ELECTRICAL IMPROVEMENTS, PHASE III

Draft Tiered Initial Study and Proposed Negative Declaration

The following Initial Study has been prepared in compliance with CEQA.

Prepared By:

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September 2005

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1 PROJECT INFORMATION

Project title:

Electrical Improvements, Phase III

Project location:

University of California, Davis
Yolo and Solano Counties

Lead agency's name and address:

Office of Resource Management and Planning
University of California
One Shields Avenue
376 Mrak Hall
Davis, CA 95616-8678

Contact person:

A. Sidney England, Director of Environmental Planning, 530-752-2432

Project sponsor's name and address:

See lead agency.

Location of administrative record:

See lead agency.

Identification of previous documents relied upon for tiering purposes:

This environmental analysis is tiered from the Environmental Impact Report (EIR) for the UC Davis 2003 Long Range Development Plan (2003 LRDP) (State Clearinghouse No. 2002102092). The 2003 LRDP is a comprehensive land use plan that will guide physical development on campus to accommodate projected enrollment increases and expanded and new program initiatives through the 2015-16 academic year. Section 2.2 provides additional information about the tiering process. The 2003 LRDP and its EIR are available for review at the following locations:

- UC Davis Office of Resource Management and Planning in 376 Mrak Hall on the UC Davis campus
- Reserves at Shields Library on the UC Davis campus
- Yolo County Public Library at 315 East 14th Street in Davis
- Online at http://www.ormp.ucdavis.edu/environreview/
2 INTRODUCTION

2.1 INITIAL STUDY

Pursuant to Section 15063 of the California Environmental Quality Act (CEQA) Guidelines (Title 14, California Code of Regulations, Sections 15000 et seq.), an Initial Study is a preliminary environmental analysis that is used by the lead agency as a basis for determining whether an EIR, a Mitigated Negative Declaration, or a Negative Declaration is required for a project. The CEQA Guidelines require that an Initial Study contain a project description, description of environmental setting, identification of environmental effects by checklist or other similar form, explanation of environmental effects, discussion of mitigation for significant environmental effects, evaluation of the project's consistency with existing, applicable land use controls, and the name of persons who prepared the study.

2.2 TIERING PROCESS

This environmental analysis is a Tiered Initial Study for the proposed Electrical Improvements, Phase III (referred to as the “proposed project” throughout this document). This environmental analysis is tiered from the UC Davis 2003 LRDP EIR in accordance with Sections 15152 and 15168 of the CEQA Guidelines and Public Resources Code Section 21094. The 2003 LRDP EIR is a Program EIR that was prepared pursuant to Section 15168 of the CEQA Guidelines. The 2003 LRDP is a comprehensive land use plan that will guide physical development on campus to accommodate projected enrollment increases and expanded and new program initiatives through the 2015-16 academic year. The 2003 LRDP EIR analyzes full implementation of uses and physical development proposed under the 2003 LRDP, and it identifies measures to mitigate the significant adverse program-level and cumulative impacts associated with that growth. The proposed project is an element of the growth that was anticipated in the 2003 LRDP and evaluated in the 2003 LRDP EIR.

The CEQA concept of "tiering" refers to the evaluation of general environmental matters in a broad program-level EIR, with subsequent focused environmental documents for individual projects that implement the program. This environmental document incorporates by reference the discussions in the 2003 LRDP EIR (the Program EIR) and concentrates on project-specific issues. CEQA and the CEQA Guidelines encourage the use of tiered environmental documents to reduce delays and excessive paperwork in the environmental review process. This is accomplished in tiered documents by eliminating repetitive analyses of issues that were adequately addressed in the Program EIR and by incorporating those analyses by reference.

Section 15168(d) of the State CEQA Guidelines provides for simplifying the preparation of environmental documents on individual parts of the program by incorporating by reference analyses and discussions that apply to the program as a whole. Where an EIR has been prepared or certified for a program or plan, the environmental review for a later activity consistent with the program or plan should be limited to effects that were not analyzed as significant in the prior EIR or that are susceptible to substantial reduction or avoidance (CEQA Guidelines Section 15152[d]).

Accordingly, the tiering of the environmental analysis for the proposed project allows this Tiered Initial Study to rely on the 2003 LRDP EIR for the following:

- a discussion of general background and setting information for environmental topic areas;
- overall growth-related issues;
• issues that were evaluated in sufficient detail in the 2003 LRDP EIR for which there is no significant new information or change in circumstances that would require further analysis; and
• assessment of cumulative impacts.

The purpose of this Tiered Initial Study is to evaluate the potential environmental impacts of the proposed project with respect to the 2003 LRDP EIR to determine what level of additional environmental review, if any, is appropriate. As shown in the Determination in Section 6 of this document, and based on the analysis contained in this Tiered Initial Study, it has been determined that the proposed project would not result in any potentially significant impacts that cannot be mitigated to less-than-significant levels or are not sufficiently addressed by the 2003 LRDP EIR. The analysis contained in this Tiered Initial Study concludes that the proposed project would result in the following categories of impacts, depending on the environmental issue involved: no impact; less-than-significant impact; less-than-significant impact with the implementation of 2003 LRDP EIR or project-specific mitigation measures; or contribution to a significant and unavoidable impact that was adequately analyzed in the 2003 LRDP EIR for which no new mitigation measures are available and no new analysis is proposed. The project would not result in any new potentially significant impacts that were not previously identified in the 2003 LRDP EIR. Therefore, preparation of a Negative Declaration is appropriate (the Proposed Negative Declaration is presented in Appendix A).

This Initial Study concludes that the impacts of the proposed project are addressed by the measures that have been adopted as part of the approval of the 2003 LRDP. Therefore, those 2003 LRDP EIR mitigation measures that are related to, and may reduce the impacts of, this project will be identified in this Initial Study. Since these mitigation measures are already being carried out as part of implementation of the 2003 LRDP, they will not be readopted. The benefits of these mitigation measures will be achieved independently of considering them as specific mitigation measures of this project. Nothing in this Initial Study in any way alters the obligations of the campus to implement the LRDP mitigation measures.

Since none of the conditions described in CEQA or the CEQA Guidelines calling for preparation of a subsequent or supplemental EIR have occurred, this Tiered Initial Study includes only minor technical changes or additions to the analysis set forth in the 2003 LRDP EIR, and it does not raise important new issues about the significant effects on the environment analyzed in the 2003 LRDP EIR.

2.3 Public and Agency Review

This Draft Tiered Initial Study will be circulated for public and agency review from September 2, 2005 to October 3, 2005. Copies of this document, the 2003 LRDP, and the 2003 LRDP EIR are available for review at the following locations:

• UC Davis Office of Resource Management and Planning in 376 Mrak Hall on the UC Davis campus
• Reserves at Shields Library on the UC Davis campus
• Yolo County Public Library at 315 East 14th Street in Davis
• Online at http://www.ormp.ucdavis.edu/environreview/

Comments on this Draft Tiered Initial Study must be received by 5 PM on October 3, 2005 and can be e-mailed to environreview@ucdavis.edu or sent to:
2.4 Project Approvals

As a public agency principally responsible for approving or carrying out the proposed project, the University of California is the Lead Agency under CEQA and is responsible for reviewing and certifying the adequacy of the environmental document and approving the proposed project. Approval of the proposed project has been delegated to the Office of the President by The Board of Regents of the University of California (The Regents) and is expected to be considered by the Office of the President in December 2005.

2.5 Organization of the Tiered Initial Study

This Tiered Initial Study is organized into the following sections:

Section 1 – Project Information: provides summary background information about the proposed project, including project location, lead agency, and contact information.

Section 2 – Introduction: summarizes the Tiered Initial Study's relationship to the 2003 LRDP EIR, the scope of the document, the project's review and approval processes, and the document's organization.

Section 3 – Project Description: includes a description of the proposed project, including the need for the project, the project's objectives, and the elements included in the project.

Section 4 – Consistency with the 2003 LRDP: describes the consistency of the proposed project with the 2003 LRDP and 2003 LRDP EIR.

Section 5 – Environmental Factors Potentially Affected: identifies which environmental factors, if any, involve at least one significant or potentially significant impact that has not been previously addressed in the 2003 LRDP EIR and cannot be reduced to a less-than-significant level.

Section 6 – Determination: indicates whether impacts associated with the proposed project are significant, and what, if any, additional environmental documentation is required.

Section 7 – Evaluation of Environmental Impacts: contains the Tiered Environmental Checklist form for each resource area. The checklist is used to assist in evaluating the potential environmental impacts of the proposed project with respect to the 2003 LRDP EIR. This section also presents a background summary for each resource area, the standards of significance, relevant impacts and mitigation measures from the 2003 LRDP EIR, and an explanation of all checklist answers.

Section 8 – References: lists references used in the preparation of this document.

Section 9 – Agencies and Persons Consulted: provides the names of individuals contacted in preparation of this document.
Section 10 – Report Preparers: lists the names of individuals involved in the preparation of this document.

Appendix A – Proposed Negative Declaration: presents the Proposed Negative Declaration for the project.
3  PROJECT DESCRIPTION

3.1  REGIONAL LOCATION

The approximately 5,300 acre UC Davis campus is located in Yolo and Solano Counties approximately 72 miles northeast of San Francisco, 15 miles west of the City of Sacramento, and adjacent to the City of Davis (see Figure 1). The campus is comprised of four campus units: the central campus, the south campus, the west campus, and Russell Ranch. Most academic and extracurricular activities occur within the central campus. The central campus is bounded generally by Russell Boulevard to the north, State Route 113 (SR 113) to the west, Interstate 80 (I-80) and the Union Pacific Railroad tracks to the south, and A Street to the east. The south campus is located south of I-80 and north of the South Fork of Putah Creek. The west campus is bounded by SR 113 to the east, Putah Creek to the south, Russell Boulevard to the north, and extends approximately one-half mile west of County Road 98. The south and west campus units are contiguous with the central campus, and are used primarily for field teaching and research. The approximately 1,600 acre Russell Ranch portion of the campus lies to the west, separated from the west campus by approximately one and one-half miles of privately owned agricultural land. Russell Ranch was purchased in 1990 for campus uses including large-scale agricultural and environmental research, study of sustainable agricultural practices, and habitat mitigation. Russell Ranch is bordered roughly by County Road 96 on the east, Putah Creek on the south, Covell Boulevard on the north, and Russell Boulevard and privately owned agricultural land on the west and northwest.

