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2.0 SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

2.1 INTRODUCTION

This Environmental Impact Report (EIR) evaluates the potential for environmental impacts from the implementation of the University of California, Davis 2003 Long Range Development Plan (hereinafter 2003 LRDP). Five projects proposed for implementation on the UC Davis campus under that plan are also considered in this EIR: the Neighborhood Master Plan (NMP), the Research Park Master Plan (RPMP), the Multi-Use Stadium Complex (Stadium Complex), the Robert Mondavi Institute (RMI), and the Chilled Water Facilities Expansion Project. This summary highlights the major areas of importance in the environmental analysis for the proposed 2003 LRDP, as required by §15123 of the California Environmental Quality Act (CEQA). It also provides a brief description of the 2003 LRDP, project objectives, community/agency issues, alternatives to the 2003 LRDP, and areas of controversy known to the University. In addition, this chapter provides a table summarizing: (1) the potential environmental impacts that would occur as the result of implementation of the 2003 LRDP; (2) the level of impact significance before mitigation; (3) the recommended mitigation measures that would avoid or reduce significant environmental impacts; and (4) the level of impact significance after mitigation measures are implemented. A second table compares the anticipated impacts of the proposed project with those of each alternative. Separate impact analyses, including impact summary and alternative comparison tables for the five projects listed above, are provided in Volume III of this EIR.

2.2 PROJECT DESCRIPTION

The UC Davis LRDP is the comprehensive land use plan that guides physical development of the campus to support its teaching, research and public service mission. The LRDP identifies institutional goals and development objectives, and maps existing and proposed campus land uses. The Regents adopted the 1994 LRDP for UC Davis in September 1994 as a guide for physical development and campus population growth then projected through 2005-06. The 1994 LRDP anticipated that campus student population would increase to 26,000, and that the campus faculty and staff population would increase to 12,630 through 2005-06. To support this population growth, the 1994 LRDP anticipated an increase in academic and administrative space to 6,495,750 assignable square feet (asf) during the same period. As of the 2001-02 academic year, the campus had approximately 24,870 students, 10,500 faculty and staff, and approximately 4,475,000 asf of academic and administrative space, with an additional 615,000 asf approved but not yet built. Approval of approximately 130,000 asf of additional new academic and administrative space under the 1994 LRDP is expected before the proposed approval of the 2003 LRDP in Fall 2003.

In accordance with the California Master Plan for Higher Education, which guarantees access to the University of California for the top 12.5 percent of California's public high school graduates, the University is now planning to increase enrollment at all of its campuses. The University of California projects that system-wide, full time equivalent enrollment will increase by approximately 63,000 between 1998 and 2010. The University of California's Office of the President has asked each campus to consider the feasibility of implementing campus-specific

enrollment targets. In response, UC Davis has prepared the proposed LRDP which plans for an estimated campus enrollment of 32,000 students by 2015-16, of which approximately 30,000 would be accommodated on campus and about 2,000 students would be accommodated in off-campus programs. Anticipated increases in enrollment at UC Davis in the next few years are expected to exceed the growth levels analyzed in the 1994 LRDP EIR. For this reason, the 2003 LRDP and the 2003 LRDP EIR have been prepared, in compliance with CEQA §21080.09.

The proposed 2003 LRDP plans for anticipated on-campus growth in enrollment of 5,130 students over the 2001-02 baseline, to a total projected student enrollment in 2015-16 of 30,000. It also anticipates an increase of about 4,000 in faculty and staff population for a total of 14,500, and an increase of about 3,090 in non-UC Davis employees working on campus from about 150 in 2001-02 to about 3,240 in 2015-16. The proposed 2003 LRDP provides a plan for general types and locations of campus development through revised land use designations. It also allows for the development of 2.7 million asf of academic and administrative space on the campus over 2001-02 levels. This planning and development would support projected population growth on campus, enable new and expanded program initiatives, and provide for increased research activities to meet the anticipated education and research demand that is projected for the next decade.

Under the proposed 2003 LRDP, the majority of new Academic/Administrative–High Density development is planned as infill in the academic core and the Health Sciences District on the central campus, and on the west campus at the CNPRC. Included in the proposed central campus development would be the RMI. The RMI would provide an academic building, a teaching winery, and food processing laboratories and teaching facilities for academic and research growth and enrichment in the Viticulture and Enology and Food Science and Technology departments. Land use is also designated on the central campus to provide 2,000 additional beds of student housing. The chilled water plant on the central campus would also be expanded. Volume III provides descriptions and analyses of the proposed RMI and Chilled Water Facilities Expansion projects.

On the west campus, an area of about 225 acres is designated for the development of a proposed new campus residential neighborhood. The Neighborhood (described in detail in Volume III) would provide about 500 faculty and staff housing units; beds for about 3,000 students plus their dependents; commercial and office space; a community education center; a public elementary school; recreation facilities; and open space.

The 2003 LRDP would relocate the Equestrian Center recreational program, the Department of Animal Sciences dairy research support facilities, and the Department of Land, Air and Water Resources field program from the central and west campuses to Russell Ranch. Land at Russell Ranch is also proposed to be designated for implementation of biological mitigation under a Habitat Conservation Plan (HCP). Additional Teaching and Research Fields land uses are also designated at Russell Ranch to allow relocation and expansion of agricultural programs displaced by redesignation of land uses and planned development on the central, south, and west campuses.

On the south campus, lands are designated for relocation of central campus support services, and for the development of Research Park facilities. Lands near the airport on the west campus are also designated for Research Park development. Research Park development under the proposed RPMP (described in Volume III) would accommodate public, private, and nonprofit entities on

campus, and would include approximately 528,000 asf of building space, and employ approximately 2,400 non-university employees.

Open Space Teaching and Research and Physical Education/Intercollegiate Athletics/Recreation land use designations would be expanded in several areas of campus. New recreation fields would be provided under the proposed NMP on the west campus, and a new Stadium Complex (described and analyzed in Volume III) would be developed on the central campus.

2.3 PROJECT OBJECTIVES

The primary objective of UC Davis in the development of the 2003 LRDP is to plan for the campus' share of the University's short-term and long-term enrollment demand on the campus. The campus proposes with the 2003 LRDP to accomplish this objective, and also to:

- create a physical framework to support the teaching, research, and public service mission of the campus
- to manage campus lands and resources in a spirit of stewardship for the future
- provide an environment that enriches campus life and serves the greater community

2.4 FINAL EIR

This EIR assesses the potential environmental effects of the proposed 2003 LRDP, and development of five projects under the 2003 LRDP. It assesses the overall long-term impacts from the full development of the 2003 LRDP, and addresses the impacts of each of the proposed projects. The Final EIR presented herein represents a revision of the Draft EIR to include the results of public input and response to comment, administrative reviews, and project refinements and minor adjustments to the data since the publication of the Draft EIR. As discussed in Volume IV, these refinements did not result in substantial changes in the project or in the environmental analysis.

As required by CEQA, this EIR (1) assesses the expected individual and cumulative impacts of the University's physical development and land use plan to meet the academic and institutional objectives for the UC Davis campus; (2) identifies means of minimizing potential adverse impacts; and (3) evaluates reasonable alternatives to the proposed project, including the required No Project Alternative.

The Board of Regents of the University of California (The Regents) is the "lead agency" for the projects evaluated in this EIR and as such has the principal responsibility for approving the proposed 2003 LRDP and four of the five projects. It is anticipated that the Chilled Water Facilities Expansion Project would be considered for approval by the UC Davis Chancellor under authority delegated by The Regents.

2.5 IMPACT SUMMARY

Table 2-1, which is presented at the end of Section 2.0, provides a complete list of all impacts and mitigation measures. For each impact, Table 2-1 reports the significance of the impact before

mitigation, applicable mitigation measures, and the level of significance of the impact after the implementation of the mitigation measures.

2.6 ALTERNATIVES TO THE PROPOSED PROJECT

The following alternatives were analyzed in detail in the EIR and compared to the proposed 2003 LRDP. The objective of the alternatives analysis is to determine whether an alternative would feasibly attain some or most of the project objectives, while avoiding or substantially lessening some of the significant effects of the proposed project. The LRDP alternatives include:

- **Alternative 1: Reduced Enrollment Growth.** Student enrollment on campus would increase to 28,000 rather than to 30,000 as under the proposed project. Total development on campus would be commensurately reduced, but the NMP (on the west campus) and the RPMP (on the central and south campuses) would be developed as planned.
- **Alternative 2: Higher Enrollment Growth.** Student population would increase to 35,000, and faculty and staff populations would increase commensurately. Built space would increase by approximately 20 percent above the levels projected under the proposed project.
- **Alternative 3: Central Campus Infill (Higher Density).** Campus growth would be accommodated as infill on the central campus and new development on the west and south campus would be minimized. The facilities proposed under the NMP would be located on lands in the northwestern portion of the central campus. The proposed RPMP would also be accommodated on central campus lands north of I-80.
- **Alternative 4: No Neighborhood and/or Research Park.** The proposed population growth would occur, but either just the NMP, or both the NMP and the RPMP would not be developed.
- **Alternative 5: No Project.** For purposes of land use planning, the 1994 LRDP would remain in effect and student population growth beyond campus enrollment levels as of 2003-04 would not be accommodated.

Detailed descriptions and an analysis of potential impacts of each alternative are presented in Section 5 Alternatives (Volume II). Table 2-2 (which follows Table 2-1) presents a comparison of the environmental impacts of these alternatives to the impacts that are expected to result from the proposed project.

The No Project Alternative would avoid almost all environmental impacts of the development under the proposed 2003 LRDP. Because there would be no increase in campus enrollment after 2004-05, traffic and traffic-related noise and air quality impacts would be substantially less than those under the proposed project. The limited development under this alternative would reduce impacts associated with ground disturbing activities relative to the proposed project. However, while the No Project Alternative would meet the LRDP objective of managing campus lands in a spirit of stewardship, it would not meet any of the other project objectives.

If the environmentally superior alternative is the No Project Alternative, CEQA Guidelines Section 15126(d)(2) requires that the EIR shall identify another alternative as environmentally superior.

Of the remaining alternatives, the environmentally superior alternative appears to be Alternative 3, the Central Campus Infill (Higher Density) Alternative. This alternative would result in similar or lower impacts as the proposed project with respect to most resource areas with the exception of aesthetics, cultural resources, construction noise, and parking, where the impacts of this alternative could be greater. This alternative would meet most of the objectives of the proposed project through the use of infill and higher density development on the campus. This alternative would preserve existing open space and prime farmland outside the central campus to a greater extent than the proposed project. However, the intensive development of the core campus under this alternative would severely limit future expansion of academic buildings or and associated because of space constraints, and could thus constrain the pursuit of future academic and research initiatives, which will be important in the campus' future. In that sense, this alternative would not support the objective of responding to academic needs or expanded initiatives. Furthermore, focus on development in the central core of the campus could alter campus aesthetics, and would concentrate traffic, air quality, and other population-related impacts, such that the quality of campus life could be impaired.

2.7 KNOWN AREAS OF CONTROVERSY

This EIR addresses issues associated with the proposed project that are known to the lead agency or were raised by agencies or interested parties during the NOP public and agency review period. These issues include:

- Concerns about the public involvement process
- Doubt about the need for the project
- Desire for increased infill and higher densities
- Financial impacts on the City of Davis
- Proximity of the proposed NMP to an existing neighborhood
- Land use conflicts relative to the Multi-Use Stadium Complex and the Health Sciences Complex
- Potential effects on scenic views and nighttime lighting
- Loss of agricultural lands
- Effects of development on local and regional air quality
- Potential effects on trees and wildlife
- Concern about the potential National Biosafety Laboratory
- Availability of water to serve growth
- Relationship to City of Davis land use policies
- Noise and land use conflicts relative to the UC Davis Airport

- Spillover housing demand in the region
- Effects of growth on local public services and utilities
- Traffic and parking, particularly in relation to the development of the proposed NMP and a potential vehicular connection to Russell Boulevard

Appendix A of this EIR summarizes comments received on the NOP and provides responses to those comments. Comment letters received are also available for review online at www.ormp.ucdavis.edu/environreview/2003lrdp.html.

2.8 2003 LRDP MITIGATION MONITORING PROGRAM

CEQA requires that a Lead Agency establish a program to report on and monitor measures adopted as part of the environmental review process to mitigate or avoid significant effects on the environment. This Mitigation Monitoring Program (MMP) is designed to ensure that the mitigation measures identified in the UC Davis 2003 LRDP EIR are implemented. The MMP, as outlined in Table 2-3, describes monitoring and reporting procedures, monitoring responsibilities, and monitoring schedules for all mitigation measures identified in the LRDP Program part (Volumes I and II) of the 2003 LRDP EIR. MMPs for NMP, RPMP, and Multi-Use Stadium Complex project-specific mitigation measures are presented in the chapters for each project in Volume III of the EIR. The RMI and Chilled Water Facilities Expansion projects do not require project-specific mitigation measures.

A variety of campus entities have been assigned monitoring responsibilities under this MMP. All monitoring actions, once completed, would be reported (in writing) to the UC Davis Office of Resource Management and Planning, which would maintain mitigation monitoring records for the proposed project. The MMP will be considered by The Regents in conjunction with project review and will be included as a condition of project approval.

The components of this table are addressed briefly below.

Mitigation Measures: The mitigation measures are taken verbatim from the Final EIR, and the numbers assigned the mitigation measures are the same as those presented in the Final EIR.

Monitoring and Reporting Procedure: Identifies the actions that must be completed to verify implementation of the mitigation measure.

Mitigation Timing: Identifies the timing for implementation of each action. Each entry in the table begins with a two-letter code. These codes indicate when the mitigation measure must be implemented in the typical project cycle in order to effectively accomplish the intended outcome. The meaning of these codes is as follows:

SS – During site selection

DE – During detailed project planning or project design, prior to project approval

CO – During construction

OC – Prior to occupancy

OP – During operation

Monitoring and Reporting Responsibility: Identifies the UC Davis office responsible for undertaking the required action and monitoring the mitigation measure. For construction-related impacts, the UC Davis Office of Architects and Engineers typically is responsible for mitigation measure implementation, monitoring, and reporting. For a very small portion of new construction projects, other campus offices (e.g., Operations and Maintenance, Purchasing, Business Contracts) may be responsible for administering construction contracts including selecting contractors, managing work, and accepting facilities on behalf of the University. When these circumstances occur, these other offices will be responsible for implementation of applicable mitigation measures.

In addition, for some measures, agencies other than the University may be responsible for implementation and monitoring. Such responsibility is denoted with an asterisk (*) in Table 2-3.

Table 2-1
Summary of Impacts and Mitigation Measures in the 2003 LRDP EIR

Impact		Level of Significance Prior to Mitigation[1]	Mitigation Measures		Level of Significance Following Mitigation[1]
4.1 Aesthetics					
4.1-1	Development under the 2003 LRDP could have an adverse effect on scenic vistas west across agricultural lands to the Coast Range.	S	4.1-1	The Campus Design Review Committee will consider scenic views while planning for projects under the 2003 LRDP to maintain scenic views to the extent feasible. Design considerations could include establishing open landscaping and deciduous trees along important view corridors.	SU
4.1-2	Development on campus from implementation of the 2003 LRDP could degrade the visual character of the campus by substantially degrading the valued elements of the visual landscape identified in the 2003 LRDP	PS	4.1-2(a)	New structures, roads, and landscaping at UC Davis shall be designed to be compatible with the visual elements and policies identified in the 2003 LRDP.	LS
			4.1-2(b)	Prior to design approval of development projects under the 2003 LRDP, the Campus Design Review Committee must determine that project designs are consistent with the valued elements of the visual landscape identified in the 2003 LRDP, applicable planning guidelines, and the character of surrounding development so that the visual character and quality of the project area are not substantially degraded.	
4.1-3	Development under the 2003 LRDP could create substantial light or glare on campus that could adversely affect daytime or nighttime views in the area.	PS	4.1-3(a)	Design for specific projects shall provide for the use of textured nonreflective exterior surfaces and nonreflective glass.	LS
			4.1-3(b)	Except as provided in LRDP Mitigation 4.1-3(c), all new outdoor lighting shall utilize directional lighting methods with shielded and cutoff type light fixtures to minimize glare and upward directed lighting.	

[1] NI: No impact; LS: Less than significant; PS: Potentially significant; S: Significant; SU: Significant and unavoidable

	Impact	Level of Significance Prior to Mitigation[1]	Mitigation Measures		Level of Significance Following Mitigation[1]
4.1-3			4.1-3(c)	Non-cutoff, non-shielded lighting fixtures used to enhance nighttime views of walking paths, specific landscape features, or specific architectural features shall be reviewed by the Campus Design Review Committee prior to installation to ensure that: (1) the minimum amount of required lighting is proposed to achieve the desired nighttime emphasis, and (2) the proposed illumination creates no adverse effect on nighttime views.	
			4.1-3(d)	The campus will implement the use of the specified lighting design and equipment when older lighting fixtures and designs are replaced over time.	
4.1-4	Development under the 2003 LRDP together with other development in the region could affect local scenic vistas west across agricultural lands to the Coast Range.	S	4.1-4(a)	Implement LRDP Mitigation 4.1-1.	SU
			4.1-4(b)	The Cities of Davis, Woodland, Winters, and Dixon, and Yolo and Solano counties can and should implement the General Plan policies that support the long-term establishment and preservation of scenic vistas.	
4.1-5	Development allowed under the 2003 LRDP, in conjunction with other development in the region, could substantially degrade the existing visual character or quality in the region.	S	4.1-5(a)	Implement LRDP Mitigation 4.1-2(a) and (b).	SU
			4.1-5(b)	The cities of Davis, Woodland, Winters, and Dixon and Yolo and Solano counties can and should implement policies in their plans that address the protection of scenic resources and maintenance of visual quality.	

[1] NI: No impact; LS: Less than significant; PS: Potentially significant; S: Significant; SU: Significant and unavoidable

	Impact	Level of Significance Prior to Mitigation[1]		Mitigation Measures	Level of Significance Following Mitigation[1]
4.1-6	Implementation of the 2003 LRDP together with cumulative development in the region would create new sources of light and glare that could adversely affect daytime or nighttime views in the region.	S	4.1-6(a)	Implement LRDP Mitigation 4.1-3(a) and (b).	SU
			4.1-6(b)	The City of Davis and other surrounding jurisdictions can and should adopt (if necessary) and implement development standards and guidelines which support the minimal use of site lighting for new developments.	
4.2 Agricultural Resources					
4.2-1	Growth under the 2003 LRDP would convert approximately 745 acres of prime farmland (as defined by the State Farmland Mapping and Monitoring Program) on campus to nonagricultural uses.	S	4.2-1	Prior to conversion of prime farmland to nonagricultural uses under the 2003 LRDP, the campus shall preserve approximately 525 acres of prime farmland either at the Russell Ranch, within the area designated for Teaching and Research Fields, or the Kidwell and McConeghy parcels for agricultural purposes (including agricultural teaching and research). The campus will preserve prime farmland at a one-to-one (1:1) mitigation ratio for prime farmland converted to developed uses and a one-third–to–one (1/3:1) ratio for prime farmland converted to habitat at Russell Ranch.	SU
4.2-2	Development allowed under the 2003 LRDP could result in changes in the existing environment, which, due to their location or nature could result in the conversion of farmland to non-agricultural use.	LS	4.2-2	Mitigation is not required.	LS
4.2-3	Cumulative development would result in the conversion of prime farmland, unique farmland, and/or farmland of statewide importance to nonagricultural use.	S	Implement LRDP Mitigation 4.2-1.		SU

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Impact		Level of Significance Prior to Mitigation[1]	Mitigation Measures		Level of Significance Following Mitigation[1]
4.3 Air Quality					
4.3-1	Implementation of the 2003 LRDP would result in daily operational emissions above the YSAQMD thresholds that may contribute substantially to a violation of air quality standards or hinder attainment of the regional air quality plan.	S	4.3-1(a)	Vehicular Sources. The following measures will be implemented to reduce emissions from vehicles, as feasible. • The campus shall continue to actively pursue Transportation Demand Management to reduce reliance on private automobiles for travel to and from the campus. • Provide pedestrian-enhancing infrastructure to encourage pedestrian activity and discourage vehicle use. • Provide bicycle facilities to encourage bicycle use instead of driving. • Provide transit-enhancing infrastructure to promote the use of public transportation. • Provide facilities to accommodate alternative-fuel vehicles such as electric cars and CNG vehicles. • Improve traffic flows and congestion by timing of traffic signals to facilitate uninterrupted travel. • When the campus purchases new vehicles, the campus will evaluate the practicality and feasibility of acquiring low-pollution vehicles that are appropriate for the task and will purchase these types of vehicles when practical and feasible. When replacing diesel engines in existing equipment, the campus will install up-to-date technology.	SU

[1] NI: No impact; LS: Less than significant; PS: Potentially significant; S: Significant; SU: Significant and unavoidable

Impact		Level of Significance Prior to Mitigation[1]	Mitigation Measures	Level of Significance Following Mitigation[1]
4.3-1			4.3-1(b) Area Sources. The following measures will be implemented to reduce emissions from area sources, as feasible. • Use solar or low-emission water heaters in new or renovated buildings. • Orient buildings to take advantage of solar heating and natural cooling and use passive solar designs. • Increase wall and attic insulation in new or renovated buildings. • For fireplaces or wood-burning appliances, require low-emitting EPA certified wood-burning appliances, or residential natural-gas fireplaces. • Provide electric equipment for landscape maintenance. 4.3-1(c) The campus will work with the YSAQMD to ensure that emissions directly and indirectly associated with the campus are adequately accounted for and mitigated in applicable air quality planning efforts. The YSAQMD can and should adopt adequate measures consistent with applicable law to ensure that air quality standard violations are avoided.	
4.3-2	Implementation of the 2003 LRDP would not contribute substantially to a violation of CO standards or expose receptors to substantial CO concentrations associated with vehicular traffic.	LS	Mitigation is not required.	LS

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Impact		Level of Significance Prior to Mitigation[1]	Mitigation Measures		Level of Significance Following Mitigation[1]
4.3-3	Emissions from construction activities associated with the 2003 LRDP would exceed YSAQMD thresholds.	S	4.3-3(a)	The campus shall include in all construction contracts the measures specified below to reduce fugitive dust impacts, including but not limited to the following: • All disturbed areas, including storage piles, which are not being actively utilized for construction purpose, shall be effectively stabilized of dust emissions using water, chemical stabilizer/suppressant, or vegetative ground cover. • All on-site unpaved roads and off-site unpaved access roads shall be effectively stabilized of dust emissions using water or chemical stabilizer/suppressant. • All land clearing, grubbing, scraping, excavation, land leveling, grading, cut and fill, and demolition activities shall be effectively controlled of fugitive dust emissions utilizing application of water or by presoaking. • When demolishing buildings up to six stories in height, all exterior surfaces of the building shall be wetted during demolition. • When materials are transported off-site, all material shall be covered, effectively wetted to limit visible dust emissions, or at least two feet of freeboard space from the top of the container shall be maintained.	SU

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Impact		Level of Significance Prior to Mitigation[1]	Mitigation Measures	Level of Significance Following Mitigation[1]
4.3-3			• All operations shall limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets at least once every 24 hours when operations are occurring. The use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions. Use of blower devices also is expressly forbidden. • Following the addition of materials to, or the removal of materials from, the surface of outdoor storage piles, said piles shall be effectively stabilized of fugitive dust emissions by utilizing sufficient water or chemical stabilizer/suppressant. 4.3-3(b) The campus shall include in construction contracts for large construction projects near receptors, the following control measures: • Limit traffic speeds on unpaved roads to 15 mph. • Install sandbags or other erosion control measures to prevent silt runoff to public roadways from sites with a slope greater than one percent. • To the extent feasible, limit area subject to excavation, grading, and other construction activity at any one time. • Limit the area subject to excavation, grading, and other construction activity at any one time.	

