impacts to the seasonal depression and its watershed will be avoided, no further mitigation would be required, and impacts would be less-than-significant under CEQA. If avoidance of the depression is not feasible, mitigation measure 3C-1b shall be incorporated.

Comment Letter C1

From: Richard Malamud [rmalamud@csudh.edu]
Sent: Monday, November 19, 2007 6:39 PM
Cc: CSUDH Comments
Subject: RE: CSUDH Master Plan Draft Environmental Impact Report (EIR)

The addition of a multilevel lot makes no sense.

The cost is prohibitive. Why not put additional parking between the EAC and the Dormitory? C1-1

What about simply double decking each of the existing open air parking lots, one at a time as two story lots? Wouldn't that be cheaper then one five story lot? C1-2

Also, what happened to the proposed Management Building that was supposed to go behind EAC? C1-3

Response to the November 19, 2007, Comment Letter from Richard Malamud

Response to Comment C1-1

To meet campus parking needs by 2017, additional parking spaces are required. A surface parking lot 8 with 750 to 1,000 spaces would be constructed near existing Lot 7 to meet the parking requirements of 11,000 FTEs. The master plan anticipates a total of 7,285 on-site parking spaces by 2040 to accommodate a total of 14,000 FTE students. The 2009 master plan calls for increasing the amount of parking provided on campus at buildout (for 20,000 FTE students), principally through the construction of three parking structures on existing surface parking lots at strategic locations.

Response to Comment C1-2

The master planning process identified multi-level three parking structures to meet the parking demands of 20,000 FTE at build-out as a reasonable solution to meet parking needs while preserving areas on campus for academic buildings.

Response to Comment C1-3

The "management building" referred to in the comment is not one of the near-term projects to be constructed by 2017.

Comment Letter C2

The first of these issues concerns the building of a fitness center addition to the Loker Student Union. My opinion is that a fitness center will be a valuable addition to the campus and may help enhance enrollment. However, during a discussion, several people in Dr. John Keyantash's Environmental Analysis and Planning class shared the opinion that the fitness center would have a negative impact if it were located in close proximity to the Loker Student Union. The pedestrian traffic would probably increase greatly as individuals entered and left the fitness center. These same individuals would be leaving after working out and possibly before showering, carrying large gym bags and they might be passing through the restaurant area. This could be unpleasant for people who are dining and studying in that area. An alternative would be to position the new fitness center down near the current athletic facilities so that other amenities such as the pool and the track could be used during times when athletes or students in classes were not using it, including evenings. Several parking lots in that area are relatively unused now, and placing a fitness center in the lower area of campus would encourage the use of those lower parking lots 4A and 4B, instead of Lots 3 and 6. C2-1

Another issue of concern is the large potential impact of surface runoff from the proposed student and faculty and staff housing. Another 65 acres of impervious material will require quite an extensive runoff filtering plan and it was not completely clear as to how the impact of the runoff from those areas would be avoided. I think it was mentioned that rooftop rain gutters would be filtered with vegetative filters and swales. Is there any more available information regarding those plans? If not, I would like to be informed of the design for runoff in that area when it is completed. C2-2

Also, given the fact that the very large high school drop out rate in Los Angeles city schools may affect current and future enrollment, it seems possible that a delay in some of the renovations and the new buildings planned might be necessary. One possible way to increase enrollment might be that students could visit the campus with their high school classes to tour the university library, athletic facilities, and other campus facilities such as the landscaping, the greenhouse and learn about the native landscaping projects. Then they would have something to look forward to and to work for. C2-3

I personally do not think the science building should be relocated to the SCC area, but instead should be renovated in the current location. This current location is near the Cain library and promotes convenient access to the library and other lab facilities such as the geology lab on the lower level. This is another feature which would be attractive to high school students. C2-4

Comment Letter C2

communities in the Los Angeles area, and some of these developments such as the new library and fitness center would be effective for marketing, attracting students and promoting education.

Finally, I encourage the preservation of the campus vernal pool area. I think it enhances the value of the campus and proves that an atmosphere which promotes sustainability exists, in keeping with the starting up of an urban ecology program. Maybe a way will be found to use this area as a tool to educate touring school children in the future. C2-6

Thank you so much for your time,
Respectfully,
Candice Groat

Response to the December 14, 2007, Comment Letter from Candice Groat

Response to Comment C2-1

The location of the recreation center has been reconsidered since the release of the Draft EIR in November 2007. The recreation center would possibly be located near the existing gymnasium. Although design for the recreation center has not begun, the recreation center is conceptualized as having its own dedicated entranceway.

Response to Comments C2-2

As part of mitigation measure HYD-1, a drainage concept plan will be prepared. As a performance standard for mitigation measure HYD-1, no net increase in peak stormwater discharge relative to current conditions will occur. Additionally, the building site plan will include features such as bio-swales to reduce the amount of untreated stormwater runoff. More details will be available in the design stages.

Response to Comment C2-3

Comment noted. The suggestion to increase enrollment is appreciated.

Response to Comment C2-4

As stated in the EIR, two options are being considered for location of the new science and health professions laboratory building; one location is within the academic core south of the existing natural sciences and mathematics building. The comment in support of locating the building within the academic core is noted.