3.2  PROJECT OVERVIEW

UC Davis proposes to construct and operate Electrical Improvements Phase 3, a project intended to upgrade and add capacity to the existing campus electrical system to meet projected campus needs through 2010 and to increase system reliability. As student enrollment has grown, campus facilities have expanded to accommodate that growth, with a concomitant increase in electrical demand. The accumulated peak demand, which occurs on some hot summer days, is estimated to be 75.6 mega volt amps (MVA) in 2010. The current system has a total capacity of only 74.9 MVA with no capacity in reserve in the event of a breakdown or need for system maintenance. Thus, improvements in the campus electrical system are needed both to increase capacity and provide backup for the system. The proposed project consists of two interrelated components that are on physically separated sites, as described below, and shown in Figure 2.

South Campus – Expanded Substation
The proposed project would provide a new substation, which would be a contiguous expansion of the existing main substation on the south campus. The expanded substation would include one new 30 MVA transformer, a 1,200 amp circuit, and new distribution lines. An approximately 600 gross square feet (gsf) prefabricated switchgear enclosure and an approximately 300 gsf prefabricated control room would be installed on the south campus to house the switchgear and related monitoring and control equipment. A second connection would be made from Pacific Gas & Electric (PG&E) transmission lines to the expanded substation in order to increase system reliability.

Central Campus – New Distribution Lines and Building to House Monitoring and Control Equipment
The project also will provide new distribution lines from the new substation to the new Thermal Energy Storage (TES) tank site switchgear, near Fleet Services and north of the UC Davis Arboretum (see Figure 4), to facilitate load shifting using centralized switching technology. An approximately 1,000 gsf prefabricated switchgear enclosure would be installed on the central campus to house the switchgear. The new distribution lines will be located in an existing duct bank; however a new extension of that duct bank may be needed from the existing bank to the switchgear enclosure. The project would also include additional distribution lines from the TES switchgear to the Health Sciences District switchgear, through an existing duct bank (Figure 5).
The site layout for both the substation and distribution lines would be planned to accommodate future expansions of the electrical system; however, this Initial Study evaluates the potential impacts of only the Electrical Improvements Phase 3 project, and any future expansion of the electrical system would require additional environmental review.
Figure 2
Project Location
Electrical Improvements, Phase 3
Figure 3
Project Location - South Campus
Electrical Improvements, Phase 3
3.3  PROJECT SITE

South Campus (substation expansion):
The proposed project site on the south campus is immediately southwest of the existing electrical substation, and south of Interstate 80 (Figures 2 and 3). To the southeast of the site are tracks used by the Union Pacific and AMTRAK rail-lines. Land west of the proposed site and a portion of the site itself are currently used as irrigated pasture by the UC Davis Center for Laboratory Animal Science. The portion of the site immediately adjacent to the existing substation is covered in crushed rock and currently used to store equipment. The proposed two-acre site is designated for Support Services uses in the 2003 LRDP.

Central Campus (equipment housing and distribution lines):
The proposed project site on the central campus is south of Fleet Services, east of the Unitrans maintenance facility, north of the Arboretum, and west of the former campus wastewater treatment plant. Currently, at the north of the project site, an overhead shade structure is occupied by the Project Management department of Operations and Maintenance. This simple, open-sided structure would be dismantled and the materials that are stored there would be relocated. Subsequently, a prefabricated switchgear enclosure would be installed on or very near the former location of the overhead shade structure. The proposed site is designated for Support Services uses in the 2003 LRDP.

3.4  PROJECT NEED AND OBJECTIVES

The proposed project would support the teaching, research and public service mission of the University by providing the critical infrastructure and utility systems necessary to accommodate student enrollment increases and to support essential campus programs. The proposed project would add electrical system capacity to meet projected campus needs through 2010, increase the reliability of the campus electrical system, and improve system capacity distribution.

Existing Capacity and Projected Campus Demand
The existing campus electrical system includes six transformers, five with a capacity of 10.5 MVA and one with a capacity of 22.4 MVA. All are housed in a single main substation, and the circuitry capacity is fully utilized. A 60 kV transmission line connected to PG&E lines brings power to the campus through a connection at the main substation. The campus distribution system consists of five circuits serving different districts and one reserve circuit.

Transformers convert high voltage electricity from transmission lines into a much lower voltage that is usable by office, laboratory, and residential equipment, and the amount of volt-amps that a transformer can handle is the capacity of the transformer. Total campus system capacity, which is the sum of the “available capacity” plus the “reserve capacity,” is derived by adding the capacities of all the transformers. Available capacity is that part of the total system capacity that can be relied upon always to be available when needed and is committed to the normal daily operations. The reserve capacity is the capacity that is held in reserve to support normal equipment maintenance requirements and to mitigate an equipment failure. The campus is currently served by an available capacity of 64.4 MVA (one 22.4 MVA and four 10.5 MVA transformers), with only one 10.5 MVA transformer remaining in reserve to back up the failure of one of the operational transformers. If the 22.4 MVA transformer fails, the electric system would not be able to fully compensate for the lost electrical load, and the campus would suffer reductions in service with corresponding impediments to teaching and research functions. The campus now has two options to respond to such an emergency. First, the transformers can be operated above design capacity, but this risks permanent damage and further system failure. Second, portable private rental transformers may be used, but these are costly and require significant time delays while equipment is located, delivered, and installed.
Campus student enrollment grew by more than 30 percent from 2000 to 2004. The expansion of campus facilities needed to accommodate that growth plus research-related growth has increased the demand for electricity. The peak demand (the maximum instantaneous amount of electricity needed for campus operations) in 2010 is estimated to be 75.6 MVA. The current system has a total capacity of only 74.9 MVA. Thus, projected growth in peak demand will exceed the current capacity limits of the existing Main Substation within four or five years.

The proposed project would add a 30 MVA transformer to increase total system capacity to 104.9 MVA, which would create potential available capacity of 82.5 MVA to satisfy projected campus peak load through 2010, and provide reserve capacity of 22.4 MVA. Functional capacity would be 74.9 MVA because the new 30 MVA transformer typically would be run at 22.4 MVA to ensure the reserve capacity is not exceeded. The new transformer and related equipment would be installed as a second substation, adjacent to and supporting the current main substation, because the existing substation is physically constrained. The new substation will provide a new 1200 amp circuit and new 12.47 kV distribution lines, as the circuitry in the existing substation has reached its maximum designed capacity.

**Distribution of Electrical Power from Main Substation to Campus Circuits**

Electricity is distributed from the main substation to the campus through six individual circuits serving different sections of the campus; one circuit is coordinated to act as the reserve circuit and can deliver electricity to compensate for a failure of any of the five primary circuits. The circuits are connected from the main substation directly to local building transformers throughout the campus and to the Health Science District (HSD) switch gear that distributes power throughout that district. The present design of the main substation is inflexible and limits the ability of the campus to shift loads between circuits in response to evolving needs and emergencies. Unused capacity in one transformer cannot be shifted to another circuit to balance the loads. The proposed project would add new switching gear and related equipment that facilitates load shifting using centralized switching technology.

**Service Connection Reliability**

The system will operate at a moderate to a low level of reliability between now and the completion of the proposed EI3 project in 2008 due to a lack of reserve capacity. Electrical service to the UC Davis campus is delivered by a PG&E high voltage transmission line to the campus main substation through a single connection. There are two independent transmission lines that run parallel to the main substation, but only one is connected to the campus system. Conventional engineering standards recommend redundant transmission line connections to achieve an appropriate level of reliability. The proposed project would add a second connection from the PG&E transmission lines to the existing main substation and new substation, to prevent campus system shut downs during future planned maintenance projects and during any emergency failure of one of the line connections.

### 3.5 PROJECT ELEMENTS

#### 3.5.1 Buildings

On the south campus site, the proposed project involves laying a crushed gravel bed and concrete pads in order to install a new transformer; and installing an approximately 600 gross square feet (gsf) prefabricated switchgear enclosure and an approximately 300 gsf prefabricated control room to house a switchgear and related monitoring and control equipment. On the central campus, the project involves installing an approximately 1,000 gsf prefabricated switchgear enclosure to house the switchgear; and trenching from the existing duct bank north of the Arboretum to the equipment cabinets may also be required as part of the proposed project.
The project would provide security measures to prevent the general public from gaining unpermitted access to the electrical system equipment and line connections on campus property. Such measures would be equal to or greater than existing security measures for the campus electrical system.

3.5.2 Landscaping

The project would not involve any landscaping, nor is it anticipated that any existing trees would be removed. Trimming of trees along the existing paved service road to the south campus project site would be required in order to deliver the large electrical equipment to the site and install it.

3.5.3 Parking and Roadways

Access to the south campus portion of the project is from Old Davis Road; access to the central campus portion of the project is from Putah Creek Lodge Road. The gravel service road on the south campus project site may be paved to the substation addition; a paving decision would be made during design development. The central campus site would not require any parking or roadway modifications.

3.5.4 Utilities and Infrastructure

As discussed briefly below and analyzed in Section 4.15, the proposed project would require connections to the campus electrical and telecommunications systems. The project would improve the connections with PG&E for electrical service. The project would not require any connections to the domestic or utility water systems or the sanitary sewer system.

- Storm Drainage: The project will not include any connections to the storm drainage system. Drainage from the substation transformer pads would be retained in holding basins that ultimately shunt through a railroad drainage ditch to Putah Creek. The holding basins serve as containment basins in the event of any spills of mineral oil (the cooling and cushioning fluid for the transformer coils), so that the spills could be remediated. Additionally, storm water runoff from the transformer pad will be channeled through an oil separator tank, which will have a valve-controlled outlet to the drainage ditch.