[1] NI: No impact; LS: Less than significant; PS: Potentially significant; S: Significant; SU: Significant and unavoidable

	Impact	Level of Significance Prior to Mitigation[1]	Mitigation Measures	Level of Significance Following Mitigation[1]
4.3-3			4.3-3(c) The campus shall implement the following control measures to reduce emissions of ozone precursors from construction equipment exhaust: • To the extent that equipment is available and cost effective, the campus shall encourage contractors to use alternate fuels and retrofit existing engines in construction equipment. • Minimize idling time to a maximum of 5 minutes when construction equipment is not in use. • To the extent practicable, manage operation of heavy-duty equipment to reduce emissions. • To the extent practicable, employ construction management techniques such as timing construction to occur outside the ozone season of May through October, or scheduling equipment use to limit unnecessary concurrent operation.	
4.3-4	Implementation of the 2003 LRDP would not create objectionable odors that could affect a substantial number of persons.	LS	Mitigation is not required.	LS
4.3-5	Implementation of the 2003 LRDP would not expose campus occupants and other populations in the vicinity of the campus to substantial air toxics concentrations.	LS	Mitigation is not required.	LS
4.3-6	Implementation of the 2003 LRDP, in conjunction with other regional development, would result in a cumulatively considerable increase of non-attainment pollutants.	S	4.3-6 Implement LRDP Mitigation 4.3-1(a-c).	SU

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	Impact	Level of Significance Prior to Mitigation[1]	Mitigation Measures		Level of Significance Following Mitigation[1]
4.3-7	Implementation of the 2003 LRDP, in conjunction with cumulative development in the region, would not contribute to a cumulatively considerable increase in or expose receptors to substantial CO concentrations.	LS	Mitigation is not required.		LS
4.3-8	Regional growth could result in an increase in toxic air contaminants if compensating technological improvements are not implemented.	PS	4.3-8	EPA and CARB are expected to continue the development and implementation of programs to reduce air toxics, and UC Davis will continue its efforts in this area.	LS
4.4 Biological Resources					
4.4-1	Development allowed under the 2003 LRDP could result in the loss of the special-status plant species or species that may be added to the special-status plant list in the future.	PS	4.4-1(a)	During the project planning phase, the campus shall conduct a rare plant survey if the site was previously undeveloped and is in a valley-foothill riparian, open water pond, riverine, wetland or ruderal/annual grassland or habitat. Surveys shall be conducted by qualified biologists in accordance with the most current CDFG/USFWS guidelines or protocols and shall be conducted during the blooming period of the plant species with potential to occur in the area, as listed in Table 4.4-2. If these surveys reveal no occurrences of any species, then no further mitigation would be required.	LS

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Impact		Level of Significance Prior to Mitigation[1]	Mitigation Measures		Level of Significance Following Mitigation[1]
4.4-1			4.4-1(b)	Should surveys determine that special-status plant species are present, measures will be taken to avoid the plants and the associated habitat necessary for long-term maintenance of the population. If avoidance is not feasible the campus will provide off-site compensation at a 1:1 ratio. Off-site compensation will include preservation of existing populations at other sites and/or enhancement of the affected species. The campus will preserve either an equal number of the affected plants or an equal area of the affected species habitat. The campus shall also develop and fund the implementation of a plan to manage and monitor the preserve to ensure the long-term survival of the preserved population.	
4.4-2	Development allowed under the 2003 LRDP would result in the conversion of approximately 550 acres of Agricultural Land and Ruderal/Annual Grassland habitat to campus-related development which would result in the loss of general wildlife habitat for resident and migratory species, including foraging habitat for the Swainson's hawk.	S	4.4-2	The campus shall mitigate the loss of foraging habitat due to development through the establishment of 650 acres of mitigation lands within or near the Putah Creek Riparian Reserve. Approximately 370 acres of this area shall be converted from existing agricultural uses to restored Valley-Foothill Riparian Woodland and Valley Grassland at Russell Ranch. An additional 280 acres of agricultural land will be protected with a habitat and farmland conservation mechanism either at Russell Ranch or the Kidwell and McConeghy parcels. These grassland and agricultural lands would be available as foraging habitat for Swainson's hawk and other special-status species such as prairie falcon, golden eagle, wintering or migrating birds and birds of prey that may occasionally forage on campus lands. Restored Valley-Foothill Riparian Habitat would be available as nesting habitat for Swainson's hawk and other birds of prey.	LS

[1] NI: No impact; LS: Less than significant; PS: Potentially significant; S: Significant; SU: Significant and unavoidable

Impact		Level of Significance Prior to Mitigation[1]	Mitigation Measures		Level of Significance Following Mitigation[1]
4.4-2				An additional 15-acre mitigation area shall be established along the North Fork Cutoff. This area shall be restored as an oak-grassland and would be a nesting and foraging site for Swainson's hawk and other birds of prey.	
4.4-3	Development allowed under the 2003 LRDP would result in the conversion of approximately 65 acres of Agricultural Land and Ruderal/Annual Grassland habitat suitable for burrowing owls to campus-related development.	PS	4.4-3(a)	The Russell Ranch Mitigation Area shall include 195 acres of grassland habitat suitable for use by burrowing owls. Ground squirrels in the mitigation area shall not be subject to control measures and will be allowed to fluctuate in response to local conditions. Artificial burrows may be installed if ground squirrel populations are not providing a sufficient number of burrows to support burrowing owls.	LS
			4.4-3(b)	The campus shall survey proposed development areas with potential habitat for the presence or absence of burrowing owls.	
			4.4-3(c)	The campus shall conduct a pre-construction survey of proposed project sites during the breeding season (from approximately February 1 through August 31), consistent with CDFG guidelines, in the same calendar year that construction is planned to begin. The survey shall be conducted by a qualified biologist to determine if any burrowing owls are nesting on or directly adjacent to any proposed project site. If phased construction procedures are planned for the proposed project, the results of the above survey shall be valid only for the season when it is conducted.	

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Impact		Level of Significance Prior to Mitigation[1]	Mitigation Measures		Level of Significance Following Mitigation[1]
4.4-3				If the pre-construction breeding season survey does not identify any nesting raptor species on the project site, then no further mitigation would be required. However, should any burrowing owls be found nesting on the project site, then LRDP Mitigation 4.4-3(d) shall be implemented.	
			4.4-3(d)	During the breeding season, the campus, consistent with CDFG guidelines, shall not disturb an occupied burrowing owl burrow while there is an active nest and/or juvenile owls are present. Avoidance shall include the establishment of a non-disturbance buffer zone around the nest site consistent with CDFG guidelines. The buffer zone shall be delineated by highly visible temporary construction fencing. The occupied nest site shall be monitored by a qualified biologist to determine when the juvenile owl is fledged and independent. Disturbance of an occupied burrow shall only occur outside of the breeding season and when there is no nest or juvenile owl based on monitoring by a CDFG-approved biologist. Based on approval by CDFG, pre-construction and pre-breeding season exclusion measures may be implemented to preclude burrowing owl occupation of the project site prior to project-related disturbance. These include the following measures:	

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Impact		Level of Significance Prior to Mitigation[1]	Mitigation Measures	Level of Significance Following Mitigation[1]
4.4-3			• Obviously inactive burrows in the project area will be closed. Active or potentially active ground squirrel burrows will be monitored to confirm use by ground squirrels and not by burrowing owls before ground squirrels are removed and the burrow is closed. One-way doors will be used on active burrows if use by ground squirrels cannot be confirmed. • Where feasible, artificial burrows will be provided in adjacent suitable habitat consistent with CDFG guidelines. • The owls will be displaced from the occupied burrows according to the CDFG burrowing owl guidelines. The owls will be displaced from their burrows by installing one-way exit doors in occupied or potential burrows within the area of disturbance. After 48 hours with the doors in place, the burrows will then be closed to prevent reoccupation by owls.	

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Impact		Level of Significance Prior to Mitigation[1]	Mitigation Measures		Level of Significance Following Mitigation[1]
4.4-4	Development allowed under the 2003 LRDP could result in the failure of nesting efforts by nesting raptors, including Swainson's hawks or other birds of prey.	PS	4.4-4(a)	The campus shall conduct a pre-construction survey of trees on and adjacent to a project site during the raptor breeding season (approximately March 1 to August 31). Additionally, the campus shall conduct surveys within a ½-mile radius of the site to determine the presence or absence of any nesting Swainson's hawks. The surveys shall be conducted by a qualified biologist during the same calendar year that the proposed activity is planned to begin to determine if any nesting birds-of-prey would be affected. If phased construction procedures are planned for the proposed activity, the results of the above survey shall be valid only for the season when it is conducted. If any Swainson's hawks are nesting within a one-half-mile radius of the project site or if other raptors are nesting in, on or adjacent to the project site, a qualified biologist shall determine the potential for disturbance to nesting raptors, including Swainson's hawks. If the biologist determines that there is a significant potential for disturbance, the campus shall implement feasible changes in the construction schedule or make other appropriate adjustments to the project in response to the specific circumstances. If feasible project changes are not readily identifiable, the campus will consult with CDFG to determine what actions should be taken to protect the nesting efforts. If after five years, a previously recorded nest site remains unoccupied by a Swainson's hawk, it will no longer be considered as a Swainson's hawk nest site subject to this mitigation.	LS

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Impact		Level of Significance Prior to Mitigation[1]	Mitigation Measures		Level of Significance Following Mitigation[1]
4.4-4			4.4-4(b)	The campus shall continue to conduct annual surveys to determine the location of nesting Swainson's hawks and other birds of prey on the campus outside the Putah Creek corridor. If nesting Swainson's hawks are found during the survey at a previously unknown location within one-half mile of a project site and/or at a location closer to the project or more visually exposed to the project site than a nearby previously documented site, a qualified biologist shall, prior to project construction, determine the potential for disturbance to nesting Swainson's hawks. If the biologist determines that there is a significant potential for disturbance, the campus shall implement feasible changes in the construction schedule or make other appropriate adjustments to the project in response to the specific circumstances (e.g., relocating noisy equipment or creating temporary sound barriers). The implementation of LRDP Mitigations 4.4-4(a) and (b) shall be conducted under the supervision of a biologist whose qualifications include: • A bachelor's degree in biology or a related field; • Two years of field experience related to nesting raptors; and • Prior construction monitoring experience. Further: • All decisions of the qualified biologist shall be made in consultation with the California Department of Fish and Game;	

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4.4-4				• Monitoring shall be conducted for a sufficient time (minimum of 3 consecutive days following the initiation of construction) to verify that the nesting pair does not exhibit significant adverse reaction to construction activities (i.e., changes in behavioral patterns, reactions to construction noise, etc.); and • Nest site monitoring will continue for a minimum of once a week through the nesting cycle at that nest.	
4.4-5	Development allowed under the 2003 LRDP would result in the loss of active nest sites for the Swainson's hawk.	PS	4.4-5	Mitigation 4.4-4(a) and (b) will be implemented, including pre-construction survey of trees on and adjacent to a project site during the raptor breeding season (approximately March 1 to August 31). If a Swainson's hawk nest tree is present, the tree will be removed outside the nesting season (March-May).	LS
4.4-6	Development allowed under the 2003 LRDP would result in the loss of potential habitat for the VELB.	PS	4.4-6(a)	During the project design stage and as a condition of project approval, the campus shall: • Conduct a project-specific survey for all potential VELB habitat, including a stem count and an assessment of historic or current VELB use; and • Avoid and protect all potential VELB habitat within a natural open space area where feasible.	LS

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4.4-6			4.4-6(b)	For those areas where avoidance is infeasible, the Russell Ranch Mitigation Area shall include approximately 20 acres within and adjacent to the riparian corridor of Putah Creek and within and adjacent to the existing drainage in the northeast corner of the site that will be used as a receptor site for transplanted elderberry shrubs and the associated elderberry seedlings and other native plant seedlings required to be planted in accordance with the USFWS VELB Mitigation Guidelines (USFWS 1996). The site is estimated to support between 100 and 500 transplanted elderberry shrubs, depending on the size and number of stems on the shrubs at the time they are transplanted.	
4.4-7	Development allowed under the 2003 LRDP could result in the loss of potential habitat for the northwestern pond turtle from drainage improvement projects, bank stabilization measures and landscape maintenance activities within Riverine habitat along Putah Creek and the Arboretum waterway.	PS	4.4-7	The campus shall implement avoidance and minimization measures for the northwestern pond turtle, including but not limited to: • Pre-construction surveys prior to any disturbance of the project site • Installation of silt fencing to prevent any pond turtles from entering the construction area • If work is performed in the water, seining of the area surrounding the site to relocate any northwestern pond turtles present	LS

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	Impact	Level of Significance Prior to Mitigation[1]		Mitigation Measures	Level of Significance Following Mitigation[1]
4.4-8	Development allowed under the 2003 LRDP could result in the loss or adverse modification of natural wetlands or other waters of the U.S. that fall under the jurisdiction of the ACOE and/or CDFG.	PS	4.4-8(a)	During the project design phase, the campus shall conduct a wetlands delineation of the project site if wetlands are potentially present. The wetland delineation shall be verified by the ACOE. Should no wetland habitats or natural drainages be delineated on the site then no further mitigation shall be required. However, if any jurisdictional wetland habitats or natural drainages are delineated on a project site, then LRDP Mitigation 4.4-8(b) shall be required.	LS
			4.4-8(b)	For projects that involve the fill of jurisdictional wetlands, the campus shall implement the following mitigation program that will ensure no net loss of wetland functions and values. To the extent feasible, the campus will avoid filling wetlands by redesigning the project to promote environmentally sensitive siting and design. If avoidance is not feasible, the campus shall minimize the fill acreage. If neither of these options is feasible, the wetlands will be mitigated for at a 3:1 ratio. This ratio will include both creation and preservation, with creation equaling at least a 1:1 ratio. To ensure no net loss of wetlands, the mitigation should include wetland enhancement as well. This would include monitoring, cleanup, and maintenance of preserved wetland habitats within and adjacent to the campus, as necessary.	

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4.4-8			4.4-8(c) The campus shall obtain the necessary ACOE, CDFG, and RWQCB permits prior to filling or other adverse modifications of any verified jurisdictional water of the U.S., or alteration, filling or modification of the channel, bed or bank of Putah Creek, South Fork of Putah Creek, Arboretum Waterway or any other natural drainage regulated under Section 1600 of the CDFG code.	
4.4-9	Development of the 2003 LRDP would not interfere substantially with the movement of any native resident or migratory fish, or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.	LS	Mitigation is not required.	
4.4-10	Development of the 2003 LRDP could potentially result in an adverse effect, either directly or through habitat modification, on special status fish species.	PS	4.4-10(a) Any work conducted within the creek will be constructed outside of the migration season (September 1 and October 15) to the extent feasible. 4.4-10(b) If construction activities are to be conducted in the water during the migration season: • Silt curtains will be used at the construction location. • Water quality will be evaluated during and after all in-water construction activities. The performance criteria shall be no degradation of downstream water quality compared to upstream water quality. Water quality shall be evaluated by a qualified environmental monitor using appropriate qualitative or quantitative measurements. Remedial measures shall be implemented if downstream water quality is degraded. Remedial measures shall include the following:	

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4.4-10			– Modification or suspension of in-water construction activities as appropriate; – Installation of additional sediment control devices; and – Additional monitoring to evaluate the water quality degradation and identify corrective measures. • The University shall coordinate with the California Department of Fish and Game, the Regional Water Quality Control Board, and the U.S. Army Corps of Engineers as appropriate to determine whether additional remedial measures are required. 4.4-10(c) Silt fencing will be installed as appropriate along the edges of the creek to prevent excess fill from entering the water. All silt fences will be maintained and checked for efficacy as necessary, but not less frequently than one time per week.	LS

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4.4-11	Development under the 2003 LRDP could result in the removal of trees recognized to meet the campus' standards for important trees, including: a. *Heritage Trees:* Healthy valley oak trees with trunk diameters of 33 inches or greater at a height of 54 inches from the ground. b. *Specimen Trees:* Healthy trees or stands of trees that are of high value to the campus due to their size, species, extraordinary educational and research value, and/or other exceptional local importance.	PS	4.4-11	Before a project is approved under the 2003 LRDP, the campus will perform a tree survey of the project site. Grounds, the Office of Resource Management and Planning, and the Office of Architects and Engineers will provide input about tree classifications and will modify project design to avoid important trees if feasible. If a project cannot avoid an important tree, the following will apply: a If a project would necessitate removal of a Heritage Tree, no mitigation would be available to fully mitigate the impact, and the impact would be significant and unavoidable. However, implementation of Mitigation 4.4-2 would restore Valley Riparian Woodland habitat at Russell Ranch, and plantings in this area would include valley oaks. b If a project would necessitate removal of a Specimen Tree, the project would relocate the tree if feasible, or would replace the tree with the same species or species of comparable value (relocation or replacement should occur within the project area if feasible). This would reduce the impact to a less-than-significant level.	a. SU b. LS
4.4-12	Development allowed under the 2003 LRDP would contribute 550 acres to the cumulative loss in the region of over 1,500 acres of Agricultural Land and Ruderal/Annual Grassland habitat for resident and migratory wildlife species including Swainson's hawks and burrowing owls.	S	4.4-12	Implementation of LRDP Mitigations 4.4-1(a), (b), and (c); 4.4-2(a) and (b); 4.4-3(a) and (b); and 4.4-7(a) in combination with the Yolo County NCCP and Solano County HCP, including compliance with the regulatory and permitting requirements imposed by the USFWS and the CDFG.	SU

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Impact		Level of Significance Prior to Mitigation[1]	Mitigation Measures		Level of Significance Following Mitigation[1]
4.4-13	Development allowed under the 2003 LRDP could contribute to the cumulative loss in the region of wetland and riparian habitat for resident and migratory wildlife species and special status plants.	S	4.4-13	Implementation of LRDP Mitigation Measures 4.4-1(a)-(b) and 4.4-8(a)-(c) in combination with the Yolo County NCCP and Solano County HCP, including compliance with the regulatory and permitting requirements imposed by the USFWS and the CDFG.	SU
4.4-14	Development allowed under the 2003 LRDP could contribute to the cumulative loss of valley elderberry beetle habitat.	S	4.4-14	Implementation of LRDP Mitigations 4.4-6(a) and (b), in combination with the Yolo County NCCP and Solano County HCP, including compliance with the regulatory and permitting requirements imposed by the U.S. Fish and Wildlife Service and the California Department of Fish and Game.	SU
4.4-15	Development of the 2003 LRDP would not contribute to a cumulative adverse impact on special status fish species.	LS	Mitigation is not required.		LS
4.5 Cultural Resources					
4.5-1	Implementation of the 2003 LRDP could damage or destroy an archaeological resource or historic building or structure as the result of grading, excavation, ground disturbance or other project development.	PS	4.5-1(a)	As early as possible in the project planning process, the campus shall define the project's area of potential effects (APE) for archaeological resources and, if structures are present on the site, for historic structures. The campus shall determine the potential for the project to result in cultural resource impacts, based on the extent of ground disturbance and site modification anticipated for the proposed project. Based on this information, the campus shall:	

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4.5-1			(i) Prepare an inventory of all buildings and structures within the APE that will be 50 years of age or older at the time of project construction for review by a qualified architectural historian. If no structures are present on the site, there would be no impact to historic built environment resources from the project. If potentially historic structures are present, LRDP Mitigation 4.5-1(c) shall be implemented. (ii) Determine the level of archaeological investigation that is appropriate for the project site and activity, as follows: • Minimum: excavation less than 18 inches deep and in a relatively small area (e.g., a trench for lawn irrigation, tree planting, etc.). Implement LRDP Mitigation 4.5-1(b)(i). • Moderate: excavation below 18 inches deep and/or over a large area on any site that has not been characterized and is not suspected to be a likely location for archaeological resources. Implement LRDP Mitigation 4.5-1 (b)(i) and (ii). • Intensive: excavation below 18 inches and/or over a large area on any site that is within 800 feet of the historic alignment of Putah Creek, or that is adjacent to a recorded archaeological site. Implement LRDP Mitigation 4.5-1 (i), (ii) and (iii).	LS

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Impact		Level of Significance Prior to Mitigation[1]	Mitigation Measures	Level of Significance Following Mitigation[1]
4.5-1			4.5-1(b) During the planning phase of the project, the campus shall implement the following steps to identify and protect archaeological resources that may be present in the APE: (i) For project sites at all levels of investigation, contractor crews shall be required to attend an informal training session prior to the start of earth moving, regarding how to recognize archaeological sites and artifacts. In addition, campus employees whose work routinely involves disturbing the soil shall be informed how to recognize evidence of potential archaeological sites and artifacts. Prior to disturbing the soil, contractors shall be notified that they are required to watch for potential archaeological sites and artifacts and to notify the campus if any are found. In the event of a find, the campus shall implement item (vi), below. (ii) For project sites requiring a moderate or intensive level of investigation, a surface survey shall be conducted by a qualified archaeologist during project planning and design and prior to soil disturbing activities. For sites requiring moderate investigation, in the event of a surface find, intensive investigation will be implemented, as per item (iii), below. Irrespective of findings, the qualified archaeologist shall, in consultation with the campus, develop an archaeological monitoring plan to be implemented during the construction phase of the project. The frequency and duration of monitoring shall be adjusted in accordance with survey results, the nature of construction activities, and results during the monitoring	

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Impact		Level of Significance Prior to Mitigation[1]	Mitigation Measures	Level of Significance Following Mitigation[1]
4.5-1			period. In the event of a discovery, the campus shall implement item (vi), below. (iii) For project sites requiring intensive investigation, irrespective of subsurface finds, the campus shall retain a qualified archaeologist to conduct a subsurface investigation of the project site, to ascertain whether buried archaeological materials are present and, if so, the extent of the deposit relative to the project's area of potential effects. If an archaeological deposit is discovered, the archaeologist will prepare a site record and file it with the California Historical Resource Information System. (iv) If it is determined through step (iii), above, that the resource extends into the project's area of potential effects, the resource will be evaluated by a qualified archaeologist, who will determine whether it qualifies as a historical resource or a unique archaeological resource under the criteria of CEQA Guidelines § 15064.5. If the resource does not qualify, or if no resource is present within the project area of potential effects (APE), this will be noted in the environmental document and no further mitigation is required unless there is a discovery during construction (see (vi), below).	

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Impact		Level of Significance Prior to Mitigation[1]	Mitigation Measures	Level of Significance Following Mitigation[1]
4.5-1			(v) If a resource within the project APE is determined to qualify as an historical resource or a unique archaeological resource (as defined by CEQA), the campus shall consult with the qualified archaeologist to consider means of avoiding or reducing ground disturbance within the site boundaries, including minor modifications of building footprint, landscape modification, the placement of protective fill, the establishment of a preservation easement, or other means that will permit avoidance or substantial preservation in place of the resource. If avoidance or substantial preservation in place is not possible, the campus shall implement LRDP Mitigation 4.5-2(a). (vi) If a resource is discovered during construction (whether or not an archaeologist is present), all soil disturbing work within 100 feet of the find shall cease. The campus shall contact a qualified archaeologist to provide and implement a plan for survey, subsurface investigation as needed to define the deposit, and assessment of the remainder of the site within the project area to determine whether the resource is significant and would be affected by the project. LRDP Mitigation 4.5-1(b), steps (iii) through (vii) shall be implemented. (vii) A written report of the results of investigations will be prepared by a qualified archaeologist and filed with the appropriate Information Center of the California Historical Resources Information System.	

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Impact		Level of Significance Prior to Mitigation[1]	Mitigation Measures	Level of Significance Following Mitigation[1]
4.5-1			4.5-1(c) (i) Before altering or otherwise affecting a building or structure 50 years old or older, the campus shall retain a qualified architectural historian to record it on a California Department of Parks and Recreation DPR 523 form or equivalent documentation. Its significance shall be assessed by a qualified architectural historian, using the significance criteria set forth for historic resources under CEQA Guidelines Section 15064.5. The evaluation process shall include the development of appropriate historical background research as context for the assessment of the significance of the structure in the history of the University system, the campus, and the region. For historic buildings, structures or features that do not meet the CEQA criteria for historical resource, no further mitigation is required and the impact is less than significant. (ii) For a building or structure that qualifies as a historic resource, the architectural historian and the campus shall consult to consider measures that would enable the project to avoid direct or indirect impacts to the building or structure. These could include preserving a building on the margin of the project site, using it "as is," or other measures that would not alter the building. If the project cannot avoid modifications to a significant building or structure, the campus shall implement LRDP Mitigation 4.5-2.	

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	Impact	Level of Significance Prior to Mitigation[1]		Mitigation Measures	Level of Significance Following Mitigation[1]
4.5-2	Implementation of the LRDP could cause a substantial adverse change in the significance of a historical resource or unique archaeological resource, as defined in CEQA guidelines 15064.5, as the result of ground disturbance, alteration, removal or demolition associated with project development.	S	4.5-2(a)	For an archaeological site that has been determined by a qualified archaeologist to qualify as an historical resource or a unique archaeological resource through the process set forth under LRDP Mitigation 4.5-1(b), and where it has been determined under LRDP Mitigation 4.5-1(b) that avoidance or preservation in place is not feasible, a qualified archaeologist, in consultation with the campus, shall: (i) Prepare a research design and archaeological data recovery plan for the recovery that will capture those categories of data for which the site is significant, and implement the data recovery plan prior to or during development of the site. (ii) Perform appropriate technical analyses, prepare a full written report and file it with the appropriate information center, and provide for the permanent curation of recovered materials. (iii) If, in the opinion of the qualified archaeologist and in light of the data available, the significance of the site is such that data recovery cannot capture the values that qualify the site for inclusion on the CRHR, the campus shall reconsider project plans in light of the high value of the resource, and implement more substantial modifications to the proposed project that would allow the site to be preserved intact, such as project redesign, placement of fill, or project relocation or abandonment. If no such measures are feasible, the campus shall implement LRDP Mitigation 4.5-3.	LS

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Impact		Level of Significance Prior to Mitigation[1]	Mitigation Measures	Level of Significance Following Mitigation[1]
4.5-2			4.5-2(b) For a structure or building that has been determined by a qualified architectural historian to qualify as an historical resource through the process set forth under LRDP Mitigation 4.5-1(c), and where it has been determined under LRDP Mitigation 4.5-1(c) that avoidance is not feasible, documentation and treatment shall be carried out as described below: (i) If the building or structure can be preserved on site, but remodeling, renovation or other alterations are required, this work shall be conducted in compliance with the "Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings" (Weeks and Grimmer 1995). (ii) If a significant historic building or structure is proposed for major alteration or renovation, or to be moved and/or demolished, the campus shall ensure that a qualified architectural historian thoroughly documents the building and associated landscaping and setting. Documentation shall include still and video photography and a written documentary record of the building to the standards of the Historic American Building Survey (HABS) or Historic American Engineering Record (HAER), including accurate scaled mapping, architectural descriptions, and scaled architectural plans, if available. A copy of the record shall be deposited with the University archives, Shields Library Special Collections. The record shall be accompanied by a report	

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4.5-2			containing site-specific history and appropriate contextual information. This information shall be gathered through site specific and comparative archival research, and oral history collection as appropriate. (iii) If preservation and reuse at the site are not feasible, the historical building shall be documented as described in item (ii) and, when physically and financially feasible, be moved and preserved or reused. (iv) If, in the opinion of the qualified architectural historian, the nature and significance of the building is such that its demolition or destruction cannot be fully mitigated through documentation, the campus shall reconsider project plans in light of the high value of the resource, and implement more substantial modifications to the proposed project that would allow the structure to be preserved intact. These could include project redesign, relocation or abandonment. If no such measures are feasible, the campus shall implement LRDP Mitigation 4.5-3.	

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Impact		Level of Significance Prior to Mitigation[1]	Mitigation Measures		Level of Significance Following Mitigation[1]
4.5-3	Implementation of the LRDP could cause a substantial adverse change in the significance of a historical resource or unique archaeological resource, as defined in CEQA guidelines 15064.5, and the values that contribute to the significance of the resource cannot be preserved through documentation and data recovery.	S	4.5-3	If a significant historic resource or unique archaeological resource cannot be preserved intact, before the property is damaged or destroyed the campus shall ensure that the resource is appropriately documented, as follows. (i) For a built environment feature, appropriate documentation is described under LRDP 4.5-2(b)(iii). (ii) For an archaeological site, a program of research-directed data recovery shall be conducted and reported, consistent with LRDP Mitigation 4.5-2(a).	SU*
4.5.4	Implementation of the 2003 LRDP could disturb human remains, including those interred outside of formal cemeteries.	PS	4.5-4(a)	Implement LRDP Mitigation 4.5-1, 4.5-2 and 4.5-3 to minimize the potential for disturbance or destruction of human remains in an archaeological context and to preserve them in place, if feasible.	LS
			4.5-4(b)	Provide a representative of the local Native American community an opportunity to monitor any excavation (including archaeological excavation) within the boundaries of a known Native American archaeological site.	

* Significant and unavoidable conclusion applies only to a potential limited number of projects where documentation and recordation may not be adequate mitigation.
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Impact		Level of Significance Prior to Mitigation[1]	Mitigation Measures		Level of Significance Following Mitigation[1]
4.5-4			4.5-4(c)	In the event of a discovery on campus of human bone, suspected human bone, or a burial, all excavation in the vicinity will halt immediately and the area of the find will be protected until a qualified archaeologist determines whether the bone is human. If the qualified archaeologist determines the bone is human, or if a qualified archaeologist is not present, the campus will notify the Yolo or Solano County Coroner (depending on the county of the find) of the find before additional disturbance occurs. Consistent with California Health and Safety Code §7050.5(b), which prohibits disturbance of human remains uncovered by excavation until the Coroner has made a finding relative to PRC 5097 procedures, the campus will ensure the remains and vicinity of the find are protected against further disturbance. If it is determined that the find is of Native American origin, the campus will comply with the provisions of PRC § 5097.98 regarding identification and involvement of the Native American Most Likely Descendant (MLD).	