Response to Comment C2-5

Comment noted.

Response to Comment C2-6

The "vernal pool" is not a natural feature and is best described as a seasonally wet depression. The vegetation within the depression is mostly ruderal, which tolerates high levels of disturbance. The depression does provide suitable habitat for fairy shrimp, probably the non-listed versatile fairy shrimp (*Branchinecta lindahli*), which is known to tolerate high levels of disturbance. However, until additional focused surveys are performed, it is unknown whether sensitive species of fairy shrimp are supported within the depression. Avoidance of the depression by adjusting the project footprint and limits of disturbance (mitigation measure 3C-1a) has been incorporated to avoid impacts on fairy shrimp.

3C-1a Avoidance. If feasible, the limits of disturbance of the proposed extended education complex addition should be engineered so that direct impacts and indirect impacts to the depression and its watershed resulting in a change of hydrology to the depression do not occur. This includes avoidance of grading activities, construction, and/or materials laydown in the depression or its watershed. Prior to any potential project-level impacts, the watershed must be delineated by a qualified biologist or survey crew to ensure that the watershed will not be impacted. If direct and indirect impacts to the seasonal depression and its watershed will be avoided, no further mitigation would be required, and impacts would be less-than-significant under CEQA. If avoidance of the depression is not feasible, mitigation measure 3C-1b shall be incorporated.

Comment Letter C3

1) While the status of the vernal pool to the east of the Extended Education Building is still uncertain, I would like to see us err on the side of caution, especially pending the consultant's report (if it ever rains). I was a little unclear from the maps in the report as to the actual footprint of the building expansion. One of the maps (overlain on the satellite image) made it appear as though the footprint was small enough that it could be placed with no incursion into the vernal pool depression. If this is the case, I would like to ask that this be seriously considered. I am much less concerned about changes to the hydrology, since that has already been so highly modified. I do recognize, however, that issues of water flow would have to be taken into account, and that is outside my expertise. C3-1

2) I would like to see an artist's rendition of the appearance of the four-storey parking structure planned for the south end of Parking Lot 7. We have invested a lot of time and effort into the drainage swale there: it is a demonstration of native plantings for habitat as well as providing water quality improvement. I am a little concerned as to the aesthetic impact of a four-storey structure so close to the swale, as well as its visual impact on the planned faculty/staff housing, which would be built just to the south. A graphic of how all that would look would be very valuable. C3-2

Thank you for considering these issues.

Sincerely,

John Thomlinson

Chair, Biology Department
California State University Dominguez Hills
1000 E. Victoria St.
Carson, CA 90747
Phone (310) 243-3381
Fax (310) 243-2350

Response to the December 12, 2007, Comment Letter from John Thomlinson

Response to Comment C3-1

If feasible, the proposed project will avoid the depression and its watershed during project buildout (mitigation measure 3C-1a). Otherwise, a focused survey will be performed and appropriate mitigation incorporated (mitigation measure 3C-1b).

Response to Comment C3-2

Since release of the draft EIR for public review in November 2007, the master plan has been updated to reflect current enrollment trends. Per the updated master plan, the parking garage will not be built for 2017 scenario. Thus, the The design effort for the parking garage has not begun and is not available for public review.

Comment Letter C4

surrounding urban area and built up parts of the campus. I fear that building out this area will reduce habitat for local bird species. I hope that some areas will be reserved as habitat with appropriate plantings.

My comments describe birds that I saw one afternoon (December 8, 2007) around the campus, and also provide a list of a few more birds I have seen on campus over the years that are not included in this day list or in the draft EIR. These are common local birds, but habitat reduction in the area could potentially change that.

December 8, 2007

Lot 2 to SBS Building
- About 30 Brewer's Blackbirds
- 1 Black Phoebe
- 1 Say's Phoebe
- About 20 European (House) Sparrows
- 1 Yellow-rumped (Audubon's) Warbler

Near field between Student Housing and Facilities Building
- 2 Yellow-rumped Warblers
- 1 Mourning Dove
- 2 House Finches

Near Facilities Building
- 1 Black Phoebe

In cactus behind Facilities Building
- 3 White-crowned Sparrows
- 2 House Finches

Overhead near the Facilities Building towards Central Avenue
- 1 Turkey Vulture
- 1 American Crow

In drainage/habitat area near Lot 7
- 1 Yellow-rumped Warbler
- 2 Western Meadowlarks

Field behind CAMS
- 1 Yellow-rumped Warbler
- 1 White-crowned Sparrow

Behind the Gym near the Tennis Courts
- 1 American Kestral
- 1 California Gull (overhead)

Comment Letter C4

Northern Flicker (Red-shafted)
American Robin

Response to the January 1, 2008, Comment Letter from the Sally Moite

The information provided in the comment has been reviewed and carefully considered. None of the species identified in the comment letter has special regulatory status, and their presence does not alter the EIR's conclusions. Nonetheless, mitigation measure 3C-2 is included in the EIR to ensure that impacts on native birds protected under the Migratory Bird Treaty Act are minimized.