- Electricity: The project is designed to add system capacity in order to meet campus demands.

- Telecommunications: In order to provide emergency telephone service, the proposed project would utilize existing infrastructure. The campus telecommunications system will have capacity for this project, and the project will not require construction of any additional telecommunications facilities.

3.5.5 Population

The proposed project would not increase the campus population.

3.6 Construction Schedule and Staging

Construction of the proposed project is anticipated to begin during the fourth quarter of 2006 and end in the first quarter of 2008. Construction staging and contractor parking associated with the proposed project would occur on-site in both of the project locations (south and central campus).
4  CONSISTENCY WITH THE 2003 LRDP AND 2003 LRDP EIR

In order to determine the proposed project's consistency with the 2003 LRDP and 2003 LRDP EIR, the following questions must be answered:

- Is the proposed project included in the scope of the development projected in the 2003 LRDP?
- Is the proposed location of the project in an area designated for this type of use in the 2003 LRDP?
- Are the changes to campus population associated with the proposed project included within the scope of the 2003 LRDP's population projections?
- Are the objectives of the proposed project consistent with the objectives adopted for the 2003 LRDP?
- Is the proposed project within the scope of the cumulative analysis in the 2003 LRDP EIR?

The following discussion describes the proposed project's relationship to and consistency with the development projections, population projections, land use designations, objectives, and cumulative impacts analyses contained in the 2003 LRDP.

4.1  2003 LRDP SCOPE OF DEVELOPMENT

The proposed project is part of the infrastructure development that was envisioned in the 2003 LRDP and it would not exceed the amount of development proposed in the 2003 LRDP.

4.2  2003 LRDP LAND USE DESIGNATION

Both of the proposed south and central campus sites are given a Support Services land use designation in the 2003 LRDP. This designation provides for facilities required to service the campus on a daily basis. The proposed project would upgrade and improve upon the electrical utility infrastructure, which is consistent with the land use designation.

4.3  2003 LRDP POPULATION PROJECTIONS

The 2003 LRDP projects that, through 2015-16, the on-campus population will increase to include approximately 30,000 students, 14,500 faculty and staff, and 3,240 non-UC employees. In addition, the total number of household members associated with students and employees living in on-campus housing is expected to increase to approximately 29,803. The fall 2003 on-campus faculty and staff headcount was approximately 10,500, and the 2002-03 three-quarter average on-campus student population was approximately 26,650 (UC Davis ORMP 2003a and b). The proposed project, which would introduce no new students and no new members of the faculty and staff population, in combination with other recently approved and currently proposed projects, would not increase the campus population to a level that would approach that projected for 2015-16. Therefore, the proposed project is well within the 2003 LRDP's on-campus population projections.

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1 The on-campus population includes students and employees on the UC Davis main campus and at other University owned and operated facilities in the City of Davis. The campus population is determined based on headcount, a method of counting faculty, staff, and students in which each person is counted as one unit regardless of whether he or she is employed or studying full-time or part-time. Student population figures represent student headcount averaged over the primary three academic quarters (i.e., fall, winter, spring).
4.4 2003 LRDP Objectives

The primary objective of the 2003 LRDP is to plan for the Davis campus’ share of the University of California’s short- and long-term enrollment demands. In addition, the 2003 LRDP aims to:

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

The proposed project would support these main 2003 LRDP objectives through adding electrical capacity in the campus system to meet increasing load demands, further safeguarding against power outages during planned maintenance projects or emergency failures, and improving system capacity distribution.

In addition, the 2003 LRDP includes specific objectives that are relevant to the proposed project, including the following:

Flexibility: The campus plan must provide a framework that is flexible enough to accommodate new initiatives and constantly evolving academic program needs, while still achieving a connected and cohesive campus environment. 2003 LRDP, Planning Principles, p. 9.

Expansions for Unitrans and Energy Facilities: Retain a service zone on the central campus for the expansion of Unitrans and energy facilities as other support uses relocate from this area to the South Campus. 2003 LRDP, Support Services Systems, p. 75.

Electrical Expansion: Assure adequate space at the site of the current substation in the South Campus, or on lands identified for Support Services in the West Campus, to locate a new electrical substation for the campus. 2003 LRDP, Support Services Systems, p. 75.

The proposed Electrical Improvements Phase 3 project would help fulfill these objectives by placing electrical system facilities in the service zone on the central campus, and by expanding the substation on the south campus.

4.5 2003 LRDP EIR Cumulative Impacts Analyses

In addition to evaluating the environmental effects directly associated with projected campus development, the 2003 LRDP EIR evaluates the cumulative effects of campus development combined with off-campus development through 2015-16. The cumulative context considered in the 2003 LRDP EIR varies, depending on the nature of the issue being studied, to best assess each issue’s geographic extent. For example, the cumulative impacts on water and air quality can be best analyzed within the boundaries of the affected resources, such as water bodies and air basins. For other cumulative impacts, such as hazard risks, traffic, and the need for new public service facilities, the cumulative impact is best analyzed within the context of the population growth and associated development that are expected to occur in the region.

As discussed in Sections 4.1 through 4.4 above, the proposed project is within the scope of campus development projected in the 2003 LRDP EIR. In addition, the campus is unaware of any changes to local growth plans or other changes in the region since certification of the 2003 LRDP EIR that would substantially change the document’s conclusions regarding cumulative impacts. Therefore, the
The proposed project would incrementally contribute to, but would not exceed, the cumulative impacts analyses included in the 2003 LRDP EIR.

The environmental resource discussions that follow in this document conclude that the project would result in the following types of cumulative impacts.

- The proposed project would not contribute to significant and unavoidable cumulative impacts identified in the 2003 LRDP EIR related to: loss of scenic vistas (Section 7.1); degradation of visual character or quality (Section 7.1); loss of wetland and riparian habitat (Section 7.4); increased water extraction from the deep aquifers (Section 7.8); increased water extraction from the shallow/intermediate aquifers (Section 7.8); increased ambient noise levels (Section 7.11); construction of police and fire service facilities (Section 7.13); construction of school facilities (Section 7.13); development of recreation facilities (Section 7.14); degraded intersection and freeway operations (Section 7.15); and construction of wastewater treatment facilities (Section 7.16).

- The proposed project would incrementally contribute to, but would not exceed, significant and unavoidable cumulative impacts identified in the 2003 LRDP EIR related to: increases in light and glare (Section 7.1); conversion of prime farmland (Section 7.2); increases in criteria pollutant emissions (Section 7.3); loss of habitat for Swainson’s hawks and burrowing owls (Section 7.4); loss of valley elderberry beetle habitat (Section 7.4); loss of archaeological and historical resources (Section 7.5); and degraded receiving water quality (Section 7.8).

- The proposed project would incrementally contribute to, but would not exceed, less-than-significant cumulative impacts identified in the 2003 LRDP EIR related to: increased toxic air contaminants (Section 7.3); exposure to seismic ground shaking (Section 7.6); use and transport of hazardous materials and generation of hazardous wastes (Section 7.7); and expansion of water, solid waste, energy, and natural gas systems (Section 7.16).
5 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors, if checked below, would be potentially affected by this project and would involve at least one impact that is a significant or potentially significant impact that has not been previously addressed in the 2003 LRDP EIR and cannot be reduced to a less-than-significant level as indicated by the checklist on the following pages.

☐ Aesthetics  ☐ Agricultural Resources  ☐ Air Quality

☐ Biological Resources  ☐ Cultural Resources  ☐ Geology, Soils & Seismicity

☐ Hazards & Hazardous Materials  ☐ Hydrology & Water Quality  ☐ Land Use & Planning

☐ Mineral Resources  ☐ Noise  ☐ Population & Housing

☐ Public Services  ☐ Recreation  ☐ Transportation, Circulation & Parking

☐ Utilities/Service Systems  ☐ Mandatory Findings of Significance

As indicated in the checklist above and based on the analysis presented in this Tiered Initial Study, it has been determined that for all resource areas, the proposed project would not result in any significant impacts that cannot be mitigated to a less-than-significant level or are not sufficiently addressed by the 2003 LRDP EIR. This Tiered Initial Study has concluded that the project would incrementally contribute to, but would not exceed, certain significant impacts previously identified in the 2003 LRDP EIR, and that for such impacts, no new mitigation measures, other than those previously identified in the 2003 LRDP EIR, are required. The project would not require project-specific mitigation measures. Therefore, preparation of a Negative Declaration is appropriate. The Proposed Negative Declaration is presented in Appendix A.
6 DETERMINATION

On the basis of this initial evaluation:

☐ I find that the proposed project COULD NOT have a significant effect on the environment that has not been previously addressed in the 2003 LRDP EIR, and no new mitigation measures, other than those previously identified in the 2003 LRDP EIR, are required. A NEGATIVE DECLARATION will be prepared and a proposed Negative Declaration is included in Appendix A.

☐ I find that the proposed project COULD have a significant effect on the environment that has not been previously addressed in the 2003 LRDP EIR, and __ new project-specific mitigation measure[s], in addition to those previously identified in the 2003 LRDP EIR, are required to reduce this effect to such a point that clearly no significant impact would occur. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a potentially significant effect on the environment that was not previously addressed in the 2003 LRDP EIR. A TIERED ENVIRONMENTAL IMPACT REPORT will be prepared to address new impacts not previously identified in the 2003 LRDP EIR.

John A. Meyer
Vice Chancellor – Resource Management and Planning
7 EVALUATION OF ENVIRONMENTAL IMPACTS

Introduction

The following Environmental Checklist form is based on the checklist suggested in Appendix G of the CEQA Guidelines, and it has been adapted to assist in evaluating the environmental effects of the proposed project with respect to the analysis in the 2003 LRDP EIR.

The Environmental Checklist identifies potential project effects as corresponding to the following categories of impacts:

- **Potentially Significant Impact**: An effect that it was not previously addressed in the 2003 LRDP EIR and may be significant based on substantial evidence and the significance criteria. If the project may result in one or more Potentially Significant Impacts, an EIR is required.