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Impact		Level of Significance Prior to Mitigation[1]	Mitigation Measures		Level of Significance Following Mitigation[1]
4.5-4			4.5-4 (d)	If human remains cannot be left in place, the campus shall ensure that the qualified archaeologist and the MLD are provided opportunity to confer on archaeological treatment of human remains, and that appropriate studies, as identified through this consultation, are carried out prior to reinterment. The campus shall provide results of all such studies to the local Native American community, and shall provide an opportunity of local Native American involvement in any interpretative reporting. As stipulated by the provisions of the California Native American Graves Protection and Repatriation Act, the campus shall ensure that human remains and associated artifacts recovered from campus projects on state lands are repatriated to the appropriate local tribal group if requested.	
4.5-5	Development under the 2003 LRDP would contribute to cumulative damage to and loss of the resource base of unique archaeological resources and historical resources (including archaeological sites and historic buildings and structures) in Yolo and Solano counties.	S	4.5-5	Implement LRDP Mitigations 4.5-1 through 4.5-4.	SU
4.6 Geology, Soils, and Seismicity					
4.6-1	Implementation of the 2003 LRDP would not expose people and structures on campus to potentially adverse effects associated with seismic ground shaking or seismic-related ground failure.	LS	Mitigation is not required.		LS

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	Impact	Level of Significance Prior to Mitigation[1]	Mitigation Measures	Level of Significance Following Mitigation[1]
4.6-2	Development under the 2003 LRDP could occur on a geologic unit or soil that is unstable or that would become unstable as a result of the project and could result in on- or offsite lateral spreading, subsidence, liquefaction, or collapse but would not create potential risks to life or property.	LS	Mitigation is not required.	LS
4.6-3	Implementation of the 2003 LRDP could result in construction of campus facilities on expansive soil, but would not create potential risks to life or property.	LS	Mitigation is not required.	LS
4.6-4	Implementation of the 2003 LRDP could result in the construction of septic tanks or alternative wastewater disposal systems in areas on campus where soils are not capable of adequately supporting them.	PS	4.6-4 Site-specific percolation testing or test borings shall be performed as part of the site analysis process at sites where septic tank disposal systems are proposed to determine if the soils are capable of adequately supporting them. The campus shall follow guidelines for septic system design provided in the Uniform Plumbing Code.	LS
4.6-5	Cumulative development including the development on campus under the 2003 LRDP, could expose people or structures to potential adverse effects involving seismic ground shaking.	LS	Mitigation is not required.	LS

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Impact		Level of Significance Prior to Mitigation[1]	Mitigation Measures		Level of Significance Following Mitigation[1]
4.7 Hazards and Hazardous Materials					
4.7-1	Implementation of the 2003 LRDP would increase routine hazardous chemical use on campus by UC Davis laboratories and departments and in maintenance and support operations, which would not create significant hazards to the public or the environment.	LS	4.7-1	The campus shall continue to implement the same (or equivalent) safety plans, programs, practices, and procedures related to the use, storage, and disposal of hazardous chemical materials during the 2003 LRDP planning horizon, including, but not necessarily limited to, the Business Plan, Hazardous Materials Communication Program, Chemical Inventory System, CUPA Self-Audit program, Injury and Illness Prevention Program, Chemical Hygiene Plans, Medical Surveillance Program, Chemical Safety Advisory Committee, Chemical Carcinogen Safety Program, and EH&S audits and safety training. These programs may be replaced by other programs that incorporate similar health and safety measures.	LS
4.7-2	Implementation of the 2003 LRDP could increase routine generation of hazardous wastes on campus by UC Davis laboratories and departments and from maintenance and support operations, which would not create hazards to the public or the environment.	LS	4.7-2(a) 4.7-2(b)	Implement LRDP Mitigation 4.7-1. The campus shall continue to implement the same (or equivalent) hazardous waste management programs during the 2003 LRDP planning horizon, including, but not necessarily limited to, hazardous waste storage and handling procedures, the waste minimization program, the pretreatment program, and the Waste Exclusion Program. These programs may be subject to modification as more stringent standards are developed or if the programs become obsolete through replacement by other programs that incorporate similar health and safety protection measures.	LS

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	Impact	Level of Significance Prior to Mitigation[1]		Mitigation Measures	Level of Significance Following Mitigation[1]
4.7-3	Implementation of the 2003 could increase routine use of radioactive materials on campus by UC Davis laboratories, which would not create significant hazards to the public or the environment.	LS	4.7-3(a)	Implement LRDP Mitigation 4.7-1.	LS
			4.7-3(b)	The campus shall continue to implement the same (or equivalent) Health Physics Program during the 2003 LRDP planning horizon. This program may be subject to modification as more stringent standards are developed or if the program becomes obsolete through replacement by other programs that incorporate similar health and safety protection measures.	
4.7-4	Implementation of the 2003 LRDP could increase routine generation of radioactive wastes on campus by UC Davis laboratories, which would not create significant hazards to the public or the environment.	LS	4.7-4(a)	Implement LRDP Mitigation 4.7-1.	LS
			4.7-4(b)	Implement LRDP Mitigation 4.7-3(b).	
			4.7-4(c)	The campus shall continue to implement measures to reduce the generation of radioactive waste, including the requirement that employees working with radioactive materials be trained in radioactive waste minimization, EH&S on-line information about radioactive waste minimization, and exploration of waste minimization techniques by EH&S staff.	
4.7-5	Implementation of the 2003 LRDP could increase routine use of biohazardous materials on campus by UC Davis laboratories, which would not create significant hazards to the public or the environment.	LS	4.7-5(a)	Implement LRDP Mitigation 4.7-1.	LS
			4.7-5(b)	The campus shall continue to implement the same (or equivalent) Biosafety Program during the 2003 LRDP planning horizon. This program may be subject to modification as more stringent standards are developed or if the program becomes obsolete through replacement by other programs that incorporate similar health and safety protection measures.	

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	Impact	Level of Significance Prior to Mitigation[1]		Mitigation Measures	Level of Significance Following Mitigation[1]
4.7-6	Implementation of the 2003 LRDP could increase routine generation of biohazardous wastes on campus by UC Davis laboratories, which would not create hazards to the public or the environment.	LS	4.7-6(a) 4.7-6(b)	Implement LRDP Mitigation 4.7-1. Implement LRDP Mitigation 4.7-5(b)	LS
4.7-7	Implementation of the 2003 LRDP could increase routine use of laboratory animals on campus by UC Davis laboratories, which would not significantly increase risk of animal bites, escapes, and disease transmission.	LS	4.7-7(a) 4.7-7(b) 4.7-7(c)	Implement LRDP Mitigation 4.7-1. Implement LRDP Mitigation 4.7-5(b) The campus shall continue to implement the same (or equivalent) programs related to laboratory animal use during the 2003 LRDP planning horizon, including, but not necessarily limited to, inspections of animal facilities and study areas by the Campus Veterinarian, requiring investigators to prepare Animal Use and Care Protocols, review of Animal Use and Care Protocols by the AUCAAC and EH&S, employee training in animal handling, and the campus animal health program. These programs may be subject to modification as more stringent standards are developed or if the programs become obsolete through replacement by other programs that incorporate similar health and safety protection measures.	LS
4.7-8	Implementation of the 2003 LRDP would increase the routine transport of hazardous materials to and from campus, which would not significantly increase hazards to the public or the environment.	LS	4.7-8	The campus shall continue to require that packaging of chemicals to be transported on public roads conform with all legal requirements.	LS
4.7-9	Implementation of the 2003 LRDP would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.	LS	4.7-9	Implement LRDP Mitigations 4.7-1 through 4.7-8.	LS

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Impact		Level of Significance Prior to Mitigation[1]	Mitigation Measures		Level of Significance Following Mitigation[1]
4.7-10	Implementation of the 2003 LRDP would increase use of hazardous materials by non-UC entities on campus, which could create hazards to the public or the environment under routine and upset conditions.	PS	4.7-10	For projects proposed by non-UC entities on campus that involve laboratory space, non-UC entities shall be required, through contracts and agreements, to implement programs and controls that provide the same level of protection required of campus laboratories and departments. The following project-specific mitigation measures would be implemented for non-UCD tenants: (i) Non-UC entities shall submit the qualifications of designated laboratory directors to UC Davis EH&S Office prior to commencing laboratory operations. Such documentation shall be in the form of educational and professional qualifications/experience. (ii) Non-UC entities shall submit certification of compliance with NIH biosafety principles to the UC Davis EH&S Office prior to commencing on-site research or pilot plant manufacturing activities. Non-UC entities shall submit copies of completed medical waste management plans, biosafety management plans, inventories of infectious or genetically modified agents, applicable permits and updates.	LS

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	Impact	Level of Significance Prior to Mitigation[1]	Mitigation Measures	Level of Significance Following Mitigation[1]
4.7-10			(iii) If hazardous material quantities are proposed to be increased above applicable threshold quantities as defined in California Code of Regulations, Title 19, Division 2, Chapter 4.5, non-UC entities shall implement a Risk Management Plan/California Accidental Release Prevention Plan (RMP/Cal-ARP), which discusses the handling and storage of acutely hazardous materials on site. The RMP/Cal-ARP shall be approved by the CUPA and filed with the UC Davis EH&S Office prior to commencing proposed operations. (iv) Non-UC entities shall submit certification to the UC Davis EH&S to verify that applicable requirements for handling and disposal of hazardous wastes have been met prior to commencing on-site research or pilot plant manufacturing activities. Non-UC entities shall submit copies of management plans for handling and disposal of hazardous wastes, and written verification of contracts with licensed waste disposal firms. (v) Non-UC entities shall provide to campus EH&S copies of all required environmental reports to local, state, and federal environmental and safety regulators.	
4.7-11	Implementation of the 2003 LRDP EIR would result in handling of hazardous or acutely hazardous materials within ¼ mile of an existing or proposed school, which would not create a significant hazard to those attending the schools.	LS	Mitigation is not required.	LS

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	Impact	Level of Significance Prior to Mitigation[1]	Mitigation Measures	Level of Significance Following Mitigation[1]
4.7-12	Construction activities on campus under the 2003 LRDP would not expose construction workers and campus occupants to contaminated soil or groundwater.	LS	4.7-12 The campus shall perform due diligence assessments of all sites where ground-disturbing construction is proposed.	LS
4.7-13	Demolition or renovation of buildings under the 2003 LRDP would not expose construction workers or campus occupants to contaminated building materials.	LS	4.7-13 The campus shall survey buildings for potential contamination before any demolition or renovation work is performed.	LS
4.7-14	Development under the 2003 LRDP could include construction on or near the campus' LEHR site, included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5, which would not pose a significant hazard to the public or the environment.	LS	Mitigation is not required.	LS
4.7-15	Implementation of the 2003 LRDP would include campus development within 2 miles of public use airports, which could result in safety hazards for people residing or working in the area, and would include lighting on recreation fields that could result in a hazard for aircraft.	PS	4.7-15(a) The UC Davis Airport flight pattern for Runway 16 shall be changed to a right-hand approach. 4.7-15(b) Lighting for recreation fields in the NMP will be tested by night flights, and adjusted as necessary to eliminate glare that could pose a hazard for aircraft. 4.7-15(c) UC Davis or a developer acting on behalf of UC Davis shall include disclosure statements in marketing and sales materials for the NMP informing potential owners of property in the NMP of the presence of the University Airport.	LS
4.7-16	Hazardous materials use on campus under the 2003 LRDP would not exceed emergency response capabilities.	LS	Mitigation is not required.	LS

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Impact		Level of Significance Prior to Mitigation[1]	Mitigation Measures		Level of Significance Following Mitigation[1]
4.7-17	Campus development under the 2003 LRDP could physically interfere with the campus' Emergency Operations Plan.	PS	4.7-17	To the extent feasible, the campus shall maintain at least one unobstructed lane in both directions on campus roadways. At any time only a single lane is available due to construction-related road closures, the campus shall provide a temporary traffic signal, signal carriers (i.e., flagpersons), or other appropriate traffic controls to allow travel in both directions. If construction activities require the complete closure of a roadway, the campus shall provide appropriate signage indicating alternative routes. To ensure adequate access for emergency vehicles when construction projects would result in temporary lane or roadway closures, the campus shall inform emergency services, including the UC Davis Police and Fire Departments, and American Medical Response, of the closures and alternative travel routes.	LS
4.7-18	Campus development under the 2003 LRDP in combination with growth in the region would not significantly increase hazards to the public or the environment associated with the use and transport of hazardous materials and the generation of hazardous waste.	LS	Mitigation is not required.		LS
4.8 Hydrology and Water Quality					
4.8-1	Campus construction activities associated with implementation of the 2003 LRDP would not contribute substantial loads of sediment or other pollutants in storm water runoff that could degrade receiving water quality.	LS	4.8-1	The campus shall continue to comply with the NPDES state-wide General Permit for Discharge of Storm Water Associated with Construction Activity by implementing control measures and BMPs required by project-specific SWPPPs and with the Phase II SWMP to eliminate or reduce non-storm and storm water discharges to receiving waters.	LS

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Impact		Level of Significance Prior to Mitigation[1]	Mitigation Measures		Level of Significance Following Mitigation[1]
4.8-2	Development under the 2003 LRDP would increase impervious surface on the campus and could alter drainage patterns, thereby increasing runoff and loads of pollutants in storm water, which could affect water quality.	PS	4.8-2	The campus shall comply with the measures in the Phase II SWMP to ensure that project design includes a combination of BMPs, or equally effective measures as they become available in the future, to minimize the contribution of pollutants to receiving waters.	LS
4.8-3	Implementation of the 2003 LRDP could alter drainage patterns in the project area and increase impervious surfaces, which could exceed the capacity of storm water drainage systems and result in localized flooding and contribution to offsite flooding.	PS	4.8-3(a)	Prior to approval of specific projects under the 2003 LRDP, the campus shall perform a drainage study to evaluate each specific development to determine whether project runoff would exceed the capacity of the existing storm drainage system, cause ponding to worsen, and/or increase the potential for property damage from flooding.	LS
			4.8-3(b)	If it is determined that existing drainage capacity would be exceeded, ponding could worsen, and/or risk of property damage from flooding could increase, the campus shall design and implement necessary and feasible improvements. Such improvements could include, but would not be limited to, the following: (i) The expansion or modification of the existing storm drainage system. (ii) Single-project detention or retention basins incorporated into project design with features including but not limited to: small onsite detention or retention basins; rooftop ponding; temporary flooding of parking areas, streets and gutters; landscaping designed to temporarily retain water; and gravel beds designed to collect and retain runoff. (iii) Multi-project storm water detention or retention basins.	

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	Impact	Level of Significance Prior to Mitigation[1]		Mitigation Measures	Level of Significance Following Mitigation[1]
4.8-3			4.8-3(c)	Campus development west of County Road 98 shall incorporate single- or multi-project basins in order to reduce storm event drainage flows to the Covell Drain.	
4.8-4	Campus growth under the 2003 LRDP would increase discharge of treated effluent from the campus wastewater treatment plant into the South Fork of Putah Creek, which could exceed waste discharge requirements and degrade receiving water quality.	PS	4.8-4(a)	The campus shall continue to monitor and modify its pretreatment program, WWTP operation, and/or treatment processes as necessary to comply with WDRs.	LS
			4.8-4(b)	The campus shall implement a monitoring program specifically targeted at the following constituents: copper, cyanide, iron and nitrate + nitrite, and make appropriate modifications as necessary to the campus pretreatment program to avoid exceedance of permit limits for these constituents.	
4.8-5	Campus growth under the 2003 LRDP would increase the amount of water extracted from the deep aquifer and would increase impervious surfaces. This could result in a net deficit in the deep aquifer volume or a lowering of the local groundwater table but would not interfere substantially with recharge of the deep aquifer.	S	4.8-5(a)	The campus shall continue to implement water conservation strategies to reduce demand for water from the deep aquifer. Domestic water conservation strategies shall include the following or equivalent measures: (i) Install water efficient shower heads and low-flow toilets that meet or exceed building code conservation requirements in all new campus buildings, and where feasible, retrofit existing buildings with these water efficient devices. (ii) Continue the leak detection and repair program. (iii) Continue converting existing single-pass cooling systems to cooling tower systems.	SU

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Impact		Level of Significance Prior to Mitigation[1]	Mitigation Measures	Level of Significance Following Mitigation[1]
4.8-5			(iv) Use water-conservative landscaping on the west and south campuses where domestic water is used for irrigation. (v) Replace domestic water irrigation systems on the west and south campuses with an alternate water source (shallow/intermediate or reclaimed water), where feasible. (vi) Install water meters at the proposed neighborhood to encourage residential water conservation. (vii) Identify and implement additional feasible water conservation strategies and programs including a water awareness program focused on water conservation. 4.8-5(b) The campus shall continue hydrogeologic monitoring and evaluation efforts to determine the long-term production and quality trends of the deep aquifer. 4.8-5(c) To the extent feasible, new water supply wells in the deep aquifer should be located on the west campus in sands and gravels that are not used by or available to the City of Davis for deep water extraction. 4.8-5(d) If continued hydrogeologic monitoring and evaluation efforts identify constraints in the deep aquifer's ability to provide for the campus' long-term water needs, the campus will treat shallow/intermediate aquifer and/or surface water from the Solano Project to serve domestic water demand.	

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	Impact	Level of Significance Prior to Mitigation[1]	Mitigation Measures	Level of Significance Following Mitigation[1]
4.8-6	Campus growth under the 2003 LRDP could increase the amount of water extracted from the shallow/intermediate aquifer and would increase impervious surfaces. Extraction from the shallow/intermediate aquifer could deplete groundwater levels and could contribute to local subsidence, and increased impervious coverage could interfere substantially with recharge. This could result in a net deficit in the intermediate aquifer volume or a lowering of the local groundwater table.	S	4.8-6(a) The campus shall continue to implement water conservation strategies to reduce demand for water from the intermediate aquifer. Utility water conservation strategies shall include the following or equivalent measures: (i) Landscape, where appropriate, with native, drought resistant plants and use lawns only where needed for pedestrian traffic, activity areas, and recreation. (ii) Install efficient irrigation systems including centrally-controlled automatic irrigation systems and low-flow spray systems. (iii) Apply heavy applications of mulch to landscaped areas to reduce evaporation (iv) Use treated wastewater for landscape irrigation where feasible. 4.8-6(b) The campus shall continue to monitor shallow/intermediate aquifer water elevations at existing campus wells to ascertain whether there is any long-term decline in water levels. 4.8-6(c) The campus shall continue to participate in regional subsidence monitoring, including by installing an extensiometer, to determine the vertical location of local subsidence.	SU

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Impact		Level of Significance Prior to Mitigation[1]	Mitigation Measures	Level of Significance Following Mitigation[1]
4.8-6			4.8-6(d) If shallow/intermediate aquifer monitoring or subsidence monitoring indicate that campus water use from the intermediate aquifer is contributing to a net deficit in aquifer volume and/or significant subsidence, the campus will reduce use of water from the aquifer by using surface water and/or treated wastewater effluent to irrigate campus recreation fields. 4.8-6(e) The campus shall incorporate the following or equally effective measures into project designs under the 2003 LRDP where feasible, to increase percolation and infiltration of precipitation into the underlying shallow/intermediate aquifers: (i) Minimize paved surfaces. (ii) Use grassy swales, infiltration trenches, or grass filter strips to intercept storm water runoff. (iii) Implement LRDP Mitigation 4.8-2(b), which specifies construction of detention and infiltration facilities in those areas that do not discharge storm water to the Arboretum.	
4.8-7	Water quality of the domestic water supply may experience degradation in the future, which would impact the campus' ability to meet federal and state drinking water standards.	LS	Mitigation is not required.	LS
4.8-8	Potential use of reclaimed water treated at the campus WWTP under the 2003 LRDP would not cause adverse impacts to water quality or human health.	LS	Mitigation is not required.	LS

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Impact		Level of Significance Prior to Mitigation[1]	Mitigation Measures		Level of Significance Following Mitigation[1]
4.8-9	Development under the 2003 LRDP could place non-residential structures within a 100-year floodplain, which could expose people and structures to risks associated with flooding and/or impede or redirect flows, contributing to flood hazards.	PS	4.8-9(a)	Prior to final design, the campus will review the plans for all structures to be constructed in the 100-year floodplain for compliance with the following FEMA requirements for non-residential structures: (i) Elevate the lowest floor (including the basement) to or above the base flood level; or (ii) Together with attendant utility and sanitary facilities, design so that below the base flood level, the structure is watertight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy; and (iii) Require that fully enclosed areas below the lowest floor that are subject to flooding be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for entry and exit of flood waters.	LS
			4.8-9(b)	For structures placed within the 100-year floodplain, flood control devices will be designed to direct flows toward areas where flood hazards will be minimal.	

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	Impact	Level of Significance Prior to Mitigation[1]	Mitigation Measures	Level of Significance Following Mitigation[1]
4.8-10	Development under the 2003 LRDP, in conjunction with construction activities, increased impervious surfaces, and alterations to drainage patterns associated with other development in the region that would increase impervious surface coverage in the watershed, could increase storm water runoff, and could provide substantial sources of polluted runoff, which could affect receiving water quality.	PS	4.8-10(a) Implement LRDP Mitigation 4.8-1 and 4.8-2. 4.8-10(b) Jurisdictions within the Putah Creek watershed should comply with Phase II NPDES Municipal Storm Water Permit requirements for small municipalities in order to minimize the contribution of sediment and other pollutants associated with development in the region. 4.8-10(c) Comprehensive SWPPPs and monitoring programs should be implemented by all storm water dischargers associated with specified industrial and construction activities, in compliance with the state's General Permits. Such plans shall include BMPs or equally effective measures.	SU
4.8-11	Implementation of the 2003 LRDP in combination with regional development could alter drainage patterns and increase the rate or amount of surface runoff, which could exceed the capacity of storm water drainage systems and result in flooding within the Putah Creek watershed.	PS	4.8-11 The campus shall implement LRDP Mitigation 4.8-3(a-c) in order to prevent flooding on campus.	LS
4.8-12	Growth under the 2003 LRDP and other development in the region would increase discharge of treated effluent to the Putah Creek watershed, which could degrade receiving water quality.	PS	4.8-12 The campus shall implement LRDP Mitigation 4.8-4(a) and (b) to minimize the potential for degradation of receiving water quality.	LS

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	Impact	Level of Significance Prior to Mitigation[1]	Mitigation Measures	Level of Significance Following Mitigation[1]
4.8-13	Growth under the 2003 LRDP and other development in the region would increase the amount of water extracted from the deep aquifer and increase impervious surfaces. This could result in a net deficit in the deep aquifer volume or a lowering of the local groundwater table but would not interfere substantially with recharge of the deep aquifer.	S	4.8-13(a) Implement LRDP Mitigation 4.8-5(a-d). 4.8-13(b) The City of Davis is expected to implement measures to reduce the amount of water withdrawn from the deep aquifer consistent with policies adopted in its General Plan. • Give priority to demand reduction and conservation over additional water resource development (Policy WATER 1.1) • Require water conserving landscaping (Policy WATER 1.2) • Provide for the current and long-range water needs of the Davis Planning Area, and for protection of the quality and quantity of groundwater resources (Policy WATER 2.1) • Manage groundwater resources so as to preserve both quantity and quality (Policy WATER 2.2) • Research, monitor and participate in issues in Yolo County and the area of origin of the City's groundwater that affect the quality and quantity of water (Policy WATER 4.1)	SU
4.8-14	Growth under the 2003 LRDP and other development in the region would increase the amount of water extracted from shallow/intermediate aquifers and increase impervious surfaces. This could contribute to local subsidence, substantially deplete groundwater supplies, and could interfere substantially with recharge of the shallow/intermediate depth aquifer, resulting in a net deficit in the shallow/intermediate aquifer volume or a lowering of the local groundwater table.	S	4.8-14(a) The campus should implement LRDP Mitigation 4.8-6(a-e) to minimize its withdrawal from the shallow/intermediate aquifer and maximize the potential for infiltration.	SU

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	Impact	Level of Significance Prior to Mitigation[1]	Mitigation Measures	Level of Significance Following Mitigation[1]
4.8-14			4.8-14(b) Consistent with current water planning policies, the City of Davis is expected to implement measures to reduce impervious surfaces and reduce the amount of water withdrawn from the shallow/intermediate aquifer, consistent with, but not limited to, the water policies listed in LRDP Mitigation 4.8-13(b).	
4.9 Land Use and Planning				
4.9-1	Implementation of the 2003 LRDP would not conflict with an applicable land use plan, policy, or regulation of an agency with jurisdiction over the project that was adopted for the purpose of avoiding or mitigating an environmental effect.	LS	Mitigation is not required.	LS
4.9-2	Implementation of the 2003 LRDP would not result in the development of land uses that are substantially incompatible with existing adjacent land uses or planned uses.	LS	Mitigation is not required.	LS
4.9-3	Implementation of the 2003 LRDP would not conflict with a habitat conservation plan or a natural community conservation plan.	LS	Mitigation is not required.	LS
4.9-4	Implementation of the 2003 LRDP, together with the cumulative impacts of other regional growth, would not conflict with an applicable land use plan, policy, or regulation of an agency with jurisdiction over the project that was adopted for the purpose of avoiding or mitigating an environmental effect.	LS	Mitigation is not required.	LS

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Impact		Level of Significance Prior to Mitigation[1]	Mitigation Measures		Level of Significance Following Mitigation[1]
4.10 Noise					
4.10-1	Construction of campus facilities pursuant to the 2003 LRDP could expose nearby receptors to excessive groundborne vibration and airborne or groundborne noise.	PS	4.10-1	Prior to initiation of construction, the campus shall approve a construction noise mitigation program including but not limited to the following: • Construction equipment shall be properly outfitted and maintained with feasible noise-reduction devices to minimize construction-generated noise. • Stationary noise sources such as generators or pumps shall be located 100 feet away from noise-sensitive land uses as feasible. • Laydown and construction vehicle staging areas shall be located 100 feet away from noise-sensitive land uses as feasible. • Whenever possible, academic, administrative, and residential areas that will be subject to construction noise shall be informed a week before the start of each construction project. • Loud construction activity (i.e., construction activity such as jackhammering, concrete sawing, asphalt removal, and large-scale grading operations) within 100 feet of a residential or academic building shall not be scheduled during finals week. • Loud construction activity as described above within 100 feet of an academic or residential use shall, to the extent feasible, be scheduled during holidays, Thanksgiving breaks, Christmas break, Spring break, or Summer break.	LS

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	Impact	Level of Significance Prior to Mitigation[1]	Mitigation Measures	Level of Significance Following Mitigation[1]
4.10-1			• Loud construction activity within 100 feet of a residential or academic building shall be restricted to occur between 7:30 AM and 7:30 PM.	
4.10-2	Implementation of the 2003 LRDP would result in increased vehicular traffic on the regional road network, which would substantially increase ambient noise levels.	S	4.10-2(a) For noise-sensitive uses adjacent to Russell Boulevard between Arlington Boulevard and Arthur Street, the existing soundwall (approximately 6.5 feet in height) could be increased slightly in height and extended to include the daycare center to the east. For noise-sensitive uses adjacent to Russell Boulevard between Arthur Street and SR 113, and from SR 113 to La Rue/Anderson Road and from La Rue Road to Oak Street, soundwalls may be constructed for exterior residential and recreational land uses within approximately 100 feet of the centerline of Russell Boulevard, where construction of such walls would not interfere with driveway access. The campus shall reimburse the City of Davis the campus' fair share of the cost of a City of Davis noise abatement program for reducing interior noise levels in homes along Russell Boulevard that are significantly affected by noise from 2003 LRDP-related growth. The campus' contribution to the City's noise abatement program could be used to extend soundwalls as described above or for other noise abatement measures such as retrofit of homes. The campus' fair share shall be determined based on the volume of traffic added to Russell Boulevard by the campus as a result of 2003 LRDP implementation and the percentage that 2003 LRDP-related traffic increases constitute of the average daily traffic on the roadway.	SU

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4.10-2			4.10-2(b) For components of the 2003 LRDP having future noise-sensitive land uses such as the Neighborhood and Research Park, building and area layouts shall incorporate noise control as a design feature; including increased setbacks, landscaped berms, and using building placement to shield noise-sensitive exterior areas from direct roadway views.	
4.10-3	Implementation of the 2003 LRDP would not expose residents to elevated noise levels from aircraft operations at the University Airport.	LS	Mitigation is not required.	LS
4.10-4	Implementation of the 2003 LRDP could potentially expose noise-sensitive land uses to significant rail noise.	PS	4.10-4 Residential and academic uses within 750 feet of the centerline of a rail line shall be evaluated using the Federal Transit Administration Noise and Vibration Guidelines. Following the evaluation, as appropriate, facilities shall be designed and constructed to achieve an interior noise and vibration level within the standards recommended by the guidelines.	LS
4.10-5	The 2003 LRDP in combination with other regional development would increase ambient noise levels.	S	4.10-5 Implement LRDP Mitigations 4.10-1 and 4.10-2.	SU
4.11 Population and Housing				
4.11-1	Implementation of the 2003 LRDP would directly induce substantial population growth in the area by proposing increased enrollment and additional employment.	S	Mitigation is not available.	SU
4.11-2	Implementation of the 2003 LRDP would not induce substantial population growth in the area indirectly, for example through extension of roads or other infrastructure.	LS	Mitigation is not required.	LS

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Impact		Level of Significance Prior to Mitigation[1]	Mitigation Measures	Level of Significance Following Mitigation[1]
4.11-3	Implementation of the proposed 2003 LRDP and other regional development would not create a demand for housing that could not be accommodated by local jurisdictions.	LS	Mitigation is not required.	LS
4.12 Public Services				
4.12-1	Implementation of the 2003 LRDP would not result in significant environmental impacts associated with the provision of new or altered facilities for the UC Davis Police Department or the City of Davis' Police Department in order to maintain each department's applicable service objective.	LS	Mitigation is not required.	LS
4.12-2	Implementation of the 2003 LRDP would not result in significant environmental impacts associated with the provision of new or altered facilities for the UC Davis Fire Department or the West Plainfield Volunteer Fire Department in order to maintain each department's preferred response standard.	LS	Mitigation is not required.	LS

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	Impact	Level of Significance Prior to Mitigation[1]	Mitigation Measures	Level of Significance Following Mitigation[1]
4.12-3	If the City of Davis Fire Department provides services to the proposed Neighborhood, implementation of the 2003 LRDP could result in significant environmental impacts to agricultural prime farmland and habitat associated with the provision of new or altered facilities in order to maintain the department's preferred response standard.	S	4.12-3 If documented unmitigated significant environmental impacts are caused by construction of facilities for the City of Davis Fire Department that are needed in part to provide service to the proposed University Neighborhood, UC Davis shall negotiate with the City of Davis to determine the campus' fair share (as described in Section 4.12.2.3) of the costs to implement any feasible and required environmental mitigation measures so long as the unmitigated significant adverse impacts have not been otherwise reduced to less-than-significant levels through regulatory requirements, public funding, or agreements. This mitigation measure shall not apply to any other costs associated with implementation of public service facilities.	SU
4.12-4	Implementation of the 2003 LRDP would increase the number of school-age children residing in housing on campus. School faculties constructed in the Neighborhood component of the 2003 LRDP would offset the demand for new educational facilities associated with these children, and the construction of these facilities would not result in significant environmental impacts.	LS	Mitigation is not required.	LS
4.12-5	Campus population growth under the 2003 LRDP would increase the demand for library facilities, the construction of which would not result in significant environmental impacts.	LS	Mitigation is not required.	LS

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	Impact	Level of Significance Prior to Mitigation[1]		Mitigation Measures	Level of Significance Following Mitigation[1]
4.12-6	Implementation of the 2003 LRDP, in conjunction with regional growth, could generate a cumulative demand for new or expanded police and fire service facilities in the region, the construction of which could result in significant adverse environmental impacts to prime farmland and habitat.	S	4.12-6	If documented unmitigated significant environmental impacts are caused by the construction of police or fire facilities in the Cities of Davis, Dixon, Woodland, and/or Winters that are needed in part due to implementation of the 2003 LRDP, UC Davis shall negotiate with the appropriate local jurisdiction to determine the campus' fair share (as described in Section 4.12.2.3) of the costs to implement any feasible and required environmental mitigation measures so long as the unmitigated impacts have not been otherwise reduced to less-than-significant levels through regulatory requirements, public funding, or agreements. This mitigation measure shall not apply to any other costs associated with implementation of public service facilities.	SU
4.12-7	Implementation of the 2003 LRDP, in conjunction with regional growth, would increase the number of school-age children living in the area. This could generate a cumulative demand for new school facilities, the construction of which could result in significant environmental impacts to agricultural prime farmland and habitat.	S	4.12-7	If documented unmitigated significant environmental impacts are caused by the construction of school facilities in the Cities of Davis, Dixon, Woodland, and/or Winters that are needed in part due to implementation of the 2003 LRDP, UC Davis shall negotiate with the appropriate local jurisdiction to determine the campus' fair share (as described in Section 4.12.2.3) of the costs to implement any feasible and required environmental mitigation measures so long as the unmitigated impacts have not been otherwise reduced to less-than-significant levels through regulatory requirements, public funding, or agreements. This mitigation measure shall not apply to any other costs associated with implementation of public service facilities.	SU

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	Impact	Level of Significance Prior to Mitigation[1]	Mitigation Measures	Level of Significance Following Mitigation[1]
4.12-8	Implementation of the 2003 LRDP and other regional development would increase the population of the area, which could generate a cumulative demand for new libraries, the construction of which would not result in significant environmental impacts.	LS	Mitigation is not required.	LS
4.13 Recreation				
4.13-1	Implementation of the 2003 LRDP would result in increased use of campus recreational facilities but would not result in deterioration of facilities.	LS	Mitigation is not required.	LS
4.13-2	Implementation of the 2003 LRDP, together with the cumulative impacts of other regional development, could increase the use of off-campus recreation facilities, the development of which could result in significant environmental impacts.	S	4.13-2 If documented unmitigated significant environmental impacts are caused by the construction of recreation facilities in the Cities of Dixon, Woodland, and/or Winters that are needed in part due to implementation of the 2003 LRDP, UC Davis shall negotiate with the appropriate local jurisdiction to determine the campus' fair share (as described in Section 4.12.2.3) of the costs to implement any feasible and required environmental mitigation measures so long as the unmitigated impacts have not been otherwise reduced to less-than-significant levels through regulatory requirements, public funding, or agreements. This mitigation measure shall not apply to any other costs associated with implementation of recreation facilities.	SU

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Impact		Level of Significance Prior to Mitigation[1]	Mitigation Measures	Level of Significance Following Mitigation[1]
4.14 Traffic, Circulation, and Parking				
4.14-1	Implementation of the 2003 LRDP would cause unacceptable intersection operations at on-campus intersections.	S	4.14-1(a) UC Davis shall continue to actively pursue Transportation Demand Management strategies to reduce vehicle-trips to and from campus. 4.14-1(b) UC Davis shall continue to monitor AM and PM peak hour traffic operations at critical intersections and roadways on campus. 4.14-1(c) UC Davis shall review individual projects proposed under the 2003 LRDP as they advance through the environmental clearance phase of development to determine if intersection or roadway improvements are needed with the additional traffic generated by the proposed project. If intersection operations are found to degrade to unacceptable levels, UC Davis shall construct physical improvements such as adding traffic signals or roundabouts at affected study intersections, as described below. • *Orchard Road/La Rue Road intersection. Widen* the Orchard Road approaches to include an exclusive left-turn lane and a shared through/right-turn lane on the eastbound approach, and an exclusive left-turn, a through lane, and a separate right-turn lane on the westbound approach. • *Hutchison Drive/SR 113 SB Ramp intersection.* Install a traffic signal.	LS

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Impact		Level of Significance Prior to Mitigation[1]	Mitigation Measures	Level of Significance Following Mitigation[1]
4.14-1			• *Hutchison Drive/SR 113 NB Ramp intersection.* Install a traffic signal. • *Hutchison Drive/Extension Center Drive intersection.* Modify the southbound Extension Center Drive approach to eliminate left-turns from Extension Center Drive to Hutchison Drive and improve Orchard Park Drive to provide a continuous roadway between Extension Center Drive and Orchard Road • *Hutchison Drive/La Rue Road intersection.* Widen the southbound La Rue Road approach to include an exclusive right-turn lane. • *Old Davis Road/A Street intersection.* Construct a roundabout or install a traffic signal or realign Old Davis Road as proposed in the 2003 LRDP. • *New Davis Road/Beau Vine Lane intersection.* Construct a roundabout or install a traffic signal. • *New Davis Road/California Avenue intersection.* Install a traffic signal or construct the new roadway proposed in the 2003 LRDP between Old Davis Road and La Rue Road. • *WB I-80 Ramps/Old Davis Road intersection.* Install a traffic signal. • *EB I-80 Ramps/Old Davis Road intersection.* Install a traffic signal.	

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	Impact	Level of Significance Prior to Mitigation[1]	Mitigation Measures	Level of Significance Following Mitigation[1]
4.14-2	Implementation of the 2003 LRDP would cause unacceptable intersection and freeway LOS operations at off-campus facilities, including facilities contained in the Yolo County and Solano County Congestion Management Plans.	S	4.14-2(a) UC Davis shall continue to actively pursue Transportation Demand Management strategies to reduce vehicle-trips to and from campus. 4.14-2(b) UC Davis shall continue to monitor AM and PM peak hour traffic operations at critical intersections and roadways in the campus vicinity at least every three years to identify locations operating below UC Davis, City of Davis, Yolo County, Solano County, or Caltrans LOS thresholds and to identify improvements to restore operations to an acceptable level. 4.14-2(c) UC Davis shall review individual projects proposed under the 2003 LRDP as they advance through the environmental clearance phase of development to determine if intersection or roadway improvements are needed with the additional traffic generated by the proposed project. If intersection operations are found to degrade to unacceptable levels, UC Davis shall contribute its fair share towards roadway improvements at affected study intersections, as described below. • *Russell Boulevard/Orchard Park Drive intersection.* Restrict access to right-turns in/out only at the Russell Boulevard/Orchard Park Drive intersection, or widen the northbound approach to include separate left and right-turn lanes and provide a 50-foot refuge area in the median on Russell Boulevard.	SU

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	Impact	Level of Significance Prior to Mitigation[1]	Mitigation Measures	Level of Significance Following Mitigation[1]
4.14-2			• *First Street/A Street intersection.* Construct a roundabout or install a traffic signal. • *Richards Boulevard/I-80 Ramps intersection.* Reconstruct the north side of the interchange to remove the loop on and off ramps and replace with new ramps in diamond configuration, including traffic signals at ramp terminal intersections. • *Richards Boulevard/Research Park Drive intersection.* Widen the eastbound Richards Boulevard approach to provide an exclusive left-turn lane, a through lane, and a shared through/right-turn lane. • *Weave section on northbound SR 113 between Hutchison Drive and Russell Boulevard.* Widen the SR 113 Northbound off-ramp onto Russell Boulevard to provide two lanes. One off-ramp lane would serve the auxiliary lane between Hutchison Drive and Russell Boulevard and the second off-ramp lane would serve the SR 113 mainline. • *Ramp junctions at the I-80/Pedrick Road interchange.* Widen I-80 to provide four travel lanes in each direction in the vicinity of the Pedrick Road interchange. • *I-80 mainline east of Mace Boulevard.* Widen I-80 to provide a high occupancy vehicle (HOV) lane in each direction between Richards Boulevard and Mace Boulevard and east of Mace Boulevard.	

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Impact		Level of Significance Prior to Mitigation[1]	Mitigation Measures		Level of Significance Following Mitigation[1]
4.14-3	Implementation of the 2003 LRDP would create additional parking demand.	S	4.14-3(a)	UC Davis shall continue to actively pursue Transportation Demand Management strategies to reduce parking demand.	LS
			4.14-3(b)	UC Davis shall continue to monitor parking demand on a quarterly basis to identify campus parking areas with a parking utilization over 90 percent. UC Davis shall provide additional parking if a proposed project is expected to increase the winter utilization rate to over 90 percent on the central campus, Health Sciences District, and/or major facilities of the west and south campus.	
4.14-4	Implementation of the 2003 LRDP would increase demand for transit services.	S	4.14-4	UC Davis shall monitor transit ridership to identify routes operating over capacity with increased campus growth. UC Davis shall work with transit providers to identify additional service required with campus growth or new transit routes needed to serve future development areas.	LS
4.14-5	Growth in population levels in the core area of the central campus would result in increased conflicts between bicyclists, pedestrians, and transit vehicles, causing increased congestion and safety problems.	S	4.14-5	UC Davis shall monitor core area pedestrian and bike activity and accidents. UC Davis shall improve bike and pedestrian facilities or alter transit operations to avoid increased bicycle accident rates or safety problems.	LS

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	Impact	Level of Significance Prior to Mitigation[1]	Mitigation Measures	Level of Significance Following Mitigation[1]
4.15 Utilities				
4.15-1	Implementation of the 2003 LRDP would require the expansion of campus domestic/fire water extraction and conveyance systems, which would not cause significant environmental impacts.	LS	4.15-1(a) Once preliminary project design is developed, the campus shall review each project to determine if existing domestic/fire water supply is adequate at the point of connection. If domestic/fire water is determined inadequate, the campus will upgrade the system to provide adequate water flow and pressure to the project site before constructing the project. 4.15-1(b) Implement domestic water conservation strategies as indicated in LRDP Mitigation 4.8-5(a) (Section 4.8 Hydrology and Water Quality).	LS
4.15-2	Implementation of the 2003 LRDP would require the expansion of campus utility water extraction and conveyance systems, which would not cause significant environmental impacts.	LS	4.15-2(a) Once preliminary project design is developed, the campus shall review each project to determine if existing utility water supply is adequate at the point of connection. If the utility water supply is determined to be inadequate, the campus will upgrade the system to provide adequate water flow to the project site prior to occupation or operation. 4.15-2(b) Implement utility water conservation strategies as indicated in LRDP Mitigation 4.8-6(a) (Section 4.8 Hydrology and Water Quality, Volume II).	LS
4.15-3	Implementation of the 2003 LRDP would require the expansion of wastewater treatment and conveyance facilities, the construction of which would not result in significant environmental impacts.	LS	4.15-3 Once preliminary project design is developed, the campus shall review each project to determine whether existing capacity of the sanitary sewer line at the point of connection is adequate. If the capacity of the sewer line is determined inadequate, the campus will upgrade the system to provide adequate service to the project site prior to occupation or operation.	LS

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	Impact	Level of Significance Prior to Mitigation[1]	Mitigation Measures	Level of Significance Following Mitigation[1]
4.15-4	Implementation of the 2003 LRDP would require the expansion of campus storm drainage conveyance and detention facilities, which would not result in significant environmental impacts.	LS	4.15-4 Once preliminary project design is developed, the campus shall review each project to determine whether existing storm drainage system is adequate at the point of connection. If the storm drainage system is determined inadequate, the campus will upgrade the system to provide adequate storm water drainage and/or detention prior to occupation or operation.	LS
4.15-5	Implementation of the 2003 LRDP would increase the volume of municipal solid waste that would require disposal, but would not require an expansion of the campus or county landfills.	LS	Mitigation is not required.	LS
4.15-6	Implementation of the 2003 LRDP would require the expansion of the campus electrical system, which would not result in significant adverse environmental impacts.	LS	4.15-6(a) Once preliminary project design is developed, the campus shall review each project to determine whether the existing electrical system is adequate at the point of connection. If the electrical system is determined inadequate, the campus will upgrade the system to provide adequate service to the project prior to occupation or operation. 4.15-6(b) The campus would continue to meet or exceed Title 24 energy conservation requirements for new buildings, and it would continue to incorporate energy efficient design elements outlined in the *UC Davis Campus Standards & Design Guide* in new construction and retrofit projects. These energy conservation standards may be subject to modification as more stringent standards are developed.	LS

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Impact		Level of Significance Prior to Mitigation[1]	Mitigation Measures		Level of Significance Following Mitigation[1]
4.15-7	Implementation of the 2003 LRDP would require the expansion of natural gas transmission systems, which would result in environmental impacts.	S	4.15-7(a)	Once preliminary project design is developed, the campus shall review each project to determine whether existing capacity of the natural gas supply pipeline at the point of connection is adequate. If the capacity of the pipeline is determined inadequate, the system will be updated to provide adequate service to the project site prior to occupation or operation.	SU
			4.15-7(b)	To minimize disturbance to archaeological resources associated with CA-Yol-118, PG&E can and should implement directional drilling or other alternative means to trenching, or should have a qualified archaeological monitor present and provide a representative of the local Native American community an opportunity to monitor during construction.	
4.15-8	Implementation of the 2003 LRDP would require the expansion of campus chilled water and steam generation and conveyance facilities, which would not result in significant environmental impacts.	LS	4.15-8	Once preliminary project design is developed, the campus shall review each project to determine whether existing capacity of the chilled water and/or steam system at the point of connection is adequate. If the capacity of the pipelines is determined inadequate, the campus will upgrade the system to provide adequate service to the project site prior to occupation or operation.	LS
4.15-9	Implementation of the 2003 LRDP would require expansion of campus communication facilities, which would not result in significant environmental impacts.	LS	4.15-9	Once preliminary project design is developed, the campus shall review each project to determine whether existing capacity of the telecommunications system is adequate. If the capacity is determined to be inadequate, the campus will upgrade the system to provide adequate service to the project site prior to occupation or operation.	LS

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	Impact	Level of Significance Prior to Mitigation[1]	Mitigation Measures	Level of Significance Following Mitigation[1]
4.15-10	Implementation of the 2003 LRDP together with other regional development could generate a cumulative demand for wastewater treatment facilities in the region, the construction of which could result in significant environmental impacts on habitat.	S	4.15-10 If documented unmitigated significant environmental impacts are caused by the construction of wastewater treatment facilities in the Cities of Davis, Dixon, Woodland, and/or Winters that are needed in part due to implementation of the 2003 LRDP, UC Davis shall negotiate with the appropriate local jurisdiction to determine the campus' fair share (as described in Section 4.12.2.3) of the costs to implement any feasible and required environmental mitigation measures so long as the unmitigated impacts have not been otherwise reduced to less-than-significant levels through regulatory requirements, public funding, or agreements. This mitigation measure shall not apply to any other costs associated with implementation of utilities or service systems.	SU
4.15-11	Implementation of the 2003 LRDP in conjunction with regional development could generate a cumulative demand for water, landfills, energy, and natural gas in the region, but the expansion of associated utilities and service systems to meet this demand would not result in significant environmental effects.	LS	Mitigation is not required.	LS

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Table 2-2
Summary Comparison of LRDP Alternatives

Impacts	Proposed LRDP (before mitigation)	Reduced Enrollment Growth	Higher Enrollment Growth	Central Campus Infill	No NMP/No RPMP	No Project
4.1 Aesthetics						
4.1-1: Development under the 2003 LRDP could have an adverse effect on scenic vistas west across agricultural lands to the Coast Range.	S	E	E	L	L	L
4.1-2: Development on campus from implementation of the 2003 LRDP could degrade the visual character of the campus by substantially degrading the valued elements of the visual landscape identified in the 2003 LRDP.	PS	L	M	M	L	L
4.1-3: Development under the 2003 LRDP could create substantial light or glare on campus that could adversely affect daytime or nighttime views in the area.	PS	L	M	L	L	L
4.2 Agricultural Resources						
4.2-1: Growth under the 2003 LRDP would convert approximately 745 acres of prime farmland (as defined by the State Farmland Mapping and Monitoring Program) on campus to non-agricultural uses.	S	L	M	L	L	L
4.3 Air Quality						
4.3-1: Implementation of the 2003 LRDP would result in daily operational emissions above the YSAQMD thresholds that may contribute substantially to a violation of air quality standards or hinder attainment of the regional air quality plan	S	L	M	E	L	L
4.3-3: Emissions from construction activities associated with the 2003 LRDP would exceed YSAQMD thresholds.	S	L	M	E	L	L

Project: PS=Potentially significant; S=Significant.
Alternatives: L=Less significant than project; E= Roughly equal with project; M=More significant than project
Note: There are no significant impacts associated with Land Use and Planning, and Recreation.

Impacts	Proposed LRDP (before mitigation)	Reduced Enrollment Growth	Higher Enrollment Growth	Central Campus Infill	No NMP/No RPMP	No Project
4.4 Biological Resources						
4.4-1: Development allowed under the 2003 LRDP could result in the loss of the special-status plant species or species that may be added to the special-status plant list in the future.	PS	E	E	L	L	L
4.4-2: Development allowed under the 2003 LRDP would result in the conversion of approximately 550 acres of Agricultural Land and Ruderal/Annual Grassland to campus-related development which would result in the loss of general wildlife habitat for resident and migratory species, including foraging habitat for the Swainson's hawk.	S	E	E	L	L	L
4.4-3: Development allowed under the 2003 LRDP would result in the conversion of approximately 65 acres of Agricultural Land and Ruderal/Annual Grassland habitat suitable for nesting of burrowing owls to campus-related development.	PS	E	E	L	L	L
4.4-4: Development allowed under the 2003 LRDP could result in the failure of nesting efforts by Swainson's hawks or other birds of prey.	PS	L	M	L	L	L
4.4-5: Development allowed under the 2003 LRDP could result in the loss of active nest sites for Swainson's hawk.	PS	L	M	L	L	L
4.4-6: Development allowed under the 2003 LRDP could result in the loss of potential habitat for the VELB.	PS	E	E	L	L	L
4.4-7: Development allowed under the 2003 LRDP could result in the loss of potential habitat for the northwestern pond turtle from drainage improvement projects, bank stabilization measures and landscape maintenance activities within Riverine habitat along Putah Creek and the Arboretum waterway.	PS	E	E	L	L	L

Project: PS=Potentially significant; S=Significant.
Alternatives: L=Less significant than project; E= Roughly equal with project; M=More significant than project
Note: There are no significant impacts associated with Land Use and Planning, and Recreation.

Impacts	Proposed LRDP (before mitigation)	Reduced Enrollment Growth	Higher Enrollment Growth	Central Campus Infill	No NMP/No RPMP	No Project
4.4-8: Development allowed under the 2003 LRDP could result in the loss or adverse modification of wetlands or other waters of the U.S. that fall under the jurisdiction of the ACOE and/or CDFG.	PS	E	E	L	L	L
4.4-10: Development under the 2003 LRDP could potentially result in an adverse effect, either directly or through habitat modification, on special status fish species.	PS	E	M	L	L	L
4.4-11: Development under the 2003 LRDP could result in the removal of trees recognized to meet the campus' standards for important trees, including: a. Heritage Trees: Healthy valley oaks trees with trunk diameters of 33 inches or greater at the height of 54 inches from the ground. b. Specimen Trees: Healthy trees or stands of trees that are of high value to the campus due to their size, species, extraordinary education and research value, and/or other exceptional local importance.	PS	L	M	E	L	L
4.5 Cultural Resources						
4.5-1: Implementation of the 2003 LRDP could damage or destroy an archaeological resource or historic building or structure as the result of grading, excavation, ground disturbance or other project development.	PS	L	M	M	L	L
4.5-2: Implementation of the LRDP could cause a substantial adverse change in the significance of a historical resource or unique archaeological resource, as defined in CEQA Guidelines 15064.5, as the result of ground disturbance, alteration, removal or demolition associated with project development.	S	L	M	M	L	L

Project: PS=Potentially significant; S=Significant.
Alternatives: L=Less significant than project; E= Roughly equal with project; M=More significant than project
Note: There are no significant impacts associated with Land Use and Planning, and Recreation.

Impacts	Proposed LRDP (before mitigation)	Reduced Enrollment Growth	Higher Enrollment Growth	Central Campus Infill	No NMP/No RPMP	No Project
4.5-3: Implementation of the LRDP could cause a substantial adverse change in the significance of a historical resource or unique archaeological resource, as defined in CEQA Guidelines 15064.5, and the values that contribute to the significance of the resource cannot be preserved through documentation and data recovery.	S	L	M	M	L	L
4.5-4: Implementation of the 2003 LRDP could disturb human remains, including those interred outside of formal cemeteries.	PS	L	M	M	L	L
4.6 Geology, Soils and Seismicity						
4.6-4: Implementation of the 2003 LRDP could result in the construction of septic tanks or alternative wastewater disposal systems in areas on campus where soils are not capable of adequately supporting them.	PS	L	M	E	L	L
4.7 Hazards and Hazardous Materials						
4.7-10: Implementation of the 2003 LRDP would increase use of hazardous materials by non-UC entities on campus, which could create hazards to the public or the environment under routine and upset conditions.	PS	L	M	L	L	L
4.7-15: Implementation of the 2003 LRDP would include campus development within 2 miles of public use airports, which could result in safety hazards for people residing or working in the area.	PS	L	M	L	L	L
4.8 Hydrology and Water Quality						
4.8-2: Development under the 2003 LRDP would increase impervious surface on the campus and could alter drainage patterns, thereby increasing runoff and loads of pollutants in storm water, which could affect water quality.	PS	L	M	L	L	L

Project: PS=Potentially significant; S=Significant.
Alternatives: L=Less significant than project; E= Roughly equal with project; M=More significant than project
Note: There are no significant impacts associated with Land Use and Planning, and Recreation.