- **Less than Significant with Mitigation Incorporated**: An effect that was not adequately addressed in the 2003 LRDP EIR, but with the implementation of project-specific mitigation measures, is reduced from potentially significant to less than significant. This Tiered Initial Study does not identify any potentially significant impacts that were not previously addressed in the 2003 LRDP EIR; therefore no project-specific mitigation measures are required.

- **Impact for Which the 2003 LRDP EIR is Sufficient**: An effect that was adequately addressed and mitigated to the extent feasible in the 2003 LRDP EIR (the Program EIR). For these effects, the Tiered Initial Study explains how the effect was addressed in the 2003 LRDP EIR and why the criteria for supplemental environmental review under CEQA Section 21166 (project changes, changed circumstances, and/or new information) have not been triggered. Effects correspond to this category under the following circumstances:
  a) The 2003 LRDP EIR found the impact would be reduced to a less-than-significant level with the implementation of applicable 2003 LRDP EIR mitigation measures;
  b) The impact is significant and unavoidable at a cumulative level, and the 2003 LRDP EIR fully addressed the cumulative impact; or
  c) The impact is significant and unavoidable at a project level, but the LRDP EIR contained an adequate project-level analysis for the impact.

- **Less than Significant Impact**: An effect for which no significant impacts, only less than significant impacts, would occur.

- **No Impact**: The project does not create an impact.
7.1 AESTHETICS

7.1.1 Background

Section 4.1 of the 2003 LRDP EIR addresses the aesthetics effects of campus growth under the 2003 LRDP. The following discussion summarizes information presented in the ‘Setting’ subsection of Section 4.1 of the 2003 LRDP EIR.

Campus

The campus is surrounded by extensive agricultural uses to the west and south, and by residential, institutional, and commercial land uses in the City of Davis to the north and east. Views within the Davis area are generally of two types: open views of agricultural land and supporting facilities with views of hills to the west, and views of developed areas within UC Davis and the City of Davis.

UC Davis consists of four general land units that have distinct visual characters. The central campus is the most developed area of campus and is characterized by varied architectural styles, large trees, and formal landscaping. The west and south campus units and Russell Ranch primarily include teaching and research fields with agricultural buildings (although the west and south campus units also include more developed areas including campus support facilities and academic and administrative facilities).

The 2003 LRDP identifies the following as valued visual elements of the central campus: the large, open lawn of the Quad at the heart of the campus; the framework of tree-lined streets, particularly around the Quad where the street tree branches arch to create a canopy overhead; the Arboretum, with its large trees and variety of landscapes along the waterway; the shingle-sided buildings from the founding years of the University Farm; buildings from the second era of campus development such as Hart Hall and Walker Hall; green open spaces that face the community along Russell Boulevard and A Street; bicycles as a distinct and valued visual emblem on campus; and the South Entry area, including the new entrance quad and the Robert and Margrit Mondavi Center for the Performing Arts.

Design review of campus development projects takes place during the project planning, design, review, and approval processes to sustain valued elements of the campus’ visual environment, to assure new projects contribute to a connected and cohesive campus environment, and to otherwise minimize adverse aesthetics effects as feasible. Formal design review by the campus Design Review Committee takes place for every major capital project. This Committee includes standing members from the Offices of Resource Management and Planning, Architects and Engineers, Grounds, and other departments concerned with potential aesthetic effects, as well as program representatives and invited design professionals with expertise relevant to the project type. Campus design standards and plans that provide the basis for design review include the 2003 LRDP, the Campus Standards and Design Guide manual, the campus Architectural Design Guidelines, and the Campus Core Study.

Project Site

South Campus (substation expansion):
The proposed project site on the south campus is immediately southwest of the existing electrical substation, and south of the I-80 (Figures 2 and 3). To the southeast of the site are tracks used by the Union Pacific and AMTRAK rail-lines. Land west of the proposed site and a portion of the site itself are currently used as irrigated pasture by the UC Davis Center for Laboratory Animal Science. The portion of the site immediately adjacent to the existing substation is covered in crushed rock and currently used to store old equipment. Views off-site are of animals on irrigated pasture land, low
buildings, the freeway, rail lines and the electrical substation. Existing views to the site include the old equipment and the area in irrigated pasture.

Central Campus (equipment housing and distribution lines):
The proposed project site on the central campus is south of Fleet Services, east of the Unitrans maintenance facility, north of the Arboretum, and west of the former campus waste water treatment plant (Figures 2 and 4). Currently, at the north of the project site, there is an open-sided metal shade structure. Views off-site are of various support service facilities and trees and brushy undergrowth. The Arboretum is not visible from the site. Views to the site are similar to views off-site.

7.1.2 2003 LRDP EIR Standards of Significance

The 2003 LRDP EIR considers an aesthetic impact significant if growth under the 2003 LRDP would:

- Have a substantial adverse effect on a scenic vista.

  A scenic vista is defined as a publicly accessible viewpoint that provides expansive views of a highly valued landscape. On campus, the open view across agricultural lands west to the Coast Range is considered a scenic vista. This vista is primarily viewed from public viewpoints along SR 113, Hutchison Drive, La Rue Road, and Russell Boulevard.

- Substantially degrade the existing visual character or quality of the site and its surroundings.

  For the campus, this standard is interpreted in terms of the effect of development under the 2003 LRDP on the valued elements of the visual landscape identified in the LRDP, or the effect associated with allowing incompatible development in or near areas with high visual quality such as Putah Creek and the Arboretum Waterway.

- Create a new source of substantial light or glare that would adversely affect daytime or nighttime views in the area.

  An additional standard from the CEQA Guidelines’ Environmental Checklist (“b” in the checklist below) was found not applicable to campus growth under the 2003 LRDP.

7.1.3 2003 LRDP EIR Impacts and Mitigation Measures

Impacts of campus growth under the 2003 LRDP through 2015-16 on aesthetics are evaluated in Section 4.1 of the 2003 LRDP EIR. As analyzed in Section 4 of this Initial Study, the proposed project is within the scope of analysis in the 2003 LRDP EIR. Significant and potentially significant aesthetics impacts identified in the 2003 LRDP EIR that are relevant to the proposed project are presented below with their corresponding levels of significance before and after application of mitigation measures identified in the 2003 LRDP EIR. Mitigation measures are relevant to reduce the magnitude of cumulative impact 4.1-6, but these impacts are identified as significant and unavoidable because the feasibility and/or implementation of mitigation falls within other jurisdictions and therefore cannot be guaranteed by the University of California.

<table>
<thead>
<tr>
<th>2003 LRDP EIR Impacts</th>
<th>Level of Significance Prior to Mitigation</th>
<th>Level of Significance After Mitigation</th>
</tr>
</thead>
<tbody>
<tr>
<td>AESTHETICS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.1-3</td>
<td>Development under the 2003 LRDP could create substantial light or glare on campus that could adversely affect daytime or nighttime views in the area.</td>
<td>PS</td>
</tr>
<tr>
<td>4.1-6</td>
<td>Implementation of the 2003 LRDP together with cumulative development in the region would create new sources of light and glare that could adversely</td>
<td>S</td>
</tr>
</tbody>
</table>
Mitigation measures in the 2003 LRDP EIR that are applicable to the proposed project are presented below. Since these mitigation measures are already being carried out as part of implementation of the 2003 LRDP, they will not be readopted in this Initial Study or Negative Declaration. The benefits of these mitigation measures will be achieved independently of considering them as specific mitigation measures of this project. Nothing in this Initial Study in any way alters the obligations of the campus to implement 2003 LRDP EIR mitigation measures.

### 2003 LRDP EIR Mitigation Measures

#### AESTHETICS

- **4.1-3(a)** Design for specific projects shall provide for the use of textured nonreflective exterior surfaces and nonreflective glass.
- **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.
- **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.
- **4.1-6(a)** Implement LRDP Mitigation 4.1-3(a) and (b).
- **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.

### 7.1.4 Environmental Checklist and Discussion

<table>
<thead>
<tr>
<th>AESTHETICS</th>
<th>Potentially Significant Impact</th>
<th>Less than Significant with Mitigation</th>
<th>Impact for which 2003 LRDP EIR is Sufficient</th>
<th>Less than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Have a substantial adverse effect on a scenic vista?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>✔</td>
</tr>
<tr>
<td>b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>✔</td>
</tr>
<tr>
<td>c) Substantially degrade the existing visual character or quality of the site and its surroundings?</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>✔</td>
</tr>
<tr>
<td>d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?</td>
<td></td>
<td></td>
<td>✔</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a) The 2003 LRDP EIR defined a scenic vista as an expansive view of a highly valued landscape from a publicly accessible viewpoint, and identified the only scenic vista on the UC Davis campus to be the view west across agricultural land to the Coast Range. On and near campus, viewpoints along
SR 113, Hutchison Drive, La Rue Road, and Russell Boulevard provide views of the identified scenic vista. The proposed project site on the central campus is within a developed portion of the campus with no open views towards the west. The proposed project site on the south campus does not have views to the west due to existing buildings and the freeway embankment. Accordingly, the project would have no effect on a scenic vista. No impact would occur.

b,c) The campus is not located near a state scenic highway. However, the 2003 LRDP EIR found that development on campus under the 2003 LRDP could degrade the visual character of the campus by substantially degrading the valued elements of the campus’ visual landscape, which are identified above in the background discussion and include specific treed areas, historic buildings, and open space areas (Impact 4.1-2). One portion of the proposed project would be set back from the Arboretum, but would not affect the visual quality of the Arboretum, as the Advanced Materials Research Laboratory project would be constructed between the proposed project building and the Arboretum. Thus, the project facilities would not be visible from the Arboretum and would have no impact on scenic resources and visual character with respect to the Arboretum. The south campus project site is immediately adjacent to the existing substation, so expansion of the substation would match the existing visual character in the area. No impact would occur.

d) The 2003 LRDP EIR found that development on campus under the 2003 LRDP could create substantial light or glare that could adversely affect daytime or nighttime views in the area (Impact 4.1-3). For security, the project will have nighttime lighting, which could impact night sky views. In addition, the project would involve installation of two small modular buildings and installation of a new transformer, both of which could add some glare to the project sites. In compliance with LRDP Mitigation 4.1-3(a), the project would use textured nonreflective exterior surfaces and nonreflective glass. In compliance with LRDP Mitigation 4.1-3(b-c), new outdoor lighting associated with the project would use directional lighting methods with shielded and cutoff type light fixtures to minimize glare and upward directed lighting, except in specific, limited locations to enhance nighttime views of walking paths, specific landscape features, or specific architectural features. In compliance with this measure, the Campus Design Review Committee will also review the proposed project’s use of non-directional lighting design to ensure that no adverse effects on nighttime views occur. In compliance with LRDP Mitigation 4.1-3(d), the campus will replace older lighting fixtures over time with directional lighting. With implementation of LRDP Mitigation 4.1-3(a-d), which is included in the proposed project, the project’s impact associated with light and glare would be less than significant.

The 2003 LRDP EIR found that campus development under the 2003 LRDP in conjunction with other development in the region would add new sources of light and glare that could adversely affect daytime or nighttime views in the area (Impact 4.1-6). LRDP Mitigation 4.1-6(a), included in the proposed project, requires the campus to implement Mitigation Measure 4.1-3(a) and (b), discussed above. LRDP Mitigation 4.1-6(b) indicates that local jurisdictions can and should adopt and implement development standards and guidelines that support reduced lighting. However, the feasibility and/or implementation of LRDP Mitigation 4.1-6(b) cannot be guaranteed by the University of California because enforcement and monitoring fall within other jurisdictions. For this reason, the impact is considered significant and unavoidable. This impact was adequately analyzed in the 2003 LRDP EIR and was fully addressed in the Findings and Statement of Overriding Considerations adopted by The Regents in connection with its approval of the 2003 LRDP. No conditions have changed and no new information is available since certification of the 2003 LRDP EIR that would alter this previous analysis.

**Summary**
Mitigation measures 4.1-3(a-d) and 4.1-6(a-b) from the 2003 LRDP EIR are relevant to the proposed project and reduce the significance of aesthetics impacts to the extent feasible. The proposed project would not exceed the levels of significance of aesthetics impacts previously addressed in the 2003 LRDP EIR, nor would it introduce any new significant aesthetics impacts that were not previously addressed.
7.2 \textbf{Agricultural Resources}

7.2.1 \textbf{Background}

Section 4.2 of the 2003 LRDP EIR addresses the agricultural resources effects of campus growth under the 2003 LRDP. The following discussion summarizes information presented in the ‘Setting’ subsection of Section 4.2 of the 2003 LRDP EIR.

	extbf{Campus}

As discussed in the 2003 LRDP EIR, of the approximately 5,300 acres of campus land, the California Department of Conservation’s Farmland Mapping and Monitoring Program (FMMP) designates approximately 3,700 acres as Prime Farmland and approximately 90 acres as Farmland of Local Importance. The FMMP designates the remaining 1,520 acres of campus land as Urban and Built-Up (approximately 1,400 acres) and Other Land (approximately 120 acres). Most of the campus’ agricultural lands are located on the west and south campuses and at Russell Ranch. The central campus includes land primarily designated as Urban and Built-Up, but small areas within the central campus that are used for teaching and research fields and community gardens are designated as Prime Farmland.

The 2003 LRDP EIR identifies that development under the 2003 LRDP through 2015-16 could result in conversion of approximately 745 acres of campus land that is considered prime farmland by the California Department of Conservation to nonagricultural uses. Approximately 330 acres of this land would be converted to habitat at Russell Ranch, which would not result in an irreversible loss of prime soil. Mitigation under the 2003 LRDP EIR requires the conservation of prime farmland at a one-to-one (1:1) 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.

	extbf{Project Site}

\textit{South Campus (substation expansion)}: One portion of the proposed project site on the south campus is identified as urban/built-up land in the FMMP, and the remainder of the site is identified as prime farmland converted to development in the FMMP. Currently a portion of the proposed project site is used as irrigated pasture for the UC Davis Center for Laboratory Animal Science. The proposed project site is approximately 2.1 acres.

\textit{Central Campus (equipment housing and distribution lines)}: The proposed project site on the central campus is identified as urban/built-up land.

7.2.2 \textbf{2003 LRDP EIR Standards of Significance}

The 2003 LRDP EIR considers an agricultural impact significant if growth under the 2003 LRDP would:

- Convert prime farmland, unique farmland or farmland of statewide importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency to nonagricultural use.
- Involve other changes in the existing environment which, due to their location or nature, could result in conversion of farmland considered prime, unique, or of statewide importance to nonagricultural use.
- Conflict with existing zoning for agricultural use or a Williamson Act contract.
7.2.3 2003 LRDP EIR Impacts and Mitigation Measures

Impacts of campus growth under the 2003 LRDP through 2015-16 on agricultural resources are evaluated in Section 4.2 of the 2003 LRDP EIR. As analyzed in Section 4 of this Initial Study, the proposed project is within the scope of analysis in the 2003 LRDP EIR. Significant agricultural impacts identified in the 2003 LRDP EIR that are relevant to the proposed project are presented below with their corresponding levels of significance before and after application of mitigation measures identified in the 2003 LRDP EIR. Mitigation measures are relevant to reduce the magnitude of project-level impact 4.2-1 and cumulative impact 4.2-3, but these impacts are identified as significant and unavoidable because they are considered irreversible. Since these mitigation measures are already being carried out as part of implementation of the 2003 LRDP, they will not be readopted. The benefits of these mitigation measures will be achieved independently of considering them specific mitigation measures of this project. Nothing in this Initial Study in any way alters the obligations of the campus to implement 2003 LRDP EIR mitigation measures.

<table>
<thead>
<tr>
<th>2003 LRDP EIR Impacts</th>
<th>Level of Significance Prior to Mitigation</th>
<th>Level of Significance After Mitigation</th>
</tr>
</thead>
<tbody>
<tr>
<td>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.</td>
<td>S</td>
<td>SU</td>
</tr>
<tr>
<td>4.2-3 Cumulative development would result in the conversion of prime farmland, unique farmland, and/or farmland of statewide importance to nonagricultural use.</td>
<td>S</td>
<td>SU</td>
</tr>
</tbody>
</table>

Levels of Significance: LS=Less than Significant, S=Significant, PS=Potentially Significant, SU=Significant and Unavoidable

Mitigation measures in the 2003 LRDP EIR that are applicable to the proposed project are presented below. Since these mitigation measures are already being carried out as part of implementation of the 2003 LRDP, they will not be readopted in this Initial Study or Negative Declaration. The benefits of these mitigation measures will be achieved independently of considering them as specific mitigation measures of this project. Nothing in this Initial Study in any way alters the obligations of the campus to implement 2003 LRDP EIR mitigation measures.

<table>
<thead>
<tr>
<th>2003 LRDP EIR Mitigation Measures</th>
<th>AGRICULTURAL RESOURCES</th>
</tr>
</thead>
<tbody>
<tr>
<td>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 on 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.</td>
<td></td>
</tr>
<tr>
<td>4.2-3 Implement LRDP Mitigation 4.2-1.</td>
<td></td>
</tr>
</tbody>
</table>

7.2.4 Environmental Checklist and Discussion

<table>
<thead>
<tr>
<th>AGRICULTURAL RESOURCES</th>
<th>Potentially Significant Impact</th>
<th>Less than Significant with Mitigation</th>
<th>Impact for which 2003 LRDP EIR is Sufficient</th>
<th>Less than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Would the project…</td>
<td></td>
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</tr>
</tbody>
</table>
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

- ☐
- ☐
- ☑
- ☐
- ☐
- ☐

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?

- ☐
- ☐
- ☑
- ☐
- ☒
- ☐

c) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use?

- ☐
- ☐
- ☑
- ☐
- ☐
- ☐

---

a) **South Campus (substation expansion):**

As stated in the 2003 LRDP EIR, approximately 360 acres within the south campus are designated as Prime Farmland in the FMMP, most of which is used for Teaching and Research Fields. For the proposed project, approximately two acres of land identified asPrime Farmland Converted to Development under the FMMP designation system would be converted from irrigated pasture to house the proposed substation expansion. This is within and does not exceed the acreage to be converted under the 2003 LRDP. The 2003 LRDP EIR identifies impacts 4.2-1 (project-level impact associated with loss of prime farmland) and 4.2-3 (cumulative impact associated with loss of prime farmland) as significant and unavoidable because they are considered irreversible. Project impacts on farmland were fully addressed in the 2003 LRDP EIR and Mitigation Measures 4.2-1 and 4.2-3 are relevant to the proposed project to reduce the significance of agricultural impacts to the extent feasible. The campus continues to investigate land areas that would be appropriate to designate as prime farmland in compliance with LRDP Mitigation Measure 4.2-1. At this time, the Russell Ranch or Kidwell parcels may still be used for this purpose. Prior to converting the irrigated pasture at the south campus site, the Chancellor will select a site for the Electrical Improvements, Phase 3 farmland preservation. This impact was adequately analyzed in the 2003 LRDP EIR and was fully addressed in the Findings and Statement of Overriding Considerations adopted by The Regents in connection with its approval of the 2003 LRDP. No conditions have changed and no new information is available since certification of the 2003 LRDP EIR that would alter this previous analysis.

**Central Campus (equipment housing and distribution lines):**

The central campus portion of the proposed project site is designated urban/built-up land under the FMMP program. No loss of agricultural lands would occur as a result of construction on the proposed central campus site.

b) Campus lands are state lands and are not eligible for Williamson Act agreements, nor are they subject to local zoning controls. The 2003 LRDP assigns both the south campus and the central campus project sites a Support Services land use designation. Therefore, the proposed project would not conflict with an existing zoning for agricultural use or a Williamson Act contract, and no impact would occur.

c) **South Campus (substation expansion):**

Lands for this purpose have been identified in the 2003 LRDP and designated for a Support land use. Therefore, no impact would occur.