Impacts	Proposed LRDP (before mitigation)	Reduced Enrollment Growth	Higher Enrollment Growth	Central Campus Infill	No NMP/No RPMP	No Project
4.8-3: Implementation of the 2003 LRDP could alter drainage patterns in the project area and increase impervious surfaces, which could exceed the capacity of storm water drainage systems and result in localized flooding and contribution to offsite flooding.	PS	L	M	L	L	L
4.8-4: Campus growth under the 2003 LRDP would increase discharge of treated effluent from the campus wastewater treatment plant into the South Fork of Putah Creek, which could exceed waste discharge requirements and degrade receiving water quality.	PS	L	M	E	L	L
4.8-5: Campus growth under the 2003 LRDP would increase the amount of water extracted from the deep aquifer and would increase impervious surfaces. This could result in a net deficit in the deep aquifer volume or a lowering of the local groundwater table but would not interfere substantially with recharge of the deep aquifer.	S	L	M	E	L	L
4.8-6: Campus growth under the 2003 LRDP could increase the amount of water extracted from the shallow/intermediate aquifer and would increase impervious surfaces. Extraction from the shallow/intermediate aquifer could deplete groundwater levels and could contribute to local subsidence, and increased impervious coverage could interfere substantially with recharge. This could result in a net deficit in the intermediate aquifer volume or a lowering of the local groundwater table.	S	L	M	E	L	L
4.8-9: Development under the 2003 LRDP could place non-residential structures within a 100-year floodplain, which could expose people and structures to risks associated with flooding and/or impede or redirect flows, contributing to flood hazards.	PS	L	M	E	E	L

Project: PS=Potentially significant; S=Significant.
Alternatives: L=Less significant than project; E= Roughly equal with project; M=More significant than project
Note: There are no significant impacts associated with Land Use and Planning, and Recreation.

Impacts	Proposed LRDP (before mitigation)	Reduced Enrollment Growth	Higher Enrollment Growth	Central Campus Infill	No NMP/No RPMP	No Project
4.10 Noise						
4.10-1: Construction of campus facilities pursuant to the 2003 LRDP could expose nearby receptors to excessive groundborne vibration and airborne or groundborne noise.	PS	L	M	M	L	L
4.10-2: Implementation of the 2003 LRDP would result in increased vehicular traffic on the regional road network, which would substantially increase ambient noise levels.	S	E	M	E	L	L
4.10-4: Implementation of the 2003 LRDP could potentially expose noise-sensitive land uses to significant rail noise.	PS	L	M	E	E	L
4.11 Population and Housing						
4.11-1: Implementation of the 2003 LRDP would directly induce substantial population growth in the area by proposing increased enrollment and additional employment.	S	L	M	E	E	L
4.12 Public Services						
4.12-3: If the City of Davis Fire Department provides services to the proposed Neighborhood, implementation of the 2003 LRDP could result in significant environmental impacts to prime farmland and habitat associated with the provision of new or altered facilities in order to maintain the department's preferred response time standard.	S	E	E	E	E	L
4.14 Traffic, Circulation, and Parking						
4.14-1: Implementation of the 2003 LRDP would cause unacceptable intersection operations at on-campus intersections.	S	L	M	E	M	L

Project: PS=Potentially significant; S=Significant.
Alternatives: L=Less significant than project; E= Roughly equal with project; M=More significant than project
Note: There are no significant impacts associated with Land Use and Planning, and Recreation.

Impacts	Proposed LRDP (before mitigation)	Reduced Enrollment Growth	Higher Enrollment Growth	Central Campus Infill	No NMP/No RPMP	No Project
4.14-2: Implementation of the 2003 LRDP would cause unacceptable intersection and freeway LOS operations at off-campus facilities, including facilities contained in the Yolo County and Solano County Congestion Management Plans.	S	L	M	E	M	L
4.14-3: Implementation of the 2003 LRDP would create additional parking demand.	S	L	M	M	M	L
4.14-4: Implementation of the 2003 LRDP would increase demand for transit services.	S	L	M	E	M	L
4.14-5: Growth in population levels in the core area of the central campus would result in increased conflicts between bicyclists, pedestrians, and transit vehicles, causing increased congestion and safety problems.	S	L	M	E	M	L
4.15 Utilities						
4.15-7: Implementation of the 2003 LRDP would require the expansion of natural gas transmission systems which would not result in environmental impacts.	PS	L	E	E	L	L
Ability to Satisfy Project Objectives						
Meet the LRDP growth target, as detailed in the Growth Program included in the 2003 LRDP.	Meets	Reduced Ability	Meets and exceeds	Meets	Reduced Ability	Reduced Ability
Create a physical framework to support the teaching, research, and public service mission of the campus.	Meets	Reduced Ability	Meets	Meets	Reduced Ability	Reduced Ability
Manage campus land resources in a spirit of stewardship for the future.	Meets	Meets	Reduced Ability	Meets and exceeds	Meets and exceeds	Meets and exceeds
Provide an environment to enrich campus life and serve the greater community.	Meets	Meets	Reduced Ability	Reduced Ability	Reduced Ability	Reduced Ability

Project: PS=Potentially significant; S=Significant.
Alternatives: L=Less significant than project; E= Roughly equal with project; M=More significant than project
Note: There are no significant impacts associated with Land Use and Planning, and Recreation.

Table 2-3
University of California, Davis
LRDP Mitigation Monitoring Program

Number	Mitigation Measures	Monitoring and Reporting Procedure	Mitigation Timing		Monitoring and Reporting Responsibility
	4.1 AESTHETICS				
4.1-1	*The campus Design Review Committee shall consider scenic views while planning for projects under the 2003 LRDP to maintain scenic views to the extent feasible. Design considerations could include establishing open landscaping and deciduous trees along important view corridors.*	Review project plans and design for obstruction of scenic views. Revise plan and design, if necessary, to maintain the scenic view to the extent feasible.	SS, DE	Prior to final design approval	Design Review Committee, Resource Management & Planning
4.1-2	*(a) New structures, roads, and landscaping at UC Davis shall be designed to be compatible with the visual elements and policies identified in the 2003 LRDP.*	Review project design for compatibility. Revise design, if necessary, to ensure compatibility.	DE	Prior to final design approval	Design Review Committee, Resource Management & Planning
	(b) Prior to design approval of development projects under the 2003 LRDP, the campus Design Review Committee must determine that project designs are consistent with the valued elements of the visual landscape identified in the 2003 LRDP, applicable planning guidelines, and the character of surrounding development so that the visual character and quality of the project area are not substantially degraded.	Review project design for consistency. Revise design, if necessary, to ensure consistency.	DE	Prior to final design approval	Design Review Committee, Resource Management & Planning
4.1-3	*(a) Design for specific projects shall provide for the use of textured nonreflective exterior surfaces and nonreflective glass.*	Review project design for use of nonreflective exterior surfaces and glass. Revise design, if necessary.	DE	Prior to final design approval	Design Review Committee, Resource Management & Planning
	(b) Except as provided in LRDP Mitigation 4.1-3(c), all new outdoor lighting shall utilize directional lighting methods with shielded and cutoff type light fixtures to minimize glare and upward directed lighting.	Review project design for use of directional lighting methods. Revise design, if necessary.	DE	Prior to final design approval	Design Review Committee, Resource Management & Planning

Project stage at which implementation of the measure is required: SS=during site selection; DE=during detailed project planning or project design prior to project approval; CO=during construction; OC=prior to occupancy; OP=during operation

Number	Mitigation Measures	Monitoring and Reporting Procedure	Mitigation Timing		Monitoring and Reporting Responsibility
	(c) Non-cutoff, non-shielded lighting fixtures used to enhance nighttime views of walking paths, specific landscape features, or specific architectural features shall be reviewed by the Campus Design Review Committee prior to installation to ensure that: (1) the minimum amount of required lighting is proposed to achieve the desired nighttime emphasis, and (2) the proposed illumination creates no adverse effect on nighttime views.	Review project design to ensure that the minimum required lighting is proposed and for effects on nighttime views. Revise design, if necessary.	DE	Prior to final design approval	Design Review Committee, Resource Management & Planning
	(d) The campus will implement the use of the specified lighting design and equipment when older lighting fixtures and designs are replaced over time.	Review lighting replacements on campus.	OP	Ongoing, as older exterior lighting fixtures are replaced	Operations & Maintenance
4.1-4	*(a) Implement LRDP Mitigation 4.1-1.*	Review project location and design for potential cumulative contribution to obstruction of scenic vistas. Revise project design, if necessary, to maintain scenic vista to the extent feasible.	SS, DE	Prior to final design approval	Design Review Committee and Resource Management & Planning
	(b) The City of Davis, Yolo County, and Solano County can and should implement the General Plan policies that support the long-term establishment and preservation of scenic vistas.	Outside the jurisdiction of UC Davis.	SS, DE	Ongoing	*City of Davis, Yolo County, and Solano County
4.1-5	*(a) Implement LRDP Mitigation 4.1-2(a) and (b).*	Review project design for cumulative effects upon valued visual elements, landscape, visual character, policies. Revise design as needed to minimize effects.	SS, DE	Prior to final design approval	Resource Management & Planning, Design Review Committee
	(b) The cities of Davis, Woodland, Winters, and Dixon, and Yolo and Solano counties can and should implement policies in their plans that address the protection of scenic resources and maintenance of visual quality.	Outside the jurisdiction of UC Davis.	SS, DE	Ongoing	*Cities of Davis, Woodland, Winters, and Dixon, and Yolo and Solano counties

Project stage at which implementation of the measure is required: SS=during site selection; DE=during detailed project planning or project design prior to project approval; CO=during construction; OC=prior to occupancy; OP=during operation

Number	Mitigation Measures	Monitoring and Reporting Procedure	Mitigation Timing		Monitoring and Reporting Responsibility
4.1-6	*(a) Implement LRDP Mitigation 4.1-3(a) and (b).*	Review project design for potential contribution to light and glare that could affect views. Revise design, if necessary, to ensure that minimum lighting necessary is used.	DE	Prior to final design approval	Design Review Committee, Resource Management & Planning
	(b) The City of Davis and other surrounding jurisdictions can and should adopt (if necessary) and implement development standards and guidelines that support the minimal use of site lighting for new developments.	Outside the jurisdiction of UC Davis.	DE	Ongoing	*Cities of Davis, Woodland, Winters, and Dixon, and Yolo and Solano counties
	4.2 AGRICULTURAL RESOURCES				
4.2-1	*Prior to conversion of prime farmland to nonagricultural uses under the 2003 LRDP, the campus shall preserve approximately 525 acres of prime farmland either at the Russell Ranch within the area designated for Teaching and Research Fields or the Kidwell and McConeghy parcels, for agricultural purposes (including agricultural teaching and research). The campus will preserve prime farmland at a one-to-one (1:1) mitigation ratio for prime farmland converted to developed uses and a one-third–to–one (1/3:1) ratio for prime farmland converted to habitat at Russell Ranch.*	Designate land in amounts of at least the ratios identified to be preserved for agricultural purposes through overlay on 2003 LRDP Land Use Diagram, by recording agricultural conservation easement/ deed restriction or other equivalent mechanism.	CO	Prior to start of construction of any project that would convert farmland to nonagricultural uses	Resource Management & Planning
4.2-3	*Implement LRDP Mitigation 4.2-1.*	See Mitigation 4.2-1, above.	SS	See Mitigation 4.2-1, above	See Mitigation 4.2-1, above
	4.3 AIR QUALITY				
4.3-1	*(a) Vehicular Sources. The following measures will be implemented to reduce emissions from vehicles, as feasible.* • *The campus shall continue to actively pursue Transportation Demand Management to reduce reliance on private automobiles for travel to and from the campus.*	Document Transportation Demand Management efforts and progress.	OP	At least every three years	Transportation and Parking Services, in cooperation with other responsible jurisdictions including the City of Davis and Caltrans.

Project stage at which implementation of the measure is required: SS=during site selection; DE=during detailed project planning or project design prior to project approval; CO=during construction; OC=prior to occupancy; OP=during operation

Number	Mitigation Measures	Monitoring and Reporting Procedure	Mitigation Timing		Monitoring and Reporting Responsibility
	• *Provide pedestrian-enhancing infrastructure to encourage pedestrian activity and discourage vehicle use.* • *Provide bicycle facilities to encourage bicycle use instead of driving.* • *Provide transit-enhancing infrastructure to promote the use of public transportation.* • *Provide facilities to accommodate alternative-fuel vehicles such as electric cars and CNG vehicles.*	Ensure that facilities listed are included in project design as applicable: verify construction of pedestrian-enhancing infrastructure, bicycle facilities, transit-enhancing infrastructure, facilities to accommodate alternative-fuel vehicles.	DE	Prior to approval of final design of applicable projects	Resource Management & Planning
	• *When the campus purchases new vehicles, the campus will evaluate the practicality and feasibility of acquiring low-pollution vehicles that are appropriate for the task and will purchase these types of vehicles when practical and feasible. When replacing diesel engines in existing equipment, the campus will install up-to-date technology.*	Develop policy to ensure low-polluting vehicles are considered and purchased when feasible and up to date diesel engines are used when replacements occur.	OP	On a continuing basis	Office of Administration
	• *Improve traffic flows and congestion by timing of traffic signals to facilitate uninterrupted travel.*	Monitor traffic at affected intersections and adjust timing of traffic signals as appropriate to facilitate uninterrupted travel.	OP	At least yearly	Transportation and Parking Services
	(b) Area Sources. The following measures will be implemented to reduce emissions from area sources, as feasible. • *Use solar or low-emission water heaters in new or renovated buildings.* • *Orient buildings to take advantage of solar heating and natural cooling and use passive solar designs.* • *Increase wall and attic insulation in new or renovated buildings.* • *For fireplaces or wood-burning appliances, require low-emitting EPA certified wood-burning appliances, or residential natural-gas fireplaces.*	Adopt standard specifications or design guidelines that include area source reduction measures to be required for construction projects. Ensure that where feasible applicable measures are included in each project.	DE OP	During project design/prior to final design approval	Architects & Engineers, Resource Management & Planning

Project stage at which implementation of the measure is required: SS=during site selection; DE=during detailed project planning or project design prior to project approval; CO=during construction; OC=prior to occupancy; OP=during operation

Number	Mitigation Measures	Monitoring and Reporting Procedure	Mitigation Timing		Monitoring and Reporting Responsibility
	• *Provide electric equipment for landscape maintenance.*	Develop policy that requires that where feasible new landscape equipment purchased is electric.	OP	Prior to purchase of new landscape equipment	Purchasing, Grounds Division
	(c) The campus will work with the YSAQMD to ensure that emissions directly and indirectly associated with the campus are adequately accounted for and mitigated in applicable air quality planning efforts. The YSAQMD can and should adopt adequate measures consistent with applicable law to ensure that air quality standard violations are avoided.	Monitor changes in Air Quality regulations. Attend YSAQMD meetings on changing regulations. Meet with YSAQMD to discuss air quality planning efforts. Document meeting results.	OP	As changes in standards and procedures occur	Resource Management & Planning, Environmental Health & Safety
4.3-3	*(a) The campus shall include in all construction contracts the measures specified below to reduce fugitive dust impacts, including but not limited to the following:*	Continue to require standard dust control measures as part of every construction project contract.	DE	Prior to construction	Architects & Engineers
	• *All disturbed areas, including storage piles, which are not being actively utilized for construction purpose, shall be effectively stabilized of dust emissions using water, chemical stabilizer/suppressant, or vegetative ground cover.* • *All on-site unpaved roads and off-site unpaved access roads shall be effectively stabilized of dust emissions using water or chemical stabilizer/suppressant.* • *All land clearing, grubbing, scraping, excavation, land leveling, grading, cut and fill, and demolition activities shall be effectively controlled of fugitive dust emissions utilizing application of water or by presoaking.* • *When demolishing buildings up to six stories in height, all exterior surfaces of the building shall be wetted during demolition.* • *When materials are transported off-site, all material shall be covered, effectively wetted to limit visible dust emissions, or at least two feet of freeboard space from the top of the container shall be maintained.*	Inspect construction site at regular intervals during construction to verify compliance with specified dust control measures.	CO	Regular intervals throughout construction period	Architects & Engineers

Project stage at which implementation of the measure is required: SS=during site selection; DE=during detailed project planning or project design prior to project approval; CO=during construction; OC=prior to occupancy; OP=during operation

Number	Mitigation Measures	Monitoring and Reporting Procedure	Mitigation Timing		Monitoring and Reporting Responsibility
	• *All operations shall limit or expeditiously remove the accumulation of mud or dirt from adjacent public streets at least once every 24 hours when operations are occurring. The use of dry rotary brushes is expressly prohibited except where preceded or accompanied by sufficient wetting to limit the visible dust emissions. Use of blower devices also is expressly forbidden.* • *Following the addition of materials to, or the removal of materials from, the surface of outdoor storage piles, said piles shall be effectively stabilized of fugitive dust emissions by utilizing sufficient water or chemical stabilizer/suppressant.*				
	(b) The campus shall include in construction contracts for large construction projects near receptors the following control measures: • *Limit traffic speeds on unpaved roads to 15 mph;* • *Install sandbags or other erosion control measures to prevent silt runoff to public roadways from sites with a slope greater than one percent; and* • *To the extent feasible, limit area subject to excavation, grading, and other construction activity at any one time.*	Continue to require contract specifications for dust and erosion control measures as part of every construction project contract.	DE	Prior to construction	Architects & Engineers
		Inspect construction site at regular intervals during construction to verify compliance with specified dust and erosion control measures.	CO	At regular intervals throughout the construction period	Architects & Engineers
	(c) The campus shall implement the following control measures to reduce emissions of ozone precursors from construction equipment exhaust: • *To the extent that equipment is available and cost effective, the campus shall encourage contractors to use alternate fuels and retrofit existing engines in construction equipment.* • *Minimize idling time to a maximum of 5 minutes when construction equipment is not in use.* • *To the extent practicable, manage operation of heavy-duty equipment to reduce emissions.*	Adopt standard specifications that include the specified measures to reduce emissions of ozone precursors from construction equipment exhaust as part of every construction project contract.	DE	Prior to construction	Architects & Engineers

Project stage at which implementation of the measure is required: SS=during site selection; DE=during detailed project planning or project design prior to project approval; CO=during construction; OC=prior to occupancy; OP=during operation

Number	Mitigation Measures	Monitoring and Reporting Procedure	Mitigation Timing		Monitoring and Reporting Responsibility
	• *To the extent practicable, employ construction management techniques such as timing construction to occur outside the ozone season of May through October, or scheduling equipment use to limit unnecessary concurrent operation.*	Inspect equipment at construction site to verify that program's measures are being carried out.	CO	At least once during each phase of construction	Architects & Engineers
4.3-6	*Implement LRDP Mitigation 4.3-1(a-c).*	Adopt and implement standards specified in Mitigation 4.3-1 (a-c) to reduce campus contribution to impact.	OP	As specified for Mitigation 4.3-1(a-c), for each campus project	Architects & Engineers
4.3-8	*EPA and CARB are expected to continue the development and implementation of programs to reduce air toxics, and UC Davis will continue its efforts in this area.*	Monitor EPA, CARB and YSAQMD regulations/programs for reduction of air toxics; implement appropriate changes on campus. Document programs implemented.	OP	On a continuous basis	Resource Management & Planning, Environmental Health & Safety
	4.4 BIOLOGICAL RESOURCES				
4.4-1	*(a) During the project planning phase, the campus shall conduct a rare plant survey if the site is previously undeveloped and is in a valley-foothill riparian, open water pond, riverine, wetland or ruderal/annual grassland or habitat. Surveys shall be conducted by qualified biologists in accordance with the most current CDFG/USFWS guidelines or protocols and shall be conducted during the blooming period of the plant species with potential to occur in the area, as listed in Table 4.4-2. If these surveys reveal no occurrences of any species, then no further mitigation would be required.*	Ensure that rare plant survey of proposed and any alternate site is conducted, and findings documented, by qualified biologist.	SS, DE	During appropriate season, as specified in measure, prior to final project design approval	Resource Management & Planning

Project stage at which implementation of the measure is required: SS=during site selection; DE=during detailed project planning or project design prior to project approval; CO=during construction; OC=prior to occupancy; OP=during operation

Number	Mitigation Measures	Monitoring and Reporting Procedure	Mitigation Timing		Monitoring and Reporting Responsibility
4.4-1	*(b) Should surveys determine that special-status plant species are present, measures will be taken to avoid the plants and the associated habitat necessary for long-term maintenance of the population. If avoidance is not feasible the campus will provide off-site compensation at a 1:1 ratio. Off-site compensation will include preservation of existing populations at other sites and/or enhancement of the affected species. The campus will preserve either an equal number of the affected plants or an equal area of the affected species habitat. The campus shall also develop and fund the implementation of a plan to manage and monitor the preserve to ensure the long-term survival of the preserved population.*	Prepare and implement a plan for avoiding special-status plants and the associated habitat if any are found under Mitigation Measure 4.1(a). This plan shall include performance criteria for avoidance and minimization measures and contingency measures if performance criteria are not met.	DE	Prior to final project design approval	Resource Management & Planning
		Monitor implementation of avoidance measures if any through inspection of the project site during and after construction.	CO	Periodically during construction	Architects & Engineers
		Monitor on-site avoidance and minimization if any for a minimum of five years following completion of construction.	OP	Annually	Resource Management & Planning
		If necessary, designate area for off-site compensation. Develop and fund the implementation of a management and monitoring plan. Monitor the performance of off-site compensation for a minimum of five years.	DE, OP	Prior to final design approval and ongoing for five years following implementation of compensation	Resource Management & Planning

Project stage at which implementation of the measure is required: SS=during site selection; DE=during detailed project planning or project design prior to project approval; CO=during construction; OC=prior to occupancy; OP=during operation

Number	Mitigation Measures	Monitoring and Reporting Procedure	Mitigation Timing		Monitoring and Reporting Responsibility
4.4-2	*The campus shall mitigate the loss of foraging habitat due to development through the establishment of 650 acres of mitigation lands on or near the Putah Creek Riparian Reserve. Approximately 370 acres of this area shall be converted from existing agricultural uses to restored Valley-Foothill Riparian Woodland and Valley Grassland at Russell Ranch. An additional 280 acres of agricultural land will be protected with a habitat and farmland conservation mechanism either at the Russell Ranch or Kidwell and McConeghy parcels. These grassland and agricultural lands would be available as foraging habitat for Swainson's hawk and other special-status species such as prairie falcon, golden eagle, wintering or migrating birds and birds of prey that may occasionally forage on campus lands. Restored Valley-Foothill Riparian Habitat would be available as nesting habitat for Swainson's hawk and other birds of prey.* *An additional 15-acre mitigation area shall be established along the North Fork Cutoff. This area shall be restored as an oak-grassland and would be a nesting and foraging site for Swainson's hawk and other birds of prey.*	1) Establish Russell Ranch Habitat Mitigation Area and commit on-going funding for the preservation and management of the mitigation area. 2) Develop habitat and farmland conservation mechanism. 3) Restore oak-grassland habitat in North Fork Cutoff area.	OP	Begin within 1 year of adoption of 2003 LRDP and before construction of a specific project that converts habitat. Habitation mitigation areas will be established commensurate with area converted from habitat.	Resource Management & Planning
		4) Verify conversion of land from agricultural uses to restored Valley-Foothill Riparian Woodland and Valley Grassland and oak-grassland. Monitor performance of habitat restoration.	OP	Within 5 years of adoption of 2003 LRDP	Resource Management & Planning

Project stage at which implementation of the measure is required: SS=during site selection; DE=during detailed project planning or project design prior to project approval; CO=during construction; OC=prior to occupancy; OP=during operation

Number	Mitigation Measures	Monitoring and Reporting Procedure	Mitigation Timing		Monitoring and Reporting Responsibility
		5) Prepare map and memo documenting establishment of mitigation areas and the number and types of credits available for future projects. Mitigation acreage will be established in proportion to acreage converted. Submit the map and memo to the California Department of Fish and Game for verification of the available mitigation credits.	OP	Within 5 years of adoption of 2003 LRDP	Resource Management & Planning
		6) Submit documentation of conservation credits and debits to the California Department of Fish and Game.	DE	Prior to final project design approval	Resource Management & Planning

Project stage at which implementation of the measure is required: SS=during site selection; DE=during detailed project planning or project design prior to project approval; CO=during construction; OC=prior to occupancy; OP=during operation

Number	Mitigation Measures	Monitoring and Reporting Procedure	Mitigation Timing		Monitoring and Reporting Responsibility
4.4-3	*(a) The Russell Ranch Mitigation Area shall include at least 195 acres of grassland habitat suitable for use by burrowing owls. Ground squirrels in the mitigation area shall not be subject to control measures and will be allowed to fluctuate in response to local conditions. Artificial burrows may be installed if ground squirrel populations are not providing a sufficient number of burrows to support burrowing owls.*	Prepare and implement a burrowing owl habitat mitigation plan for the 195 acres at the Russell Ranch Mitigation Area. This plan shall include performance criteria for establishment and maintenance of habitat suitable for use by burrowing owls and contingency measures if performance criteria are not met. Monitor the area for burrowing owl utilization. Document results of monitoring in annual memo.	OP	Begin mitigation plan preparation within 1 year of adoption of 2003 LRDP and annually thereafter for 10 years. Mitigation area will be established in acreage commensurate with acreage converted due to LRDP projects.	Resource Management & Planning
	(b) The campus shall survey proposed development areas with potential habitat for the presence or absence of burrowing owls.	Conduct survey. Document results in environmental documentation for project.	SS, DE	During project siting and project design of specific projects	Resource Management & Planning
	(c) The campus shall conduct a pre-construction survey of proposed project sites during the breeding season (from approximately February 1 through August 31), consistent with CDFG guidelines, in the same calendar year that construction is planned to begin. The survey shall be conducted by a qualified biologist to determine if any burrowing owls are nesting on or directly adjacent to any proposed project site. If phased construction procedures are planned for the proposed project, the results of the above survey shall be valid only for the season when it is conducted. If the pre-construction breeding season survey does not identify any nesting raptor species on the project site, then no further mitigation would be required. However, should any burrowing owls be found nesting on the project site, then LRDP Mitigation 4.4-3(d) shall be implemented.	Conduct survey. Verify survey was conducted and document results. Include mitigation specifications in construction contract as necessary.	DE, CO	During the breeding season prior to start of construction or of each construction phase	Resource, Management, and Planning, Architects & Engineers