**Summary**

Mitigation measures 4.2-1 and 4.2-3 from the 2003 LRDP EIR are relevant to the proposed project and reduce the significance of agricultural impacts to the extent feasible. The proposed project
would not exceed the levels of significance of agricultural impacts previously addressed in the 2003 LRDP EIR, nor would it introduce any new significant agricultural impacts that were not previously addressed.
7.3 Air Quality

7.3.1 Background

Section 4.3 of the 2003 LRDP EIR addresses the air quality effects of campus growth under the 2003 LRDP on air quality. The following discussion summarizes information presented in the ‘Setting’ subsection of Section 4.3 of the 2003 LRDP EIR.

Campus

The campus is subject to air quality regulation programs under both the federal Clean Air Act (CAA) and the California Clean Air Act (CCAA). Both the federal and state statutes provide for ambient air quality standards to protect public health, timetables for progressing toward achieving and maintaining ambient standards, and the development of plans to guide the air quality improvement efforts of state and local agencies. Within the campus vicinity, air quality is monitored, evaluated, and controlled by the U.S. Environmental Protection Agency (EPA), the California Air Resources Board (CARB), and the Yolo-Solano Air Quality Management District (YSAQMD). The YSAQMD is one of five air districts located in the Sacramento Valley Air Basin (SVAB) and has jurisdiction over air quality in the Yolo County and the northeastern portion of Solano County.

Historically, air quality laws and regulations have divided air pollutants into two broad categories: “criteria pollutants” and “toxic air contaminants.” Federal and state air quality standards have been established for the following ambient air pollutants, which are called criteria pollutants: ozone (O₃), carbon monoxide (CO), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), particulate matter less than 10 microns in diameter (PM₁₀), lead (Pb), and particulate matter less than 2.5 microns in diameter (PM₂·₅). Ozone is evaluated by assessing emissions of its precursors: reactive organic gases (ROG) and NO₂.

Toxic air contaminants (TACs) are airborne pollutants for which there are no air quality standards but are known to have adverse human health effects. TACs are regulated under federal and state statutes, primarily with control technology requirements for stationary and mobile sources and mitigation established following human health risk assessments. Air toxics are generated by a number of sources, including stationary sources, such as dry cleaners, gas stations, combustion sources, and laboratories; mobile sources, such as automobiles; and area sources, such as farms, landfills, construction sites, and residential areas.

Air quality on campus on any given day is influenced by both meteorological conditions and pollutant emissions. In general, meteorological conditions vary more than pollutant emissions from day to day, and, therefore, tend to have a greater influence on changes in measured ambient pollutant concentrations. Ambient concentrations of CO and PM₁₀ are particularly influenced by local emission sources. The EPA has classified the entire SVAB, which includes the campus, as a severe nonattainment area for O₃. The CARB has also designated the area as being in nonattainment under the state ambient air quality standards for O₃ and PM₁₀. The designation of an area as attainment and nonattainment is based on monitored data throughout the SVAB.

Project Site

South Campus (substation expansion):

The proposed project site on the south campus is immediately southwest of the existing electrical substation, south of the I-80, and southeast of railroad tracks used by the Union Pacific and AMTRAK rail-lines. Land west of the proposed site and a portion of the site itself are currently used as irrigated pasture by the UC Davis Center for Laboratory Animal Science. The portion of the site immediately
adjacent to the existing substation is covered in crushed rock and currently is used to store equipment. The Campus Wastewater Treatment Plant is approximately a third of a mile from the site. Emissions at the project site are mainly generated as a result of substation and irrigated pasture maintenance. Emissions sources from the nearby uses include freeway and rail traffic, emergency generators, and the wastewater treatment process. There are no sensitive receptors near the south campus site.

Central Campus (equipment housing and distribution lines):
The proposed project site on the central campus is south of Fleet Services, east of the Unitrans maintenance facility, north of the Arboretum, and west of the former campus wastewater treatment plant, which is no longer in operation. Other nearby uses include the campus thermal energy storage plant used for water cooling and heating. Emissions sources from the nearby uses include fueling operations, vehicle repair and testing, and combustion sources from the steam generation and cooling tower particulate emissions.

7.3.2 2003 LRDP EIR Standards of Significance

The 2003 LRDP EIR considers an air quality impact significant if growth under the 2003 LRDP would:

Criteria Pollutants

- Conflict with or obstruct implementation of the applicable air quality plan.
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation. (According to the YSAQMD, emissions of NOx and ROG in excess of 82 pounds a day, CO emissions in excess of 550 pounds a day, and 150 pounds a day for PM10 would be considered significant.)
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).
- Expose sensitive receptors to substantial pollutant concentrations.
- Create objectionable odors affecting a substantial number of people.

Toxic Air Contaminants

- Contribute to the probability of contracting cancer for the Maximally Exposed Individual (MEI) exceeding the AB 2588 and Proposition 65 threshold of 10 in one million.
- Result in a noncarcinogenic (chronic and acute) health hazard index greater than the AB 2588 threshold of 1.0.

7.3.3 2003 LRDP EIR Impacts and Mitigation Measures

Impacts of campus growth under the 2003 LRDP through 2015-16 on air quality are evaluated in Section 4.3 of the 2003 LRDP EIR. As analyzed in Section 4 of this Initial Study, the proposed project is within the scope of analysis in the 2003 LRDP EIR. Significant and potentially significant air quality impacts identified in the 2003 LRDP EIR that are relevant to the proposed project are presented below with their corresponding levels of significance before and after application of mitigation measures identified in the 2003 LRDP EIR. Mitigation is relevant to reduce the magnitude
of project-level impact 4.3-1 and cumulative impact 4.3-6, but these impacts are identified as significant and unavoidable because they cannot be fully mitigated. Mitigation is identified to reduce the magnitude of project-level impact 4.3-3, but this impact is identified as significant and unavoidable due to uncertainty about the effectiveness of the mitigation.

### 2003 LRDP EIR Impacts

**AIR QUALITY**

<table>
<thead>
<tr>
<th>Project Level</th>
<th>Impact Description</th>
<th>Prior to Mitigation</th>
<th>After Mitigation</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.3-1</td>
<td>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.</td>
<td>S</td>
<td>SU</td>
</tr>
<tr>
<td>4.3-3</td>
<td>Emissions from construction activities associated with the 2003 LRDP would exceed YSAQMD thresholds.</td>
<td>S</td>
<td>SU</td>
</tr>
<tr>
<td>4.3-6</td>
<td>Implementation of the 2003 LRDP, in conjunction with other regional development, would result in a cumulatively considerable increase of non-attainment pollutants.</td>
<td>S</td>
<td>SU</td>
</tr>
<tr>
<td>4.3-8</td>
<td>Regional growth could result in an increase in toxic air contaminants if compensating technological improvements are not implemented.</td>
<td>PS</td>
<td>LS</td>
</tr>
</tbody>
</table>

Levels of Significance: LS=Less than Significant, S=Significant, PS=Potentially Significant, SU=Significant and Unavoidable

Mitigation measures in the 2003 LRDP EIR that are applicable to the proposed project are presented below. Since these mitigation measures are already being carried out as part of implementation of the 2003 LRDP, they will not be readopted in this Initial Study or Negative Declaration. The benefits of these mitigation measures will be achieved independently of considering them as specific mitigation measures of this project. Nothing in this Initial Study in any way alters the obligations of the campus to implement 2003 LRDP EIR mitigation measures.

### 2003 LRDP EIR Mitigation Measures

**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.
- 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.

#### 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.

4.3-3(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.
- 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.

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.
2003 LRDP EIR Mitigation Measures
AIR QUALITY

- 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.

4.3-6 Implement LRDP Mitigation 4.3-1(a-c).

4.3-8 EPA and CARB are expected to continue the development and implement programs to reduce air toxics, and UC Davis will continue its efforts in this area.

7.3.4 Environmental Checklist and Discussion

<table>
<thead>
<tr>
<th>AIR QUALITY</th>
<th>Potentially Significant Impact</th>
<th>Less than Significant with Mitigation</th>
<th>Impact for which 2003 LRDP EIR is Sufficient</th>
<th>Less than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Conflict with or obstruct implementation of the applicable air quality plan?</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>d) Expose sensitive receptors to substantial pollutant concentrations?</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>e) Create objectionable odors affecting a substantial number of people?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
</tr>
</tbody>
</table>

a,b,c,d) Construction

The 2003 LRDP EIR found that construction activities under the 2003 LRDP could exceed YSAQMD thresholds (Impact 4.3-3). The state 24-hour PM$_{10}$ standards could be violated when multiple construction projects (especially those involving ongoing grading or excavation activities) occur simultaneously in the same area. Housing or other sensitive receptors located adjacent to construction areas could be affected by high concentrations of PM$_{10}$. In addition, exhaust pollutants would be emitted during use of construction equipment.

The project is not adjacent to sensitive receptors on either the south or central campus project sites, and the nearest sensitive receptor (Tercero student housing) is approximately 900 feet north of the central campus project site. Project construction is expected to take 15 to 18 months to complete. During site preparation and foundation construction at the south campus site, two to three construction vehicles (likely a backhoe and small loader) would be active on the project site. During the remainder of the project, two to three construction vehicles (likely a backhoe, crane and delivery truck) would be deployed on the south campus site. On the central campus site, two to three construction vehicles would be on site for removal of the existing overhead shade structure, trenching, and foundation work, and a delivery crane for installing the switchgear enclosure. Another nearby construction project which could occur simultaneously with the proposed project is the Advanced Materials Research Laboratory.
LRDP Mitigation 4.3-3(a) (requiring campus construction contracts to include measures to reduce fugitive dust impacts), and 4.4-3(c) (requiring control measures to reduce emissions of ozone precursors from construction equipment exhaust) are relevant in the proposed project. However, the proposed project would involve short-term emission of exhaust pollutants from construction equipment. The 2003 LRDP EIR found that the impact of the cumulative emissions from the totality of projects under construction at any given time under the 2003 LRDP would be significant and unavoidable. The impact was adequately analyzed in the 2003 LRDP EIR and was fully addressed in the Findings and Statement of Overriding Considerations adopted by The Regents in connection with its approval of the 2003 LRDP. No conditions have changed and no new information is available since certification of the 2003 LRDP EIR that would alter this previous analysis.