Project stage at which implementation of the measure is required: SS=during site selection; DE=during detailed project planning or project design prior to project approval; CO=during construction; OC=prior to occupancy; OP=during operation

Number	Mitigation Measures	Monitoring and Reporting Procedure	Mitigation Timing		Monitoring and Reporting Responsibility
	(d) During the breeding season, the campus, consistent with CDFG guidelines, shall not disturb an occupied burrow while there is an active nest and/or juvenile owls are present. Avoidance shall include the establishment of a nondisturbance buffer zone around the nest site consistent with CDFG guidelines. The buffer zone shall be delineated by highly visible temporary construction fencing. The occupied nest site shall be monitored by a qualified biologist to determine when the juvenile owl is fledged and independent. Disturbance of an occupied burrow shall only occur outside the breeding season and when there is no nest or juvenile owl based on monitoring by a qualified biologist. *Based on approval by CDFG, pre-construction and pre-breeding season exclusion measures may be implemented to preclude burrowing owl occupation of the project site prior to project-related disturbance. These include the following measures:* • *Obviously inactive burrows in the project area will be closed. Active or potentially active ground squirrel burrows will be monitored to confirm use by ground squirrels and not by burrowing owls before ground squirrels are removed and the burrow is closed. One-way doors will be used on active burrows if use by ground squirrels cannot be confirmed.* • *The owls will be displaced from the occupied burrows according to the CDFG burrowing owl guidelines. The owls will be displaced from their burrows by installing one-way exit doors in occupied or potential burrows within the area of disturbance. After 48 hours with the doors in place, the burrows will then be closed to prevent reoccupation by owls.* • *Where feasible, artificial burrows will be provided in adjacent suitable habitat consistent with CDFG guidelines.*	Develop a plan to avoid active nest sites during construction, establish buffer zone, and monitor active nests. Verify that plan is implemented. Identify inactive burrows. Monitor active ground squirrel burrows; confirm ground squirrel use. Follow CDFG guidelines to implement exclusion/ displacement measures using one-way doors as needed. Verify exclusion. Document in memo. Construct two artificial burrows for each active burrow removed. Verify performance of artificial burrows.	CO	Plan: prior to construction Monitor: pre-breeding season prior to construction and weekly during construction Nests: Construct artificial burrows prior to final design approval. Memo: At conclusion of exclusion action and annually for five years after construction of artificial burrows	Resource Management & Planning

Project stage at which implementation of the measure is required: SS=during site selection; DE=during detailed project planning or project design prior to project approval; CO=during construction; OC=prior to occupancy; OP=during operation

Number	Mitigation Measures	Monitoring and Reporting Procedure	Mitigation Timing		Monitoring and Reporting Responsibility
4.4-4	*The campus shall conduct a pre-construction survey of trees on and adjacent to a project site during the raptor breeding season (approximately March 1 to August 31). Additionally, the campus shall conduct surveys within a ½-mile radius of the site to determine the presence or absence of any nesting Swainson's hawks. The surveys shall be conducted by a qualified biologist during the same calendar year that the proposed activity is planned to begin to determine if any nesting birds-of-prey would be affected. If phased construction procedures are planned for the proposed activity, the results of the above survey shall be valid only for the season when it is conducted.* *(a) If any Swainson's hawks are nesting within a one-half-mile radius of the project site or if other raptors are nesting in, on or adjacent to the project site, a qualified biologist shall determine the potential for disturbance to nesting raptors, including Swainson's hawks. If the biologist determines that there is a significant potential for disturbance, the campus shall implement feasible changes in the construction schedule or make other appropriate adjustments to the project in response to the specific circumstances. If feasible project changes are not readily identifiable, the campus will consult with CDFG to determine what actions should be taken to protect the nesting efforts.* *If after five years, a previously recorded nest site remains unoccupied by a Swainson's hawk, it will no longer be considered as a Swainson's hawk nest site subject to this mitigation.*	Conduct survey and document findings. If nests are found, determine the potential for disturbance. If the potential is significant, revise construction schedule or otherwise adjust project appropriately.	CO	Prior to project construction, during breeding season	Resource Management & Planning

Project stage at which implementation of the measure is required: SS=during site selection; DE=during detailed project planning or project design prior to project approval; CO=during construction; OC=prior to occupancy; OP=during operation

Number	Mitigation Measures	Monitoring and Reporting Procedure	Mitigation Timing		Monitoring and Reporting Responsibility
	(b) The campus shall continue to conduct annual surveys to determine the location of nesting Swainson's hawks and other birds of prey on the campus outside the Putah Creek corridor. If nesting Swainson's hawks are found during the survey at a previously unknown location within one-half mile of a project site and/or at a location closer to the project or more visually exposed to the project site than a nearby previously documented site, a qualified biologist shall, prior to project construction, determine the potential for disturbance to nesting Swainson's hawks. If the biologist determines that there is a significant potential for disturbance, the campus shall implement feasible changes in the construction schedule or make other appropriate adjustments to the project in response to the specific circumstances (e.g. relocating noisy equipment or creating temporary sound barriers).	Conduct survey and maintain an updated inventory list/map of active nests.	OP	Annually during breeding season	Resource Management & Planning
		For proposed projects, if active nests are found within a half-mile of a project site, determine the potential for disturbance. If the potential is significant, revise construction schedule or otherwise adjust project appropriately.	DE, CO	Prior to approval of final design	Resource Management & Planning
	The implementation of LRDP Mitigations 4.4-4(a) and (b) shall be conducted under the supervision of a biologist whose qualifications include: • *A bachelor's degree in biology or related field;* • *Two years of field experience related to nesting raptors; and.* • *Prior construction monitoring experience.* *Further:* • *All decisions of the qualified biologist shall be made in consultation with the California Department of Fish and Game;* • *Monitoring shall be conducted for a sufficient time (minimum of 3 consecutive days following the initiation of construction) to verify that the nesting pair does not exhibit significant adverse reaction to construction activities (i.e., changes in behavioral patterns, reactions to construction noise, etc.); and* *Nest site monitoring will continue for a minimum of once a week through the nesting cycle at that nest.*	See Mitigations 4.4-4(a-b), above. Document qualifications of biologist.	DE, CO, OP	See Mitigations 4.4-4(a-b), above.	See Mitigations 4.4-4(a-b), above.

Project stage at which implementation of the measure is required: SS=during site selection; DE=during detailed project planning or project design prior to project approval; CO=during construction; OC=prior to occupancy; OP=during operation

Number	Mitigation Measures	Monitoring and Reporting Procedure	Mitigation Timing		Monitoring and Reporting Responsibility
4.4-5	*Mitigation 4.4-4(a) and (b) will be implemented, including pre-construction survey of trees on and adjacent to a project site during the raptor breeding season (approximately March 1 to August 31). If a Swainson's hawk nest tree is present, the tree will be removed outside the nesting season (March-May).*	Conduct survey of potential active nest trees on and adjacent to project site during breeding season prior to construction.	DE, CO	During breeding season (Mar. 1 to Aug. 1) prior to completion of construction	Resource Management & Planning
		If active nests are found in a tree that must be removed, document findings. Remove the tree outside the nesting season.	SS, DE, CO	Outside of nesting season (March to May)	Resource Management & Planning
4.4-6	*(a) During the project design stage and as a condition of project approval, the campus shall:* • *Conduct a project-specific survey for all potential VELB habitat, including a stem count and an assessment of historic or current VELB use; and* • *Avoid and protect all potential VELB habitat within a natural open space area where feasible*	Conduct survey and document findings. Prepare and implement a plan to avoid and protect potential VELB habitat within open space where feasible.	SS, DE	During project siting or design stage, prior to final project approval	Resource Management & Planning
	(b) For those areas where avoidance is infeasible, the Russell Ranch Mitigation Area shall include approximately 20 acres within and adjacent to the riparian corridor of Putah Creek and within and adjacent to the existing drainage in the northeast corner of the site that will be used as a receptor site for transplanted elderberry shrubs and the associated elderberry seedlings and other native plant seedlings required to be planted in accordance with the USFWS VELB Mitigation Guidelines (USFWS 1996). The site is estimated to support between 100 and 500 transplanted elderberry shrubs, depending on the size and number of stems on the shrubs at the time they are transplanted.	Identify approximately 20 acres for receptor site at Russell Ranch Mitigation Area.	OP	Within 1 year of approval of 2003 LRDP	Resource Management & Planning
		Transplant elderberry shrubs that cannot be avoided by projects.	DE	Prior to project construction that would result in VELB impacts	Resource Management & Planning

Project stage at which implementation of the measure is required: SS=during site selection; DE=during detailed project planning or project design prior to project approval; CO=during construction; OC=prior to occupancy; OP=during operation

Number	Mitigation Measures	Monitoring and Reporting Procedure	Mitigation Timing		Monitoring and Reporting Responsibility
		Monitor/document survival and performance of transplanted shrubs at receptor site.	OP	Annually for 10 years or semiannually for 15 years as specified in the 1996 USFWS VELB Mitigation Guidelines	Resource Management & Planning
4.4-7	*The campus shall implement avoidance and minimization measures for the northwestern pond turtle, including but not limited to:* • *Pre-construction surveys prior to any disturbance of the project site* • *Installation of silt fencing to prevent any pond turtles from entering the construction area* • *If work is performed in the water, seining of the area surrounding the site to relocate any northwestern pond turtles present.*	Conduct survey and document findings. Include specified avoidance and control measures in construction contract.	DE	Prior to construction	Resource Management & Planning
		Monitor construction for compliance.	CO	At intervals during construction in sensitive areas	Architects & Engineers
4.4-8	*(a) During the project design phase, the campus shall conduct a wetlands delineation of the project site if wetlands are potentially present. The wetland delineation shall be verified by the ACOE.* *Should no wetland habitats or natural drainages be delineated on the site then no further mitigation shall be required. However, if any jurisdictional wetland habitats or natural drainages are delineated on a project site, then LRDP Mitigation 4.4-8(b) shall be required.*	Conduct wetlands delineation and submit to the ACOE for verification.	SS, DE	During project siting or design phase	Resource Management & Planning

Project stage at which implementation of the measure is required: SS=during site selection; DE=during detailed project planning or project design prior to project approval; CO=during construction; OC=prior to occupancy; OP=during operation

Number	Mitigation Measures	Monitoring and Reporting Procedure	Mitigation Timing		Monitoring and Reporting Responsibility
	(b) For projects that involve the fill of jurisdictional wetlands, the campus shall implement the following mitigation program that will ensure no net loss of wetland functions and values. To the extent feasible, the campus will avoid filling wetlands by redesigning the project to promote environmentally sensitive siting and design. If avoidance is not feasible, the campus shall minimize the fill acreage. If neither of these options is feasible, the wetlands will be mitigated at a 3:1 ratio. This ratio will include both creation and preservation, with creation equaling at least a 1:1 ratio. To ensure no net loss of wetlands, the mitigation should include wetland enhancement as well. This would include monitoring, cleanup, and maintenance of preserved wetland habitats within and adjacent to the campus, as necessary.	Verify that project has been redesigned as needed to avoid or minimize filling of wetlands, or require creation and enhancement of new wetlands at required ratios.	SS, DE	During project siting or design phase; Prior to project approval	Resource Management & Planning
		Verify that monitoring, cleanup, and maintenance for wetlands enhancement has been conducted.	DE, CO	Prior to or concurrent with project construction	Resource Management & Planning
	(c) The campus shall obtain the necessary ACOE, CDFG, and RWQCB permits prior to filling or other adverse modifications of any verified jurisdictional water of the U.S., or alteration, filling or modification of the channel, bed or bank of Putah Creek, South Fork of Putah Creek, Arboretum Waterway or any other natural drainage regulated under Section 1600 of the CDFG code.	Obtain permits.	DE	Prior to construction	Resource Management & Planning
		Inspect during construction to verify that permit conditions have been met.	CO	At least once during construction period	Architects & Engineers
4.4-10	*(a) Any work conducted within the creek will be constructed outside of the migration season (September 1 and October 15) to the extent feasible.*	Adjust construction schedule if necessary.	DE, CO	Prior to and during construction	Resource Management & Planning, Architects & Engineers
	(b) If construction activities are to be conducted in the water during the migration season:	Include in construction contract specifications.	CO	Prior to construction	Architects & Engineers

Project stage at which implementation of the measure is required: SS=during site selection; DE=during detailed project planning or project design prior to project approval; CO=during construction; OC=prior to occupancy; OP=during operation

Number	Mitigation Measures	Monitoring and Reporting Procedure	Mitigation Timing		Monitoring and Reporting Responsibility
	• *Silt curtains will be used at the construction location.* • *Water quality will be evaluated during and after all in-water construction activities. The performance criteria shall be no degradation of downstream water quality compared to upstream water quality. Water quality shall be evaluated by a qualified environmental monitor using appropriate qualitative or quantitative measurements. Remedial measures shall be implemented if downstream water quality is degraded. Remedial measures shall include the following:* – *Modification or suspension of in-water construction activities as appropriate;* – *Installation of additional sediment control devices; and* – *Additional monitoring to evaluate the water quality degradation and identify corrective measures.* • *The University shall coordinate with the California Department of Fish and Game, the Regional Water Quality Control Board, and the U.S. Army Corps of Engineers as appropriate to determine whether additional remedial measures are required.*	Verify that silt curtains are in place by monitoring during construction.	CO	Weekly during construction	Architects & Engineers
	(c) Silt fencing will be installed as appropriate along the edges of the creek to prevent excess fill from entering the water. All silt fences will be maintained and checked for efficacy as necessary, but not less frequently than one time per week.	Include in construction contract specifications.	CO	Prior to award of construction contract	Architects & Engineers
		Monitor construction to verify that required silt fencing is in place and maintained.	CO	At least weekly during construction	Architects & Engineers

Project stage at which implementation of the measure is required: SS=during site selection; DE=during detailed project planning or project design prior to project approval; CO=during construction; OC=prior to occupancy; OP=during operation

Number	Mitigation Measures	Monitoring and Reporting Procedure	Mitigation Timing		Monitoring and Reporting Responsibility
4.4-11	*Before a project is approved under the 2003 LRDP, the campus will perform a tree survey of the project site. Grounds, the Office of Resource Management and Planning, and the Office of Architects and Engineers will provide input about tree classifications and will modify project design to avoid important trees if feasible. If a project cannot avoid an important tree, the following will apply:*	Perform tree survey. Determine classes of affected trees. Modify project design if feasible to avoid important trees.	DE	During project design	Resource Management & Planning, Grounds Division, Architects & Engineers
	a. *If a project would necessitate removal of a **Heritage Tree**, no mitigation would be available to fully mitigate the impact, and the impact would be significant and unavoidable. However, implementation of Mitigation 4.4-2 would restore Valley Foothill Riparian Woodland habitat at Russell Ranch, and plantings in this area would include valley oaks.*	See Mitigation 4.4-2, above.	OP	See Mitigation 4.4-2, above.	See Mitigation 4.4-2, above.
	b. *If a project would necessitate removal of a **Specimen Tree**, the project would relocate the tree if feasible, or would replace the tree with the same species or species of comparable value (relocation or replacement should occur within the project area if feasible). This would reduce the impact to a less-than-significant level.*	Relocate or replace tree, if feasible.	DE, CO	Prior to construction activities that would affect the tree	Resource Management & Planning and Architects & Engineers
4.4-12	*Implementation of LRDP Mitigations 4.4-1(a), (b), and (c); 4.4-2(a) and (b); 4.4-3(a) and (b); and 4.4-7(a) in combination with the Yolo County NCCP and Solano County HCP, including compliance with the regulatory and permitting requirements imposed by the USFWS and the CDFG.*	Monitor permit conditions and compliance at the project stages listed above.	SS, DE, CO, OP	Throughout project planning and implementation	Resource Management & Planning, Architects & Engineers
4.4-13	*Implementation of LRDP Mitigation Measures 4.4-1(a)-(b) and 4.4-8(a)-(c) in combination with the Yolo County NCCP and Solano County HCP, including compliance with the regulatory and permitting requirements imposed by the USFWS and the CDFG.*	Monitor permit conditions and compliance at the project stages listed above.	SS, DE, CO, OP	Throughout project planning and implementation	Resource Management & Planning, Architects & Engineers
4.4-14	*Implementation of LRDP Mitigations 4.4-6(a) and (b), in combination with the Yolo County NCCP and Solano County HCP, including compliance with the regulatory and permitting requirements imposed by the U.S. Fish and Wildlife Service and the California Department of Fish and Game.*	Monitor permit conditions and compliance at the project stages listed above.	SS, DE, CO, OP	Throughout project planning and implementation	Resource Management & Planning, Architects & Engineers

Project stage at which implementation of the measure is required: SS=during site selection; DE=during detailed project planning or project design prior to project approval; CO=during construction; OC=prior to occupancy; OP=during operation

Number	Mitigation Measures	Monitoring and Reporting Procedure	Mitigation Timing		Monitoring and Reporting Responsibility
	4.5 CULTURAL RESOURCES				
4.5-1	*(a) As early as possible in the project planning process, the campus shall define the project's area of potential effects (APE) for archaeological resources and, if structures are present on the site, for historic structures. The campus shall determine the potential for the project to result in cultural resource impacts, based on the extent of ground disturbance and site modification anticipated for the proposed project. Based on this information, the campus shall:*	Define APE. Determine potential for cultural resources. Determine appropriate level of investigation.	SS, DE	During site selection and/or project design	Resource Management & Planning
	(i) Prepare an inventory of all buildings and structures within the APE that will be 50 years of age or older at the time of project construction for review by a qualified architectural historian. If no structures are present on the site, there would be no impact to historic built environment resources from the project. If potentially historic structures are present, LRDP Mitigation 4.5-1(c) shall be implemented.	Inventory all potential historic structures in APE. Implement LRDP mitigation 4.5-1(c) if applicable.	SS, DE	During site selection or project design	Resource Management & Planning
	(ii) Determine the level of archaeological investigation that is appropriate for the project site and activity, as follows: • *Minimum: excavation less than 18 inches deep and in a relatively small area (e.g., a trench for lawn irrigation, tree planting, etc.). Implement LRDP Mitigation 4.5-1(b)(i).* • *Moderate: excavation below 18 inches deep and/or over a large area on any site that has not been characterized and is not suspected to be a likely location for archaeological resources. Implement LRDP Mitigation 4.5-1 (b)(i) and (ii).* • *Intensive: excavation below 18 inches and/or over a large area on any site that is within 800 feet of the historic alignment of Putah Creek, or that is adjacent to a recorded archaeological site. Implement LRDP Mitigation 4.5-1 (i), (ii) and (iii).*	(a)(ii), (b)(ii-vi) Determine appropriate level of archaeological investigation. Retain qualified archaeologist to perform work as specified.	SS, DE	During site selection or project design	Resource Management & Planning

Project stage at which implementation of the measure is required: SS=during site selection; DE=during detailed project planning or project design prior to project approval; CO=during construction; OC=prior to occupancy; OP=during operation

Number	Mitigation Measures	Monitoring and Reporting Procedure	Mitigation Timing		Monitoring and Reporting Responsibility
	(b) During the planning phase of the project, the campus shall implement the following steps to identify and protect archaeological resources that may be present in the APE: *(i) For project sites at all levels of investigation, contractor crews shall be required to attend an informal training session prior to the start of earth moving, regarding how to recognize archaeological sites and artifacts. In addition, campus employees whose work routinely involves disturbing the soil shall be informed how to recognize evidence of potential archaeological sites and artifacts. Prior to disturbing the soil, contractors shall be notified that they are required to watch for potential archaeological sites and artifacts and to notify the campus if any are found. In the event of a find, the campus shall implement item (vi), below.*	(b)(i)and (vi) Continue to include archaeological identification and stop work provisions in any contract involving earth moving.	CO	Prior to construction	Architects & Engineers, Operations & Maintenance
		(b)(i)and (vi) Conduct training sessions for contractor crews and relevant campus employees.	CO	At start of construction	Resource Management & Planning
	(ii) For project sites requiring a moderate or intensive level of investigation, a surface survey shall be conducted by a qualified archaeologist during project planning and design and prior to soil disturbing activities. For sites requiring moderate investigation, in the event of a surface find, intensive investigation will be implemented, as per item (iii), below. Irrespective of findings, the qualified archaeologist shall, in consultation with the campus, develop an archaeological monitoring plan to be implemented during the construction phase of the project. The frequency and duration of monitoring shall be adjusted in accordance with survey results, the nature of construction activities, and results during the monitoring period. In the event of a discovery, the campus shall implement item (vi), below.	(b)(ii) Review archaeological monitoring plan and incorporate appropriate specifications in project plan and construction contract.	DE, CO	Prior to the beginning of construction	Architects & Engineers, Operations & Maintenance, Resource Management & Planning

Project stage at which implementation of the measure is required: SS=during site selection; DE=during detailed project planning or project design prior to project approval; CO=during construction; OC=prior to occupancy; OP=during operation

Number	Mitigation Measures	Monitoring and Reporting Procedure	Mitigation Timing		Monitoring and Reporting Responsibility
	(iii) For project sites requiring intensive investigation, irrespective of subsurface finds, the campus shall retain a qualified archaeologist to conduct a subsurface investigation of the project site, to ascertain whether buried archaeological materials are present and, if so, the extent of the deposit relative to the project's area of potential effects. If an archaeological deposit is discovered, the archaeologist will prepare a site record and file it with the California Historical Resource Information System.				
	(iv) If it is determined through step (iii), above, that the resource extends into the project's area of potential effects, the resource will be evaluated by a qualified archaeologist, who will determine whether it qualifies as a historical resource or a unique archaeological resource under the criteria of CEQA Guidelines § 15064.5. If the resource does not qualify, or if no resource is present within the project area of potential effects (APE), this will be noted in the environmental document and no further mitigation is required unless there is a discovery during construction (see (vi), below).	In the event of a discovery, consult with archaeologist to determine whether resource qualifies as a historical resource or a unique archaeological resource.	DE, CO	Upon discovery of a resource in the APE	Resource Management & Planning
	(v) If a resource within the project APE is determined to qualify as an historical resource or a unique archaeological resource (as defined by CEQA), the campus shall consult with the qualified archaeologist to consider means of avoiding or reducing ground disturbance within the site boundaries, including minor modifications of building footprint, landscape modification, the placement of protective fill, the establishment of a preservation easement, or other means that will permit avoidance or substantial preservation in place of the resource. If avoidance or substantial preservation in place is not possible, the campus shall implement LRDP Mitigation 4.5-2(a).	(b)(v) For a significant resource, consider project modifications to avoid or preserve the historic resource and incorporate into project design. If no measures feasible, implement LRDP Mitigation 4.5-2(a).	DE, CO	Upon establishing that resource is significant	Resource Management & Planning

Project stage at which implementation of the measure is required: SS=during site selection; DE=during detailed project planning or project design prior to project approval; CO=during construction; OC=prior to occupancy; OP=during operation

Number	Mitigation Measures	Monitoring and Reporting Procedure	Mitigation Timing		Monitoring and Reporting Responsibility
	(vi) If a resource is discovered during construction (whether or not an archaeologist is present), all soil disturbing work within 100 feet of the find shall cease. The campus shall contact a qualified archaeologist to provide and implement a plan for survey, subsurface investigation as needed to define the deposit, and assessment of the remainder of the site within the project area to determine whether the resource is significant and would be affected by the project. LRDP Mitigation 4.5-1(b), steps (iii) through (vii) shall be implemented.	(b)(vi) Verify that work is halted. Contact archaeologist to assess find. If significant, implement additional mitigation as specified. Document project effects to resource.	DE, CO	Upon discovery of a resource during construction	Resource Management & Planning
	(vii) A written report of the results of investigations will be prepared by a qualified archaeologist and filed with the appropriate Information Center of the California Historical Resources Information System.	(b)(vii) Require contracted archaeologist to prepare and file written report.	DE, CO	At conclusion of archaeological fieldwork and analysis	Resource Management & Planning
	(c) (i) Before altering or otherwise affecting a building or structure 50 years old or older, the campus shall retain a qualified architectural historian to record it on a California Department of Parks and Recreation DPR 523 form or equivalent documentation. Its significance shall be assessed by a qualified architectural historian, using the significance criteria set forth for historic resources under CEQA Guidelines Section 15064.5. The evaluation process shall include the development of appropriate historical background research as context for the assessment of the significance of the structure in the history of the University system, the campus, and the region. For historic buildings, structures or features that do not meet the CEQA criteria for historical resource, no further mitigation is required and the impact is less than significant.	Retain qualified architectural historian to record and evaluate buildings and structures as specified.	SS, DE	Prior to project approval	Resource Management & Planning

Project stage at which implementation of the measure is required: SS=during site selection; DE=during detailed project planning or project design prior to project approval; CO=during construction; OC=prior to occupancy; OP=during operation

Number	Mitigation Measures	Monitoring and Reporting Procedure	Mitigation Timing		Monitoring and Reporting Responsibility
	(ii) For a building or structure that qualifies as a historic resource, the architectural historian and the campus shall consult to consider measures that would enable the project to avoid direct or indirect impacts to the building or structure. These could include preserving a building on the margin of the project site, using it "as is," or other measures that would not alter the building. If the project cannot avoid modifications to a significant building or structure, the campus shall implement LRDP Mitigation 4.5-2.	Consider measures to avoid impacts and incorporate into the project if feasible. If avoidance is not feasible, implement LRDP Mitigation 4.5-2.	DE, CO	During project design; prior to altering building or structure	Resource Management & Planning
4.5-2	*(a) For an archaeological site that has been determined by a qualified archaeologist to qualify as an historical resource or a unique archaeological resource through the process set forth under LRDP Mitigation 4.5-1(b), and where it has been determined under LRDP Mitigation 4.5-1(b) that avoidance or preservation in place is not feasible, a qualified archaeologist, in consultation with the campus, shall:* *(i) Prepare a research design and archaeological data recovery plan for the recovery that will capture those categories of data for which the site is significant, and implement the data recovery plan prior to or during development of the site.* *(ii) Perform appropriate technical analyses, prepare a full written report and file it with the appropriate Information Center, and provide for the permanent curation of recovered materials.*	(a)(i-ii) Retain a qualified archaeologist to prepare and implement a data recovery plan, perform technical analyses, and prepare and file report. Require that recovered materials be curated.	DE, CO	During project design, construction	Resource Management & Planning
	(iii) If, in the opinion of the qualified archaeologist and in light of the data available, the significance of the site is such that data recovery cannot capture the values that qualify the site for inclusion on the CRHR, the campus shall reconsider project plans in light of the high value of the resource, and implement more substantial modifications to the proposed project that would allow the site to be preserved intact, such as project redesign, placement of fill, or project relocation or abandonment. If no such measures are feasible, the campus shall implement LRDP Mitigation 4.5-3.	(a)(iii) For a highly significant site, develop additional protection measures in consultation with archaeologist and implement if feasible. If none feasible, implement LRDP Mitigation 4.5-3.	DE, CO	During project design, construction	Resource Management & Planning