Operation

Criteria Pollutants

The proposed project would result in no increase to the campus population and would not increase the number or the length of vehicle trips conducted by the existing campus population. Because no new trips would result from the substation expansion, no impact would occur.

The 2003 LRDP EIR found that operational emissions under the 2003 LRDP could substantially contribute to violation of ambient state and federal air quality standards or hinder the attainment of the regional air quality plan (LRDP Impact 4.3-1). The project would contribute to this impact through emissions associated with service vehicles maintaining and managing the substation on the south campus and the switchgear on the central campus, but the project is not anticipated to require in any more service vehicle trips than already are made to the existing south campus substation and central campus electrical equipment. The campus is located in an area that is in nonattainment of \( \text{O}_3 \) and \( \text{PM}_{10} \) standards. The Sacramento Regional Clean Air Plan, which covers the campus, contains strategies for lowering the region’s emissions to meet the \( \text{O}_3 \) standard by 2005. However, campus growth under the 2003 LRDP through 2015-16 is not addressed by the current Clean Air Plan. LRDP Mitigation 4.3-1 (a-b), which includes measures that encourage alternative transportation and no- or low-emission building designs and operations, would help reduce daily emissions from campus vehicular and stationary sources. LRDP Mitigation 4.3-1(c) would ensure that the campus will coordinate with the YSAQMD during the update of the Clean Air Plan and other applicable air quality planning efforts. However, given the likelihood of exceedance of the \( \text{O}_3 \) standard even with mitigation, it appears that the implementation of the 2003 LRDP, including the proposed project, could potentially hinder the attainment of the regional air quality plan. The impact is therefore considered significant and unavoidable at the LRDP program level. This impact was adequately analyzed in the 2003 LRDP EIR and was fully addressed in the Findings and Statement of Overriding Considerations adopted by The Regents in connection with its approval of the 2003 LRDP. No conditions have changed and no new information is available since certification of the 2003 LRDP EIR that would alter this previous analysis.

Toxic Air Contaminants

The project would upgrade the campus electrical system, and is not expected to result in increased vehicle use. The project is not expected to emit any TACs, so no impact would occur.

Cumulative Development
The 2003 LRDP EIR found that implementation of the 2003 LRDP, in conjunction with other regional development, would contribute to emissions of criteria pollutants for which the region is in non-attainment status and could hinder attainment efforts (LRDP Impact 4.3-6). The YSAQMD has accounted for a certain amount of regional growth in the existing Sacramento Regional Clean Air Plan. This plan is currently being updated to extend beyond the year 2005, and campus growth under the 2003 LRDP will be incorporated in the plan update. LRDP Mitigation 4.3-6, included in the proposed project, requires implementation of LRDP Mitigation 4.3-1 (a-c). Regardless, because the YSAQMD remains a nonattainment area for ozone, this cumulative impact is considered significant and unavoidable. This impact was adequately analyzed in the 2003 LRDP EIR and was fully addressed in the Findings and Statement of Overriding Considerations adopted by The Regents in connection with its approval of the 2003 LRDP. No conditions have changed and no new information is available since certification of the 2003 LRDP EIR that would alter this previous analysis.

e) The 2003 LRDP EIR concluded that odor impacts associated with development under the 2003 LRDP would be less than significant. The proposed project would not create any additional sources of odor and there would be no concomitant impact.

**Summary**

Mitigation measures 4.3-1(a-c), 4.3-3 (a-c), 4.3-6, and 4.3-8 from the 2003 LRDP EIR are relevant to the proposed project and reduce the significance of air quality impacts to the extent feasible. The proposed project would not exceed the levels of significance of air quality impacts previously addressed in the 2003 LRDP EIR, nor would it introduce any new significant air quality impacts that were not previously addressed.
7.4 BIOLOGICAL RESOURCES

7.4.1 Background

Section 4.4 of the 2003 LRDP EIR addresses the effects of campus growth under the 2003 LRDP on biological resources. The following discussion summarizes information presented in the ‘Setting’ subsection of Section 4.4 of the 2003 LRDP EIR.

Campus

The 5,300-acre campus is located in a region that is composed primarily of agricultural lands that include remnant riparian areas and urban areas. Habitat types on campus can be classified as Agricultural Lands (including Cropland/Pasture, and Orchard/Vineyard), Valley Foothill Riparian Woodland, Ruderal/Annual Grassland, Open Water Ponds, Riverine, and Urban Landscaping/Developed.

The 2003 LRDP EIR considers special status species to be those taxa that are: (1) listed as threatened or endangered under either the California or Federal Endangered Species Acts; (2) candidates for either state or federal listing; (3) species afforded protection under the Fish and Game Code of California; (4) federal and California Department of Fish and Game (CDFG) “Species of Special Concern”; (5) CDFG “Species of Special Concern” highest and second priority lists; (6) and California Native Plant Society (CNPS) List 1-3 plants.

A database search identified 15 special status plant species, 8 special status invertebrates, 11 special status fish, 3 special status amphibians, 3 special status reptiles, 26 special status birds, and 7 special status mammals that have the potential to occur on or within a 10-mile radius of the campus. However, only a few of these species are known to occur on campus or have potential habitat present on campus, including: the northern California black walnut, burrowing owl, Swainson’s hawk, valley elderberry longhorn beetle, California tiger salamander, chinook salmon, giant garter snake, steelhead, and the northwestern pond turtle.

Project Site

There are two separate project sites: the south campus site, of which approximately one-quarter is a laydown yard and the remaining portion is in irrigated pasture; and the central campus site, which consists of an urban/landscaping/developed habitat with some trees and shrubs, minimal ground cover, and some trailers, small outbuildings, and equipment storage areas. The south campus site was surveyed for elderberry shrubs in 2002 (Jones & Stokes, 2002). One shrub was identified adjacent to the project site. The site continues to be managed as an irrigated pasture and equipment storage area, and no new shrubs have become established on the site. The central campus site was surveyed for elderberry shrubs: four were found on or adjacent to the site. No VELB exit holes were found in the shrubs during field surveys. Because the shrubs occur in a non-riparian area of campus, in a highly disturbed and paved area, it is unlikely that VELB occurs in the project area. However, the elderberry shrubs in the area meet the U.S. Fish and Wildlife Service’s Conservation Guidelines as potential VELB habitat (Fulks 2005).

Habitat

Agricultural Lands. Agricultural lands comprise approximately 3,500 acres of campus lands and include two habitat/cover types. These are: (1) Cropland/Pasture habitat composed of an annual herbaceous plant species cover type, and (2) Orchard/Vineyard habitat composed of a perennial woody plant species cover type. Agricultural lands are found primarily on the west and south
The distribution of these agricultural cover types throughout the campus varies depending on current research projects.

**Cropland/Pasture (Herbaceous Agricultural Cover Types).** Cropland is used for cultivation of annual or short lived crops. It is a dynamic landscape feature that is frequently altered throughout the year. Cropland at UC Davis includes land used for academic teaching and research and for food production for campus livestock.

Pasture is used for livestock grazing and may not be leveled, regularly disked, or irrigated. Vegetation is typically a low, grassland-like ground cover. Campus pastures provide variable habitat values depending on their size and intensity of grazing. Pastures that are essentially confined animal pens may provide almost no value for native wildlife, while larger pastures with grassland-like habitat provide higher habitat values for wildlife.

**Urban Landscaping/Developed.** Urban habitat includes landscaped areas that are vegetated with trees, shrubs, and maintained grassy areas. While the University Arboretum contains a significant collection of botanical specimens, it is included within this habitat designation because it is essentially a landscaped park with many non-native plantings, and is subject to regular maintenance as well as high frequency use by people (picnicking, jogging, walking, etc.).

Central campus landscaped areas, with their abundance of mature trees, provide wildlife habitat values (food and cover) within the developed areas of central campus. Many species of birds (including the Swainson’s hawk) are known to nest in central campus trees. Other resident and migratory hawks, owls, songbirds, and woodpeckers are also known to use landscaped areas on the campus for nesting, food, and cover.

**Special Status Species**

**Swainson’s Hawk.** The Swainson’s hawk (*Buteo swainsoni*) is listed as a threatened species under the California Endangered Species Act and is also fully protected against take pursuant to Section 3503.5 of the Fish and Game Code of California. The Swainson’s hawk is a relatively large bird of prey that typically nests in large trees in riparian corridors as well as isolated trees remaining in or adjacent to agricultural fields in the Central Valley. However, in the City of Davis, and on the central campus, these hawks also nest in the large trees among buildings, roads, and dwellings.

This species forages in open grassland habitats and has adjusted to foraging in certain types of agricultural lands. The value of foraging habitat can be affected by a variety of characteristics, including density and availability of prey, proximity to disturbing features, and distance to nesting territories. Published information indicates these raptors typically forage within a 10 mile radius of nest sites but may range up to 18 miles from a nest site in search of suitable foraging habitat and available prey. Formal studies have shown that Swainson’s hawks will spend the majority of foraging time in close proximity to the nest site when high quality foraging habitat (measured by the abundance and availability of prey) is present.

The occurrence of the Swainson’s hawk in and around the campus is well documented. UC Davis conducted yearly surveys for Swainson’s hawk nests on the campus and within one half mile of the campus from 1991 through 1998. Project-specific surveys have been conducted annually since 1998. The results of these surveys documented approximately 20 active nests per year and a total of approximately 50 total nests within one-half mile of the campus over the decade. Most of the Swainson’s hawk nests are located in the Putah Creek riparian corridor.

**Valley Elderberry Longhorn Beetle (VELB).** The VELB (*Desmoceros californicus dimorphus*) is listed as a threatened species under the Federal Endangered Species Act (FESA). This species requires its
host plant, the Mexican elderberry shrub (Sambucus spp.), for its complete life cycle. The USFWS considers all elderberry shrubs within the historic range of VELB (the Central Valley and foothills up to 2,000 feet) as potential habitat for this species. Project-specific surveys have been conducted for the Mexican elderberry shrub on campus. Elderberry shrubs occur primarily along both forks of Putah Creek. Scattered shrubs and shrub clusters also are located throughout the campus primarily along fences and power lines where fruit-eating birds may depart seeds.