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Number	Mitigation Measures	Monitoring and Reporting Procedure	Mitigation Timing		Monitoring and Reporting Responsibility
	(b) For a structure or building that has been determined by a qualified architectural historian to qualify as an historical resource through the process set forth under LRDP Mitigation 4.5-1(c), and where it has been determined under LRDP Mitigation 4.5-1(c) that avoidance is not feasible, documentation and treatment shall be carried out as described below:	(b) Determine whether significant building or structure can be preserved in place.	SS, DE	Prior to approval of final design	Resource Management & Planning
	(i) If the building or structure can be preserved on site, but remodeling, renovation or other alterations are required, this work shall be conducted in compliance with the "Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings" (Weeks and Grimmer 1995).	(b)(i) For alteration of a significant building, require stipulated renovation standards in the construction contract. Retain architectural historian to monitor for compliance.	DE, CO	Prior to the beginning of construction, during construction	Resource Management & Planning, Architects & Engineers
	(ii) If a significant historic building or structure is proposed for major alteration or renovation, or to be moved and/or demolished, the campus shall ensure that a qualified architectural historian thoroughly documents the building and associated landscaping and setting. Documentation shall include still and video photography and a written documentary record of the building to the standards of the Historic American Building Survey (HABS) or Historic American Engineering Record (HAER), including accurate scaled mapping, architectural descriptions, and scaled architectural plans, if available. A copy of the record shall be deposited with the University archives, Shields Library Special Collections. The record shall be accompanied by a report containing site-specific history and appropriate contextual information. This information shall be gathered through site specific and comparative archival research, and oral history collection as appropriate.	(b)(ii) For substantial impacts as described, retain a qualified architectural historian to conduct documentation and research, reporting as stipulated.	CO	Prior to work that will alter the building or structure	Resource Management & Planning
	(iii) If preservation and reuse at the site are not feasible, the historical building shall be documented as described in item (ii) and, when physically and financially feasible, be moved and preserved or reused.	(b)(iii) Arrange for building to be removed or reused if feasible.	DE, CO	Prior to work that will alter the building or structure	Resource Management & Planning, Architects & Engineers

Project stage at which implementation of the measure is required: SS=during site selection; DE=during detailed project planning or project design prior to project approval; CO=during construction; OC=prior to occupancy; OP=during operation

Number	Mitigation Measures	Monitoring and Reporting Procedure	Mitigation Timing		Monitoring and Reporting Responsibility
4.5-2	*(iv) If, in the opinion of the qualified architectural historian, the nature and significance of the building is such that its demolition or destruction cannot be fully mitigated through documentation, the campus shall reconsider project plans in light of the high value of the resource, and implement more substantial modifications to the proposed project that would allow the structure to be preserved intact. These could include project redesign, relocation or abandonment. If no such measures are feasible, the campus shall implement LRDP Mitigation 4.5-3.*	(b)(iv) For highly significant building or structure, consider and document project redesign measures for preservation. If none feasible, implement LRDP Mitigation 4.5-3.	DE	During final design	Resource Management & Planning
4.5-3	*If a significant historic resource or unique archaeological resource cannot be preserved intact, before the property is damaged or destroyed the campus shall ensure that the resource is appropriately documented, as follows.* *(i) For a built environment feature, appropriate documentation is described under LRDP 4.5-2(b)(iii).* *(ii) For an archaeological site, a program of research-directed data recovery shall be conducted and reported, consistent with LRDP Mitigation 4.5-2(a).*	Retain qualified architectural historian and/or archaeologist to conduct documentation/data recovery and reporting.	DE, CO	During final design, during construction	Resource Management & Planning
4.5-4	*(a) Implement LRDP Mitigation 4.5-1, 4.5-2 and 4.5-3 to minimize the potential for disturbance or destruction of human remains in an archaeological context and to preserve them in place if possible.*	Consider and document measures taken to keep human remains discovered on campus in place.	DE, CO, OP	During planning, and upon discovery of human remains in an archaeological context	Resource Management & Planning
	(b) Provide a representative of the local Native American community an opportunity to monitor any excavation (including archaeological excavation) within the boundaries of a known Native American archaeological site.	Retain Native American representative to monitor archaeological excavation.	DE, CO	During archaeological excavation on Native American archaeological site	Resource Management & Planning, Architects & Engineers, Operations & Maintenance

Project stage at which implementation of the measure is required: SS=during site selection; DE=during detailed project planning or project design prior to project approval; CO=during construction; OC=prior to occupancy; OP=during operation

Number	Mitigation Measures	Monitoring and Reporting Procedure	Mitigation Timing		Monitoring and Reporting Responsibility
4.5-4	*(c) In the event of a discovery on campus of human bone, suspected human bone, or a burial, all excavation in the vicinity will halt immediately and the area of the find will be protected until a qualified archaeologist determines whether the bone is human. If the qualified archaeologist determines the bone is human, or if a qualified archaeologist is not present, the campus will notify the Yolo or Solano County Coroner (depending on the county of the find) of the find before additional disturbance occurs. Consistent with California Health and Safety Code §7050.5(b), which prohibits disturbance of human remains uncovered by excavation until the Coroner has made a finding relative to PRC 5097 procedures, the campus will ensure the remains and vicinity of the find are protected against further disturbance. If it is determined that the find is of Native American origin, the campus will comply with the provisions of PRC § 5097.98 regarding identification and involvement of the Native American Most Likely Descendant (MLD).*	Contact archaeologist and County Coroner in the event of discovery of suspected human bone.	CO, OP	Upon discovery of suspected human bone	Resource Management & Planning, Architects & Engineers, Operations & Maintenance
	(d) If human remains cannot be left in place, the campus shall ensure that the qualified archaeologist and the MLD are provided opportunity to confer on archaeological treatment of human remains, and that appropriate studies, as identified through this consultation, are carried out prior to reinterment. The campus shall provide results of all such studies to the local Native American community, and shall provide an opportunity of local Native American involvement in any interpretative reporting. As stipulated by the provisions of the California Native American Graves Protection and Repatriation Act, the campus shall ensure that human remains and associated artifacts recovered from campus projects on state lands are repatriated to the appropriate local tribal group if requested.	Confer with archaeologist and MLD on appropriate treatment. Incorporate treatment as stipulations in archaeological contract. Implement Native American involvement program to disseminate analysis results and provide opportunity to participate in interpretation. Document repatriation or reinterment.	CO, OP	Upon discovery of human remains in archaeological context	Resource Management & Planning

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Number	Mitigation Measures	Monitoring and Reporting Procedure	Mitigation Timing		Monitoring and Reporting Responsibility
4.5-5	*Implement LRDP Mitigations 4.5-1 through 4.5-4.*	Document implementation of LRDP Mitigation 4.5-1 through 4.5-4.	SS, DE, CO, OP	During campus activities that have a potential for ground disturbance or alteration of buildings and structures	Resource Management & Planning
	4.6 GEOLOGY, SOILS, AND SEISMICITY				
4.6-4	*Site-specific percolation testing or test borings shall be performed as part of the site analysis process at sites where septic tank disposal systems are proposed to determine if the soils are capable of adequately supporting them. The campus shall follow guidelines for septic system design provided in the Uniform Plumbing Code.*	Perform testing and document results. Review proposed septic system design for consistency with Uniform Plumbing Code. Revise design if necessary.	DE	During project design, before project approval, for projects that propose septic tank disposal systems	Architects & Engineers, Operations & Maintenance, Environmental Health & Safety
	4.7 HAZARDS AND HAZARDOUS MATERIALS				
4.7-1	*The campus shall continue to implement the same (or equivalent) safety plans, programs, practices, and procedures related to the use, storage, and disposal of hazardous chemical materials during the 2003 LRDP planning horizon, including, but not necessarily limited to, the Business Plan, Hazardous Materials Communication Program, Chemical Inventory System, CUPA Self-Audit program, Injury and Illness Prevention Program, Chemical Hygiene Plans, Medical Surveillance Program, Chemical Safety Advisory Committee, Chemical Carcinogen Safety Program, and EH&S audits and safety training. These programs may be replaced by other programs that incorporate similar health and safety measures.*	Monitor and document continued implementation of the same or equivalent plans.	OP	Annually	Environmental Health & Safety

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Number	Mitigation Measures	Monitoring and Reporting Procedure	Mitigation Timing		Monitoring and Reporting Responsibility
4.7-2	*(a) Implement LRDP Mitigation 4.7-1.* *(b) The campus shall continue to implement the same (or equivalent) hazardous waste management programs during the 2003 LRDP planning horizon, including, but not necessarily limited to, hazardous waste storage and handling procedures, the waste minimization program, the pretreatment program, and the Waste Exclusion Program. These programs may be subject to modification as more stringent standards are developed or if the programs become obsolete through replacement by other programs that incorporate similar health and safety protection measures.*	Monitor and document continued implementation of the same or equivalent plans.	OP	Annually	Environmental Health & Safety
4.7-3	*(a) Implement LRDP Mitigation 4.7-1.* *(b) The campus shall continue to implement the same (or equivalent) Health Physics Program during the 2003 LRDP planning horizon. This program may be subject to modification as more stringent standards are developed or if the program becomes obsolete through replacement by other programs that incorporate similar health and safety protection measures*	Monitor and document continued implementation of the same or equivalent plans.	OP	Annually	Environmental Health & Safety
4.7-4	*(a) Implement LRDP Mitigation 4.7-1.* *(b) Implement LRDP Mitigation 4.7-3(b).*	Monitor and document continued implementation of the same or equivalent plans.	OP	Annually	Environmental Health & Safety
	(c) The campus shall continue to implement measures to reduce the generation of radioactive waste, including the requirement that employees working with radioactive materials be trained in radioactive waste minimization, EH&S on-line information about radioactive waste minimization, and exploration of waste minimization techniques by EH&S staff.	Monitor and document continued implementation of radioactive waste minimization measures.	OP	Annually	Environmental Health & Safety
4.7-5	*(a) Implement LRDP Mitigation 4.7-1.* *(b) The campus shall continue to implement the same (or equivalent) Biosafety Program during the 2003 LRDP planning horizon. This program may be subject to modification as more stringent standards are developed or if the program becomes obsolete through replacement by other programs that incorporate similar health and safety protection measures.*	Monitor and document continued implementation of the same or equivalent programs.	OP	Annually	Environmental Health & Safety

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Number	Mitigation Measures	Monitoring and Reporting Procedure	Mitigation Timing		Monitoring and Reporting Responsibility
4.7-6	*(a) Implement LRDP Mitigation 4.7-1.* *(b) Implement LRDP Mitigation 4.7-5(b).*	Monitor and document continued implementation of the same or equivalent programs.	OP	Annually	Environmental Health & Safety
4.7-7	*(a) Implement LRDP Mitigation 4.7-1.* *(b) Implement LRDP Mitigation 4.7-5(b).* *(c) The campus shall continue to implement the same (or equivalent) programs related to laboratory animal use during the 2003 LRDP planning horizon, including, but not necessarily limited to, inspections of animal facilities and study areas by the Campus Veterinarian, requiring investigators to prepare Animal Use and Care Protocols, review of Animal Use and Care Protocols by the AUCAAC and EH&S, employee training in animal handling, and the campus animal health program These programs may be subject to modification as more stringent standards are developed or if the programs become obsolete through replacement by other programs that incorporate similar health and safety protection measures.*	Monitor and document continued implementation of the same or equivalent programs.	OP	Annually	Environmental Health & Safety, Office of the Campus Veterinarian
4.7-8	*The campus shall continue to require that packaging of chemicals to be transported on public roads conform with all legal requirements.*	Monitor and document continuation of campus policy.	OP	Annually	Environmental Health & Safety
4.7-9	*Implement LRDP Mitigations 4.7-1 through 4.7-8.*	Monitor and document continuation of campus policy.	OP	Annually	Environmental Health & Safety

Project stage at which implementation of the measure is required: SS=during site selection; DE=during detailed project planning or project design prior to project approval; CO=during construction; OC=prior to occupancy; OP=during operation

Number	Mitigation Measures	Monitoring and Reporting Procedure	Mitigation Timing		Monitoring and Reporting Responsibility
4.7-10	*For projects proposed by non-UC entities on campus that involve laboratory space, non-UC entities shall be required, through contracts and agreements, to implement programs and controls that provide the same level of protection required of campus laboratories and departments.* *The following project-specific mitigation measures would be implemented for non-UCD tenants:*	Include stipulated requirements in contract or agreement. Require and verify receipt of required documentation.	DE	Prior to project approval	Environmental Health & Safety, Resource Management & Planning
	i. Non-UC entities shall submit the qualifications of designated laboratory directors to UC Davis EH&S Office prior to commencing laboratory operations. Such documentation shall be in the form of educational and professional qualifications/experience *ii. Non-UC entities shall submit certification of compliance with NIH biosafety principles to the UC Davis EH&S Office prior to commencing on-site research or pilot plant manufacturing activities. Non-UC entities shall submit copies of completed medical waste management plans, biosafety management plans, inventories of infectious or genetically modified agents, applicable permits and updates.*	(i-iv) Verify that management plans and other documentation required have been submitted by non-UC entity, and that applicable permits have been received and are up to date. Review all documentation for completeness and adequacy.	OC, OP	Before non-UCD entity commences operations	Environmental Health & Safety
	iii. If hazardous material quantities are proposed to be increased above applicable threshold quantities as defined in California Code of Regulations, Title 19, Division 2, Chapter 4.5, non-UC entities shall implement a Risk Management Plan/California Accidental Release Prevention Plan (RMP/Cal-ARP), which discusses the handling and storage of acutely hazardous materials on site. The RMP/Cal-ARP shall be approved by the CUPA and filed with the UC Davis EH&S Office prior to commencing proposed operations.	(iii) Perform regular additional reviews of documentation, and whenever operational changes are proposed.	OP	Before non-UC entity increases quantities above thresholds	Environmental Health & Safety
	iv. Non-UC entities shall submit certification to the UC Davis EH&S to verify that applicable requirements for handling and disposal of hazardous wastes have been met prior to commencing on-site research or pilot plant manufacturing activities. Non-UC entities shall submit copies of management plans for handling and disposal of hazardous wastes, and written verification of contracts with licensed waste disposal firms.	(iv) Require certification from non-UC entities and verify that CUPA approval has been received and filed.	OP	Before non-UC entity commences proposed operations	Environmental Health & Safety

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Number	Mitigation Measures	Monitoring and Reporting Procedure	Mitigation Timing		Monitoring and Reporting Responsibility
	v. Non-UC entities shall provide to campus EH&S copies of all required environmental reports to local, state, and federal environmental and safety regulators.	(v) Review reports for required conditions and verify that operations meet conditions. Maintain log of all reporting.	OP	Ongoing	Environmental Health & Safety
4.7-12	*The campus shall perform due diligence assessments of all sites where ground-disturbing construction is proposed.*	Conduct assessment and document findings. Conduct cleanup as necessary.	SS, DE	During project siting or planning phase	Resource Management & Planning, Environmental Health & Safety
4.7-13	*The campus shall survey buildings for potential contamination before any demolition or renovation work is performed.*	Conduct survey and document findings. Conduct cleanup as necessary.	DE	During project planning phase	Architects & Engineers, Operations & Maintenance
4.7-15	*(a) The UC Davis Airport flight pattern for Runway 16 shall be changed to a right-hand approach.*	Submit notification to FAA and receive approval.	DE	Prior to construction of NMP facilities that would lie under existing flight pattern	University Airport, Resource Management & Planning
	(b) Lighting for recreation fields in the NMP will be tested by night flights, and adjusted as necessary to eliminate glare that could pose a hazard for aircraft.	Perform flight, make adjustments, and document.	CO	Prior to completion of construction	Architects & Engineers, University Airport
	(c) UC Davis or a developer acting on behalf of UC Davis shall include disclosure statements in marketing and sales materials for the NMP informing potential owners of property in the NMP of the presence of the University Airport.	Prepare standard disclosure language and include resident information package.	OC	Verify annually	Research Management and Planning

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Number	Mitigation Measures	Monitoring and Reporting Procedure	Mitigation Timing		Monitoring and Reporting Responsibility
4.7-17	*To the extent feasible, the campus shall maintain at least one unobstructed lane in both directions on campus roadways. At any time only a single lane is available due to construction-related road closures, the campus shall provide a temporary traffic signal, signal carriers (i.e., flagpersons), or other appropriate traffic controls to allow travel in both directions. If construction activities require the complete closure of a roadway, the campus shall provide appropriate signage indicating alternative routes. To ensure adequate access for emergency vehicles when construction projects would result in temporary lane or roadway closures, the campus shall inform emergency services, including the UC Davis Police and Fire Departments, and American Medical Response, of the closures and alternative travel routes.*	Develop and implement policy and standard contract language regarding lane closures and notification of emergency services.	OP, CO	Prior to construction of first project under 2003 LRDP, and ongoing	Office of Administration, Resource Management & Planning
	4.8 HYDROLOGY AND WATER QUALITY				
4.8-1	*The campus shall continue to comply with the NPDES state-wide General Permit for Discharge of Storm Water Associated with Construction Activity by implementing control measures and BMPs required by project-specific SWPPPs and with the Phase II SWMP to eliminate or reduce non-storm and storm water discharges to receiving waters.*	Continue to comply with campus SWPPP and submit updated information to the CVWRQCB as required.	CO	Prior to construction	Environmental Health & Safety
		Inspect construction site to verify that contractor prepares and complies with SWPPP and permit requirements. Document implementation of BMPs in compliance with Phase II SWMP.	CO	Inspect construction site for compliance during each phase of construction	Architects & Engineers, Operations & Maintenance
		File Notice of Termination.	OC	At conclusion of construction	Environmental Health & Safety

Project stage at which implementation of the measure is required: SS=during site selection; DE=during detailed project planning or project design prior to project approval; CO=during construction; OC=prior to occupancy; OP=during operation

Number	Mitigation Measures	Monitoring and Reporting Procedure	Mitigation Timing		Monitoring and Reporting Responsibility
4.8-2	*The campus shall comply with the measures in the Phase II SWMP to ensure that project design includes a combination of BMPs, or equally effective measures as they become available in the future, to minimize the contribution of pollutants to receiving waters.*	Review project design for BMPs to minimize the contribution of pollutants to receiving waters. Revise project design if necessary.	DE	Prior to final project design approval.	Architects & Engineers, Operations & Maintenance
4.8-3	*(a) Prior to approval of specific projects under the 2003 LRDP, the campus shall perform a drainage study to evaluate each specific development to determine whether project runoff would exceed the capacity of the existing storm drainage system, cause ponding to worsen, and/or increase the potential for property damage from flooding.*	Prepare drainage study and document findings.	DE	During project design and prior to project approval	Architects & Engineers
4.8-3	*(b) If it is determined that existing drainage capacity would be exceeded, ponding could worsen, and/or risk of property damage from flooding could increase, the campus shall design and implement necessary and feasible improvements. Such improvements could include, but would not be limited to, the following:* *(i) The expansion or modification of the existing storm drainage system.* *(ii) Single-project detention or retention basins incorporated into project design with features including but not limited to: small onsite detention or retention basins; rooftop ponding; temporary flooding of parking areas, streets and gutters; landscaping designed to temporarily retain water; and gravel beds designed to collect and retain runoff.* *(iii) Multi-project storm water detention or retention basins.*	Review study. If runoff would exceed capacity of existing campus storm drainage system, implement necessary and feasible improvements.	DE	Prior to final project design approval.	Architects & Engineers
		Verify that improvements have been implemented.	CO	During construction	Architects & Engineers, Operations & Maintenance
		Monitor and document drainage conditions.	OP	At least annually, during storm period	Architects & Engineers, Operations & Maintenance
	(c) Campus development west of County Road 98 shall incorporate single- or multi-project basins in order to reduce storm event drainage flows to the Covell Drain.	Incorporate detention basins into project design. Document that adequate detention has been provided.	DE	Prior to final project design approval	Resource Management & Planning, Architects & Engineers

Project stage at which implementation of the measure is required: SS=during site selection; DE=during detailed project planning or project design prior to project approval; CO=during construction; OC=prior to occupancy; OP=during operation

Number	Mitigation Measures	Monitoring and Reporting Procedure	Mitigation Timing		Monitoring and Reporting Responsibility
4.8-4	*(a) The campus shall continue to monitor and modify its pretreatment program, WWTP operation, and/or treatment processes as necessary to comply with WDRs.*	Monitor effluent discharge. Document monitoring and compliance record. Implement modifications to pretreatment program and treatment operations.	OP	On a continuous basis per the WDRs	Operations & Maintenance
	(b) The campus shall implement a monitoring program specifically targeted at the following constituents: copper, cyanide, iron and nitrate + nitrite, and make appropriate modifications as necessary to the campus pretreatment program to avoid exceedance of permit limits for these constituents.	Monitor effluent discharge for listed constituents. Document monitoring and compliance record. Implement modifications to pretreatment program and treatment operations.	OP	On a continuous basis per the WDRs	Operations & Maintenance
4.8-5	*(a) The campus shall continue to implement water conservation strategies to reduce demand for water from the deep aquifer. Domestic water conservation strategies shall include the following or equivalent measures:* *(i) Install water efficient shower heads and low-flow toilets that meet or exceed building code conservation requirements in all new campus buildings, and where feasible, retrofit existing buildings with these water efficient devices.*	(a)(i, iv) Review project design for water efficient shower heads and low-flow toilets, and water conservative landscaping on the south and west campuses.	DE	Prior to final project design approval	Architects & Engineers, Operations & Maintenance, Grounds Division
	(ii) Continue the leak detection and repair program. *(iii) Continue converting existing single-pass cooling systems to cooling tower systems.* *(iv) Use water-conservative landscaping on the west and south campuses where domestic water is used for irrigation.* *(v) Replace domestic water irrigation systems on the west and south campuses with an alternate water source (shallow/intermediate or reclaimed water), where feasible.*	(a)(ii, iii, v, vii) Document leak detection and repair activities, progress toward conversion of single-pass cooling systems, and implementation of additional water conservation strategies and programs.	OP	Annually	Operations & Maintenance, Grounds Division, Resource Management & Planning, Student Housing

Project stage at which implementation of the measure is required: SS=during site selection; DE=during detailed project planning or project design prior to project approval; CO=during construction; OC=prior to occupancy; OP=during operation

Number	Mitigation Measures	Monitoring and Reporting Procedure	Mitigation Timing		Monitoring and Reporting Responsibility
	(vi) Install water meters at the proposed neighborhood to encourage residential water conservation. *(vii) Identify and implement additional feasible water conservation strategies and programs including a water awareness program focused on water conservation.*	(a)(vi) Review NMP specific residential project designs for water meters.	DE	Prior to final specific design approval of NMP projects	Resource Management & Planning
	(b) The campus shall continue hydrogeologic monitoring and evaluation efforts to determine the long-term production and quality trends of the deep aquifer.	Monitor deep aquifer water elevation and document results.	OP	Document efforts annually.	Operations & Maintenance
	(c) To the extent feasible, new water supply wells in the deep aquifer should be located on the west campus in sands and gravels that are not used by or available to the City of Davis for deep water extraction.	Evaluate feasibility of establishing new wells on the west campus. Contract with a licensed hydrogeologist and/or engineer to review well locations and construction details.	DE	Prior to installation of new wells	Operations & Maintenance
	(d) If continued hydrogeologic monitoring and evaluation efforts identify constraints in the deep aquifer's ability to provide for the campus' long-term water needs, the campus will treat shallow/intermediate aquifer and/or surface water from the Solano Project to serve domestic water demand.	Develop and implement plan to treat shallow/intermediate aquifer water or surface water to serve domestic demand.	OP	If constraints on deep aquifer are identified.	Operations & Maintenance, Architects & Engineers, Resource Management & Planning

Project stage at which implementation of the measure is required: SS=during site selection; DE=during detailed project planning or project design prior to project approval; CO=during construction; OC=prior to occupancy; OP=during operation

Number	Mitigation Measures	Monitoring and Reporting Procedure	Mitigation Timing		Monitoring and Reporting Responsibility
4.8-6	*(a) The campus shall continue to implement water conservation strategies to reduce demand for water from the intermediate aquifer. Utility water conservation strategies shall include the following or equivalent measures:* *(i) Landscape, where appropriate, with native, drought resistant plants and use lawns only where needed for pedestrian traffic, activity areas, and recreation.* *(ii) Install efficient irrigation systems including centrally-controlled automatic irrigation systems and low-flow spray systems.* *(iii) Apply heavy applications of mulch to landscaped areas to reduce evaporation.* *(iv) Use treated wastewater for landscape irrigation where feasible.*	Review project design for incorporation of utility water water conservation strategies.	DE	Prior to final project design approval	Architects & Engineers, Operations & Maintenance, Grounds Division
		Verify that utility water conservation elements are included in project design.	CO	During construction	Architects & Engineers
	(b) The campus shall continue to monitor shallow/intermediate aquifer water elevations at existing campus wells to ascertain whether there is any long-term decline in water levels	Monitor shallow/ intermediate aquifer water elevations and document results.	OP	Document at least annually	Operations & Maintenance, Agricultural Services
	(c) The campus shall continue to participate in regional subsidence monitoring, including by installing an extensiometer, to determine the vertical location of local subsidence.	Conduct monitoring and document results.	OP	Ongoing monitoring; document annually	*Resource Management & Planning in cooperation with other regional entities
	(d) If shallow/intermediate aquifer monitoring or subsidence monitoring indicate that campus water use from the intermediate aquifer is contributing to a net deficit in aquifer volume and/or significant subsidence, the campus will reduce use of water from the aquifer by using surface water and/or treated wastewater effluent to irrigate campus recreation fields.	Develop and implement plan to use surface water and/or treated wastewater effluent for irrigation.	OP	If monitoring indicates campus water use is impacting intermediate aquifer volume and/or contributing to significant subsidence	Resource Management & Planning

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Number	Mitigation Measures	Monitoring and Reporting Procedure	Mitigation Timing		Monitoring and Reporting Responsibility
4.8-6	*(a) The campus shall incorporate the following or equally effective measures into project designs under the 2003 LRDP where feasible, to increase percolation and infiltration of precipitation into the underlying shallow/intermediate aquifers:* *(i) Minimize paved surfaces.* *(ii) Use grassy swales, infiltration trenches, or grass filter strips to intercept storm water runoff.* *(iii) Implement LRDP Mitigation 4.8-2(b), which specifies construction of detention and infiltration facilities in those areas that do not discharge storm water to the Arboretum.*	Review project design for measures that increase percolation and infiltration of precipitation. Revise design as necessary.	DE	Prior to final project design approval	Design Review Committee, Architects & Engineers
4.8-9	*(b) Prior to final design, the campus will review the plans for all structures to be constructed in the 100-year floodplain for compliance with the following FEMA requirements for non-residential structures:* *(i) Elevate the lowest floor (including the basement) to or above the base flood level; or* *(ii) Together with attendant utility and sanitary facilities, design so that below the base flood level, the structure is watertight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy; and* *(iii) Require that fully enclosed areas below the lowest floor that are subject to flooding be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for entry and exit of flood waters.*	Review project design for compliance with FEMA requirements.	DE	Prior to final design approval	Architects & Engineers, Operations & Maintenance
		Verify that construction is consistent with requirements.	OC	Prior to occupancy	Architects & Engineers
	(b) For structures placed within the 100-year floodplain, flood control devices will be designed to direct flows toward areas where flood hazards will be minimal.	Review project design for redirection of flows. Revise design if necessary.	DE	Prior to final design approval	Architects & Engineers, Operations & Maintenance
		Verify that construction is consistent with requirements.	OC	Prior to occupancy	Architects & Engineers, Operations & Maintenance

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Number	Mitigation Measures	Monitoring and Reporting Procedure	Mitigation Timing		Monitoring and Reporting Responsibility
4.8-10	*(a) Implement LRDP Mitigation 4.8-1 and 4.8-2.*	Document compliance with mitigations 4.8-1 and 4.8-2.	DE, CO. OC	During design and construction of each project	Architects & Engineers, Environmental Health & Safety
	(b) Jurisdictions within the Putah Creek watershed should comply with Phase II NPDES Municipal Storm Water Permit requirements for small municipalities in order to minimize the contribution of sediment and other pollutants associated with development in the region.	Monitor and document compliance UC Davis compliance. *Compliance by municipalities is outside UC jurisdiction.	OP	On a continuing basis	Environmental Health & Safety; Yolo County, Solano County, City of Winters, and City of Davis
	(c) Comprehensive SWPPPs and monitoring programs should be implemented by all storm water dischargers associated with specified industrial and construction activities, in compliance with the state's General Permits. Such plans shall include BMPs or equally effective measures.	Monitor and document UC Davis compliance. *Compliance by municipalities is outside UC jurisdiction.	OP	On a continuing basis	Environmental Health & Safety; Yolo County, Solano County, City of Winters, and City of Davis
4.8-11	*The campus shall implement LRDP Mitigation 4.8-3(a-c) in order to prevent flooding on campus.*	As noted above.	DE, OP	During project design and construction and ongoing	Resource Management & Planning, Architects & Engineers
4.8-12	*The campus shall implement LRDP Mitigation 4.8-4(a) and (b) to minimize the potential for degradation of receiving water quality*	As noted above.	DE, OP	At project design and ongoing	Operations & Maintenance, Architects & Engineers
4.8-13	*(a) Implement LRDP Mitigation 4.8-5(a-d).*	As noted above.	DE, OP	Prior to project design approval and ongoing	Resource Management & Planning, Architects & Engineers, Operations & Maintenance, Grounds

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Number	Mitigation Measures	Monitoring and Reporting Procedure	Mitigation Timing		Monitoring and Reporting Responsibility
4.8-13	*(b) The City of Davis is expected to implement measures to reduce the amount of water withdrawn from the deep aquifer consistent with policies adopted in its General Plan.* • *Give priority to demand reduction and conservation over additional water resource development (Policy WATER 1.1)* • *Require water conserving landscaping (Policy WATER 1.2)* • *Provide for the current and long-range water needs of the Davis Planning Area, and for protection of the quality and quantity of groundwater resources (Policy WATER 2.1)* • *Manage groundwater resources so as to preserve both quantity and quality (Policy WATER 2.2)* • *Research, monitor and participate in issues in Yolo County and the area of origin of the City's groundwater that affect the quality and quantity of water (Policy WATER 4.1)*	Outside jurisdiction of UC Davis	DE, OP	On a continuing basis	*City of Davis
4.8-14	*(a) The campus should implement LRDP Mitigation 4.8-6(a-e) to minimize its withdrawal from the shallow/intermediate aquifer and maximize the potential for infiltration.*	Document compliance with LRDP Mitigation 4.8-6, above.	DE, CO, DE	Prior to design approval, during construction, ongoing	Resource Management & Planning, Architects & Engineers, Operations & Maintenance, Agricultural Services
	(b) Consistent with current water planning policies, the City of Davis is expected to implement measures to reduce impervious surfaces and reduce the amount of water withdrawn from the shallow/intermediate aquifer, consistent with, but not limited to, the water policies listed in LRDP Mitigation 4.8-13(b).	Outside jurisdiction of UC Davis	OP	On a continuing basis	*City of Davis

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Number	Mitigation Measures	Monitoring and Reporting Procedure	Mitigation Timing		Monitoring and Reporting Responsibility
	4.10 NOISE				
4.10-1	*Prior to initiation of campus construction, the University shall approve a construction noise mitigation program including but not limited to the following:* • *Construction equipment shall be properly outfitted and maintained with feasible noise reduction devices to minimize construction-generated noise.* • *Stationary noise sources such as generators or pumps shall be located 100 feet away from noise sensitive land uses as feasible.* • *Laydown and construction vehicle staging areas shall be located 100 feet away from noise-sensitive land uses as feasible.* • *Whenever possible, academic, administrative, and residential areas that will be subject to construction noise shall be informed a week before the start of each construction project.* • *Loud construction activity (i.e., construction activity such as jackhammering, concrete sawing, asphalt removal, and large-scale grading operations) within 100 feet of a residential or academic building shall not be scheduled during finals week.* • *Loud construction activity as described above within 100 feet of an academic or residential use shall, to the extent feasible, be scheduled during holidays, Thanksgiving breaks, Christmas break, Spring break, or Summer break.* • *Loud construction activity within 100 feet of a residential or academic building shall be restricted to occur between 7:30 AM and 7:30 PM.*	Develop construction noise mitigation program and adopt as part of standard construction contract specifications.	DE, CO	Prior to initiation of construction under the 2003 LRDP	Architects & Engineers
		Inspect construction site to verify that measures are being implemented.	CO	During construction	Architects & Engineers
4.10-2	*(a) For noise-sensitive uses adjacent to Russell Boulevard between Arlington Boulevard and Arthur Street, the existing soundwall (approximately 6.5 feet in height) could be increased slightly in height and extended to include the daycare center to the east.*	Reimburse City for fair share of the cost of implemented noise abatement measures along Russell Boulevard.	OP	As required	*Resource Management & Planning, City of Davis

Project stage at which implementation of the measure is required: SS=during site selection; DE=during detailed project planning or project design prior to project approval; CO=during construction; OC=prior to occupancy; OP=during operation

Number	Mitigation Measures	Monitoring and Reporting Procedure	Mitigation Timing		Monitoring and Reporting Responsibility
	For noise-sensitive uses adjacent to Russell Boulevard between Arthur Street and SR 113, and from SR 113 to La Rue/Anderson Road and from La Rue Road to Oak Street, soundwalls may be constructed for exterior residential and recreational land uses within approximately 100 feet of the centerline of Russell Boulevard, where construction of such walls would not interfere with driveway access. *The campus shall reimburse the City of Davis the campus' fair share of the cost of a City of Davis noise abatement program for reducing interior noise levels in homes along Russell Boulevard that are significantly affected by noise from 2003 LRDP-related growth. The campus' contribution to the City's noise abatement program could be used to extend soundwalls as described above or for other noise abatement measures such as retrofit of homes. The campus' fair share shall be determined based on the volume of traffic added to Russell Boulevard by the campus as a result of 2003 LRDP implementation and the percentage that 2003 LRDP-related traffic increases constitute of the average daily traffic on the roadway.*				
	(b) For components of the 2003 LRDP having future noise-sensitive land uses such as the Neighborhood and Research Park, building and area layouts shall incorporate noise control as a design feature; including increased setbacks, landscaped berms, and using building placement to shield noise-sensitive exterior areas from direct roadway views.	Review project design and revise as needed to incorporate noise control features.	DE	Prior to final project approval	Resource Management & Planning, Architects & Engineers
4.10-4	*Residential and academic uses within 750 feet of the centerline of a rail line shall be evaluated using the Federal Transit Administration Noise and Vibration Guidelines. Following the evaluation, as appropriate, facilities shall be designed and constructed to achieve an interior noise and vibration level within the standards recommended by the guidelines.*	Conduct evaluation and document results.	DE	During project design phase	Resource Management & Planning
		Review project design for compliance with standards.	DE	Prior to final project approval	Architects & Engineers
		Verify that construction meets the standards.	CO	During construction	Architects & Engineers

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Number	Mitigation Measures	Monitoring and Reporting Procedure	Mitigation Timing		Monitoring and Reporting Responsibility
4.10-5	*Implement LRDP Mitigations 4.10-1 and 4.10-2*	Document compliance with LRDP Mitigations 4.10-1 and 4.10-2.	DE	During project design phase	Resource Management & Planning
			DE	Prior to final project approval	Architects & Engineers
			CO	During construction	Architects & Engineers
	4.12 PUBLIC SERVICES				
4.12-3	*If documented unmitigated significant environmental impacts are caused by construction of facilities for the City of Davis Fire Department that are needed in part to provide service to the proposed University Neighborhood, UC Davis shall negotiate with the City of Davis to determine the campus' fair share (as described in Section 4.12.2.3) of the costs to implement any feasible and required environmental mitigation measures so long as the unmitigated significant adverse impacts have not been otherwise reduced to less-than-significant levels through regulatory requirements, public funding, or agreements. This mitigation measure shall not apply to any other costs associated with implementation of public service facilities.*	Negotiate with City of Davis to determine fair share contribution toward feasible and required environmental mitigation measures for new fire facility.	OP	Implemented if City of Davis Fire Dept. requires new facilities to provide service to NMP, and if mitigation costs are identified following completion of the environmental review process for new City of Davis Fire Dept. facilities	*Resource Management & Planning, City of Davis

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Number	Mitigation Measures	Monitoring and Reporting Procedure	Mitigation Timing		Monitoring and Reporting Responsibility
4.12-6	*If documented unmitigated significant environmental impacts are caused by the construction of police or fire facilities in the Cities of Davis, Dixon, Woodland, and/or Winters that are needed in part due to implementation of the 2003 LRDP, UC Davis shall negotiate with the appropriate local jurisdiction to determine the campus' fair share (as described in Section 4.12.2.3) of the costs to implement any feasible and required environmental mitigation measures so long as the unmitigated impacts have not been otherwise reduced to less-than-significant levels through regulatory requirements, public funding, or agreements. This mitigation measure shall not apply to any other costs associated with implementation of public service facilities.*	Negotiate with cities to determine an appropriate fair share contribution for feasible and required environmental mitigation measures for new police or fire facilities.	OP	If cities require police or fire facilities because of the 2003 LRDP and if mitigation costs are identified, following completion of the environmental review process for police and fire facilities	*Resource Management & Planning, Cities of Davis, Dixon, Woodland, and Winters
4.12-7	*If documented unmitigated significant environmental impacts are caused by the construction of school facilities in the Cities of Davis, Dixon, Woodland, and/or Winters that are needed in part due to implementation of the 2003 LRDP, UC Davis shall negotiate with the appropriate local jurisdiction to determine the campus' fair share (as described in Section 4.12.2.3) of the costs to implement any feasible and required environmental mitigation measures so long as the unmitigated impacts have not been otherwise reduced to less-than-significant levels through regulatory requirements, public funding, or agreements. This mitigation measure shall not apply to any other costs associated with implementation of public service facilities.*	Negotiate with cities to determine an appropriate fair share contribution for feasible and required environmental mitigation measures for new school facilities.	OP	Following completion of the environmental review process for new school facilities, if mitigation costs are identified in connection with those facilities proposed because of the implementation of the 2003 LRDP	*Resource Management & Planning, Cities of Davis, Dixon, Woodland, and Winters

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Number	Mitigation Measures	Monitoring and Reporting Procedure	Mitigation Timing		Monitoring and Reporting Responsibility
	4.13 RECREATION				
4.13-2	*If documented unmitigated significant environmental impacts are caused by the construction of recreation facilities in the Cities of Dixon, Woodland, and/or Winters that are needed in part due to implementation of the 2003 LRDP, UC Davis shall negotiate with the appropriate local jurisdiction to determine the campus' fair share (as described in Section 4.12.2.3) of the costs to implement any feasible and required environmental mitigation measures so long as the unmitigated impacts have not been otherwise reduced to less-than-significant levels through regulatory requirements, public funding, or agreements. This mitigation measure shall not apply to any other costs associated with implementation of recreation facilities.*	Negotiate with cities to determine an appropriate fair share contribution for feasible and required environmental mitigation measures for new recreation facilities.	OP	If cities require new recreation facilities and if mitigation costs are identified in connection with those facilities proposed because of the implementation of the 2003 LRDP	*Resource Management & Planning, Cities of Davis, Dixon, Woodland, and Winters
	4.14 TRAFFIC, CIRCULATION, AND PARKING				
4.14-1	*(a) UC Davis shall continue to actively pursue Transportation Demand Management strategies to reduce vehicle-trips to and from campus.*	Document campus Transportation Demand Management efforts and progress. Detail any needed improvements to program.	OP	At least every three years	Transportation and Parking Services
	(b) UC Davis shall continue to monitor AM and PM peak hour traffic operations at critical intersections and roadways on campus.	Monitor intersections and document results.	OP	At least every three years	Resource Management & Planning
	(c) UC Davis shall review individual projects proposed under the 2003 LRDP as they advance through the environmental clearance phase of development to determine if intersection or roadway improvements are needed with the additional traffic generated by the proposed project. If intersection operations are found to degrade to unacceptable levels, UC Davis shall construct physical improvements such as adding traffic signals or roundabouts at affected study intersections, as described below.	Review project impacts on intersection operations.	DE	During project planning	Resource Management & Planning

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Number	Mitigation Measures	Monitoring and Reporting Procedure	Mitigation Timing		Monitoring and Reporting Responsibility
	• *Orchard Road/La Rue Road intersection. Widen the Orchard Road approaches to include an exclusive left-turn lane and a shared through/right-turn lane on the eastbound approach, and an exclusive left-turn, a through lane, and a separate right-turn lane on the westbound approach.* • *Hutchison Drive/SR 113 SB Ramp intersection. Install a traffic signal.* • *Hutchison Drive/SR 113 NB Ramp intersection. Install a traffic signal.* • *Hutchison Drive/Extension Center Drive intersection. Modify the southbound Extension Center Drive approach to eliminate left-turns from Extension Center Drive to Hutchison Drive and improve Orchard Park Drive to provide a continuous roadway between Extension Center Drive and Orchard Road.* • *Hutchison Drive/La Rue Road intersection. Widen the southbound La Rue Road approach to include an exclusive right-turn lane.* • *Old Davis Road/A Street intersection. Construct a roundabout or install a traffic signal or realign Old Davis Road as proposed in the 2003 LRDP.* • *New Davis Road/Beau Vine Lane intersection. Construct a roundabout or install a traffic signal.* • *New Davis Road/California Avenue intersection. Install a traffic signal or construct the new roadway proposed in the 2003 LRDP between Old Davis Road and La Rue Road.* • *WB I-80 Ramps/Old Davis Road intersection. Install a traffic signal.* • *EB I-80 Ramps/Old Davis Road intersection. Install a traffic signal.*	Construct necessary intersection improvements.	OC	Prior to project occupancy	Architects & Engineers
4.14-2	*(a) UC Davis shall continue to actively pursue Transportation Demand Management strategies to reduce vehicle-trips to and from campus.*	Document Transportation Demand Management efforts and progress. Detail any needed improvements to program.	OP	At least every three years	Transportation & Parking Services.

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Number	Mitigation Measures	Monitoring and Reporting Procedure	Mitigation Timing		Monitoring and Reporting Responsibility
	(b) UC Davis shall continue to monitor AM and PM peak hour traffic operations at critical intersections and roadways in the campus vicinity at least every three years to identify locations operating below UC Davis, City of Davis, Yolo County, Solano County, or Caltrans LOS thresholds and to identify improvements to restore operations to an acceptable level.	Monitor intersections, document results, and identify any needed improvements.	OP	At least every three years	Resource Management & Planning
	(c) UC Davis shall review individual projects proposed under the 2003 LRDP as they advance through the environmental clearance phase of development to determine if intersection or roadway improvements are needed with the additional traffic generated by the proposed project. If intersection operations are found to degrade to unacceptable levels, UC Davis shall contribute its fair share towards roadway improvements at affected study intersections. • *Russell Boulevard/Orchard Park Drive intersection. Restrict access to right-turns in/out only at the Russell Boulevard/Orchard Park Drive intersection, or widen the northbound approach to include separate left and right-turn lanes and provide a 50-foot refuge area in the median on Russell Boulevard.* • *First Street/A Street intersection. Construct a roundabout or install a traffic signal.* • *Richards Boulevard/I-80 Ramps intersection. Reconstruct the north side of the interchange to remove the loop on and off ramps and replace with new ramps in diamond configuration, including traffic signals at ramp terminal intersections* • *Richards Boulevard/Research Park Drive intersection. Widen the eastbound Richards Boulevard approach to provide an exclusive left-turn lane, a through lane, and a shared through/right-turn lane.* • *Weave section on northbound SR 113 between Hutchison Drive and Russell Boulevard. Widen the SR 113 Northbound off-ramp onto Russell Boulevard to provide two lanes. One off-ramp lane would serve the auxiliary lane between Hutchison Drive and Russell Boulevard and the second off-ramp lane would serve the SR 113 mainline.*	Review project impacts on intersection operations. Negotiate with the appropriate jurisdiction to determine an appropriate fair share contribution towards necessary roadway improvements.	DE	During project planning following completion of the environmental review process for new traffic facilities, if mitigation costs are identified in conjunction with those facilities proposed because of 2003 LRDP implementation	*Resource Management & Planning. City of Davis, Yolo County, Solano County

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Number	Mitigation Measures	Monitoring and Reporting Procedure	Mitigation Timing		Monitoring and Reporting Responsibility
	• *Ramp junctions at the I-80/Pedrick Road interchange. Widen I-80 to provide four travel lanes in each direction in the vicinity of the Pedrick Road interchange.* • *I-80 mainline east of Mace Boulevard. Widen I-80 to provide a high occupancy vehicle (HOV) lane in each direction between Richards Boulevard and Mace Boulevard and east of Mace Boulevard.*				
4.14-3	*(a) UC Davis shall continue to actively pursue Transportation Demand Management strategies to reduce parking demand.*	Document Transportation Demand Management efforts and progress and identify any needed program improvements.	OP	At least every three years	Transportation & Parking Services
	(b) UC Davis shall continue to monitor parking demand on a quarterly basis to identify campus parking areas with a parking utilization over 90 percent. UC Davis shall provide additional parking if a proposed project is expected to increase the winter utilization rate to over 90 percent on the central campus, Health Sciences District, and/or major facilities of the west and south campus.	Monitor parking demand. Identify areas with over 90% utilization.	OP	Once every quarter	Transportation and Parking Services
		Assess project parking needs.	DE	During project planning	Resource Management & Planning
		Provide additional parking for projects that will increase utilization.	OC	Prior to project occupancy	Architects & Engineers
4.14-4	*UC Davis shall monitor transit ridership to identify routes operating over capacity with increased campus growth. UC Davis shall work with transit providers to identify additional service required with campus growth or new transit routes needed to serve future development areas.*	Monitor transit ridership and document results; confer with providers to identify necessary improvements.	OP	Annually	Transportation and Parking Services, Unitrans and Yolo Bus
		Increase service as needed.	OP	As needed	Unitrans

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Number	Mitigation Measures	Monitoring and Reporting Procedure	Mitigation Timing		Monitoring and Reporting Responsibility
4.14-5	*UC Davis shall monitor core area pedestrian and bike activity and accidents. UC Davis shall improve bike and pedestrian facilities or alter transit operations to avoid increased bicycle accident rates or safety problems.*	Monitor pedestrian and bike activity and accidents and assess need for operation improvements.	OP	Annually	Transportation and Parking Services, UC Davis Police Dept, Resource Management & Planning
		Improve facilities/operations as needed.	OP	As needed	Resource Management & Planning, Architects & Engineers
	4.15 UTILITIES				
4.15-1	*(a) Once preliminary project design is developed, the campus shall review each project to determine if existing domestic/fire water supply is adequate at the point of connection. If domestic/fire water is determined inadequate, the campus will upgrade the system to provide adequate water flow and pressure to the project site before constructing the project.*	Review project design relative to adequacy of water supplies at point of connection.	DE	Prior to final project design approval	Architects & Engineers
		Upgrade the system, if necessary.	OC	Prior to occupancy	Architects & Engineers
	(b) Implement domestic water conservation strategies as indicated in LRDP Mitigation 4.8-5(a) (Section 4.8 Hydrology and Water Quality.	As noted for LRDP Mitigation 4.8-5(a)	DE OP	As noted for LRDP Mitigation 4.8-5(a)	Architects & Engineers, Operations & Maintenance, Grounds Division
4.15-2	*(a) Once preliminary project design is developed, the campus shall review each project to determine if existing utility water supply is adequate at the point of connection. If the utility water supply is determined to be inadequate, the campus will upgrade the system to provide adequate water flow to the project site prior to occupation or operation.*	Review project design to determine if water supplies are adequate at point of connection.	DE	Prior to final project design approval	Architects & Engineers
		Upgrade the system, if necessary.	OC	Prior to construction	Architects & Engineers

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Number	Mitigation Measures	Monitoring and Reporting Procedure	Mitigation Timing		Monitoring and Reporting Responsibility
	(b) Implement utility water conservation strategies as indicated in LRDP Mitigation 4.8-6(a) (Section 4.8 Hydrology and Water Quality, Volume II).	As noted for LRDP Mitigation 4.8-6(a)	DE CO OP	As noted for LRDP Mitigation 4.8-6(a)	Architects & Engineers, Operations & Maintenance, Grounds, Agricultural Services Division, Student Housing
4.15-3	*Once preliminary project design is developed, the campus shall review each project to determine whether existing capacity of the sanitary sewer line at the point of connection is adequate. If the capacity of the sewer line is determined inadequate, the campus will upgrade the system to provide adequate service to the project site prior to occupation or operation.*	Review project design to determine if sanitary sewer capacity is adequate at point of connection.	DE	Prior to final project design approval	Architects & Engineers
		Upgrade the system, if necessary.	OC	Prior to construction	Architects & Engineers
4.15-4	*Once preliminary project design is developed, the campus shall review each project to determine whether existing storm drainage system is adequate at the point of connection. If the storm drainage system is determined inadequate, the campus will upgrade the system to provide adequate storm water drainage and/or detention prior to occupation or operation.*	Review project design to determine if storm drain capacity is adequate at point of connection.	DE	Prior to final project design approval	Architects & Engineers
		Upgrade the system, if necessary.	OC	Prior to construction	Architects & Engineers
4.15-6	*(a) Once preliminary project design is developed, the campus shall review each project to determine whether the existing electrical system is adequate at the point of connection. If the electrical system is determined inadequate, the campus will upgrade the system to provide adequate service to the project prior to occupation or operation.*	Review project design to determine if electrical system is adequate at point of connection.	DE	Prior to final project design approval	Architects & Engineers
		Upgrade the system, if necessary.	OC	Prior to construction	Architects & Engineers

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Number	Mitigation Measures	Monitoring and Reporting Procedure	Mitigation Timing		Monitoring and Reporting Responsibility
	(b) The campus would continue to meet or exceed Title 24 energy conservation requirements for new buildings, and it would continue to incorporate energy efficient design elements outlined in the UC Davis Campus Standards & Design Guide in new construction and retrofit projects. These energy conservation standards may be subject to modification as more stringent standards are developed.	Review project design for compliance with Title 24 and the Standards and Design Guide. Revise project design, if necessary.	DE	Prior to final project approval	Architects & Engineers
4.15-7	*(a) Once preliminary project design is developed, the campus shall review each project to determine whether existing capacity of the natural gas supply pipeline at the point of connection is adequate. If the capacity of the pipeline is determined inadequate, the system will be updated to provide adequate service to the project site prior to occupation or operation.*	Review project design to determine if natural gas supply is adequate at point of connection.	DE	Prior to final project design approval	Architects & Engineers
		Upgrade the system, if necessary.	OC	Prior to construction	Architects & Engineers
	(b) To minimize disturbance to archaeological resources associated with CA-Yol-118, PG&E can and should implement directional drilling or other alternative means to trenching, or should have a qualified archaeological monitor present and provide a representative of the local Native American community an opportunity to monitor during construction.	PG&E should implement site avoidance measures.	CO	During construction	*PG&E
4.15-8	*Once preliminary project design is developed, the campus shall review each project to determine whether existing capacity of the chilled water and/or steam system at the point of connection is adequate. If the capacity of the pipelines is determined inadequate, the campus will upgrade the system to provide adequate service to the project site prior to occupation or operation.*	Evaluate the adequacy of the chilled water and steam systems at point of connection.	DE	During project design phase	Architects & Engineers
		If necessary, update the systems to provide adequate service.	OC	Prior to occupation or operation	Architects & Engineers
4.15-9	*Once preliminary project design is developed, the campus shall review each project to determine whether existing capacity of the telecommunications system is adequate. If the capacity is determined to be inadequate, the campus will upgrade the system to provide adequate service to the project site prior to occupation or operation.*	Evaluate the adequacy of the telecommunications system for each project.	DE	During project design phase	Architects & Engineers, Information and Educational Technology

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Number	Mitigation Measures	Monitoring and Reporting Procedure	Mitigation Timing		Monitoring and Reporting Responsibility
		Update the system as needed to provide adequate service.	OC	Prior to occupation or operation	Architects & Engineers
4.15-10	*If documented unmitigated significant environmental impacts are caused by the construction of wastewater treatment facilities in the Cities of Davis, Dixon, Woodland, and/or Winters that are needed in part due to implementation of the 2003 LRDP, UC Davis shall negotiate with the appropriate local jurisdiction to determine the campus' fair share (as described in Section 4.12.2.3) of the costs to implement any feasible and required environmental mitigation measures so long as the unmitigated impacts have not been otherwise reduced to less-than-significant levels through regulatory requirements, public funding, or agreements. This mitigation measure shall not apply to any other costs associated with implementation of utilities or service systems.*	Negotiate with the cities to determine an appropriate fair share contribution for feasible and required environmental mitigation measures.	DE	Following completion of environmental review process for new wastewater facilities, if mitigation costs are identified	*Resource Management & Planning, Cities of Davis, Dixon, Woodland and Winters

* Denotes mitigation measure that requires implementation and/or monitoring by an agency other than the University.

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