**Trees**

A tree survey of the proposed central campus site was conducted in accordance with the campus practice for identifying trees to preserve during a development or redevelopment project. There are no trees on the south campus project site, so no tree survey was made of the site. The survey found 8 trees of heritage or specimen status on or adjacent to the central campus project site. Two groves of coast redwoods were identified as worthy of preservation, if possible. The project design will preserve these trees. No landscaping will be planted as part of the project on either the south or central campus sites. Neither project site is anticipated to require the removal of any trees.

<table>
<thead>
<tr>
<th>Species</th>
<th>Number Present on Site</th>
<th>Number to be Removed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tree-of-heaven (<em>Ailanthus altissima</em>)</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Chinese hackberry (<em>Celtis sinensis</em>)</td>
<td>8</td>
<td>0</td>
</tr>
<tr>
<td>California black walnut (<em>Juglans hindsii</em>)</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>Grecian laurel (<em>Laurus nobilis</em>)</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Aleppo pine (<em>Pinus halepensis</em>)</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Almond (<em>Prunus spp</em>)</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Coast live oak (<em>Quercus agrifolia</em>)</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Holly oak (<em>Quercus ilex</em>)</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Valley oak (<em>Quercus lobata</em>)</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>Cork oak (<em>Quercus suber</em>)</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Coast redwood (<em>Sequoia sempervirens</em>)</td>
<td>18</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total Trees</strong></td>
<td><strong>45</strong></td>
<td><strong>0</strong></td>
</tr>
</tbody>
</table>

Source: UC Davis Grounds Division, 2005

### 7.4.2 2003 LRDP EIR Standards of Significance

The 2003 LRDP EIR considers a biological resources impact significant if growth under the 2003 LRDP would:

- Result in a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game (CDFG) or U.S. Fish and Wildlife Service (USFWS).
- Result in the “take” (defined as kill, harm, or harass) of any listed threatened or endangered species or the habitat of such species.
- Result in a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFG or USFWS.
• Result in a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

• 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.

• Conflict with any local applicable policies protecting biological resources.

An additional standard from the CEQA Guidelines’ Environmental Checklist (“f” in the checklist below) was found not applicable to campus growth under the 2003 LRDP.

### 7.4.3 2003 LRDP EIR Impacts and Mitigation Measures

Impacts of campus growth under the 2003 LRDP through 2015-16 on biological resources are evaluated in Section 4.4 of the 2003 LRDP EIR. As analyzed in Section 4 of this Initial Study, the proposed project is within the scope of analysis in the 2003 LRDP EIR. Significant and potentially significant biological resources impacts identified in the 2003 LRDP EIR that are relevant to the proposed project are presented below with their corresponding levels of significance before and after application of mitigation measures identified in the 2003 LRDP EIR. Mitigation measures are included to reduce the magnitude of cumulative impacts 4.4-12 and 4.4-14, but these impacts are identified as significant and unavoidable because the feasibility and/or implementation of mitigation falls within other jurisdictions and therefore cannot be guaranteed by the University of California.

<table>
<thead>
<tr>
<th>2003 LRDP EIR Impacts</th>
<th>Level of Significance Prior to Mitigation</th>
<th>Level of Significance After Mitigation</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIOLOGICAL RESOURCES</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.4-2</td>
<td>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.</td>
<td>PS</td>
</tr>
<tr>
<td>4.4-4</td>
<td>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.</td>
<td>PS</td>
</tr>
<tr>
<td>4.4-5</td>
<td>Development allowed under the 2003 LRDP would result in the loss of active nest sites for Swainson’s hawk.</td>
<td>PS</td>
</tr>
<tr>
<td>4.4-6</td>
<td>Development allowed under the 2003 LRDP would result in the loss of potential habitat for the VELB.</td>
<td>PS</td>
</tr>
<tr>
<td>4.4-11</td>
<td>Development under the 2003 LRDP could result in the removal of trees recognized to meet the campus’ standards for important trees, including:</td>
<td></td>
</tr>
<tr>
<td>a. Heritage Trees: Healthy valley oak trees with trunk diameters of 33 inches or greater at a height of 34 inches from the ground.</td>
<td>PS</td>
<td>a. SU</td>
</tr>
<tr>
<td>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.</td>
<td>PS</td>
<td>b. LS</td>
</tr>
<tr>
<td>4.4-12</td>
<td>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.</td>
<td>S</td>
</tr>
<tr>
<td>4.4-14</td>
<td>Development allowed under the 2003 LRDP could contribute to the</td>
<td>S</td>
</tr>
</tbody>
</table>
Mitigation measures in the 2003 LRDP EIR that are applicable to the proposed project are presented below. Since these mitigation measures are already being carried out as part of implementation of the 2003 LRDP, they will not be readopted in this Initial Study or Negative Declaration. The benefits of these mitigation measures will be achieved independently of considering them as specific mitigation measures of this project. Nothing in this Initial Study in any way alters the obligations of the campus to implement 2003 LRDP EIR mitigation measures.

### 2003 LRDP EIR Mitigation Measures

#### BIOLOGICAL RESOURCES

**4.4-2** The campus shall mitigate the loss of foraging habitat due to development through the establishment of 650 acres of mitigation lands located 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 the 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.

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.

**4.4-4(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.

**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;
2003 LRDP EIR Mitigation Measures

BIOLOGICAL RESOURCES

- 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.

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).

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

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.

4.4-11 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 Foothill 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.

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.

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.

7.4.4 Environmental Checklist and Discussion
Would the project…

<table>
<thead>
<tr>
<th>BIOLOGICAL RESOURCES</th>
<th>Potentially Significant Impact</th>
<th>Less than Significant with Mitigation</th>
<th>Impact for which 2003 LRDP EIR is Sufficient</th>
<th>Less than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
</table>

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?

c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

d) 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?

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

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**Plants**

The 2003 LRDP EIR found that development under the 2003 LRDP could result in the loss of special-status plant species (LRDP Impact 4.4-1). The south campus site is a developed, irrigated pasture used for campus livestock, and the central campus site also is developed and highly disturbed. Neither site supports suitable habitat for special status plant species potentially found on the UC Davis campus. The tree survey found four California black walnut trees present on the central campus site; however, these are not naturally occurring trees but are, or are derived from, ornamentals, and the campus does not fall within the historic range of naturally occurring trees of this species. Therefore, these trees are not considered a special status species. The project is not anticipated to require removal of any trees on the project site; and the project would have no impact on special-status plant species.

**Wildlife**

Swainson’s Hawk: The 2003 LRDP EIR found that development under the 2003 LRDP would result in conversion of Agricultural Land, which could result in loss of foraging habitat for Swainson’s Hawk, and that development could also interfere with nesting efforts of the hawks or other birds of prey (LRDP Impacts 4.4-2, 4.4-4, 4.4-5 and 4.4-12). Swainson’s Hawks have historically nested in the central campus area, and hawks could nest in trees around the central
campus project site before the start of construction. Seven nest sites within ½-mile of the central campus project site and four nest sites within ½ mile of the south campus project site have been used over the last 10 to 15 years. In all cases, these nest sites are: (1) ¼-mile or greater from the project site; (2) screened by large trees, buildings, and/or Interstate 80; and (3) in areas with high levels of human activity. Due to screening by trees and buildings and habitation to existing levels of human activity, no impact is expected if birds use these existing nest sites during project construction. Construction of the proposed project could disturb nesting hawks if they next closer during construction. Implementation of LRDP Mitigation Measure 4.4-4, requiring pre-construction nesting surveys, would reduce this impact to a less-than-significant level.

Implementation of LRDP Mitigation Measure 4.4-2 would ensure that foraging habitat for Swainson’s Hawk is preserved on campus and would mitigate the loss of foraging habitat due to development through the establishment of 650 acres of mitigation lands. Implementation of LRDP Mitigation Measures 4.4-4(a-b) and 4.4-5 would require the protection of active raptor nests through pre-construction surveys and avoidance of construction that would affect raptors during breeding season. Cumulative loss of agricultural land is addressed through LRDP Mitigation Measure 4.4-12. These mitigation measures would reduce LRDP impacts to less than significant, but cumulative loss of agricultural land was determined to be a significant and unavoidable impact. The impact was adequately analyzed in the 2003 LRDP EIR and was fully addressed in the Findings and Statement of Overriding Considerations adopted by The Regents in connection with approval of the 2003 LRDP. No conditions have changed and no new information is available since certification of the 2003 LRDP EIR that would alter this previous analysis.

VELB: Four elderberry shrubs are found on or adjacent to the central campus project site. One elderberry shrub adjacent to the south campus site was identified through a previous survey. The 2003 LRDP EIR found that development under the 2003 LRDP would result in loss of potential habitat for VELB (LRDP Impact 4.4-6). The existing elderberry shrubs would be preserved in place, which would comply with Mitigation Measure 4.4-6(a). It would not be necessary to transplant the elderberry shrubs to the Russell Ranch Mitigation Area in compliance with LRDP Mitigation Measure 4.4-6(b). Because construction at the project site would not result in loss of elderberry bushes it would not contribute to the cumulative loss of VELB habitat.

b,c) There are no riparian and wetland areas on either project site. No impact would occur.

d) The Putah Creek corridor is the principal corridor for the movement of native resident and migratory fish and wildlife through the UC Davis campus. It is the regional connection between the hills in western Yolo County and the Sacramento River. The south and central campus project sites are approximately ¾ of a mile and 1 mile, respectively, from the South Fork of Putah Creek. Therefore, the project 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. No impact would occur.

e) Pursuant to LRDP Mitigation Measure 4.4-11, the campus performs a tree survey of a project site prior to project approval, and modifies the project design to the extent feasible to avoid tree removal or provide additional mitigation if removal of heritage or specimen trees cannot be avoided. The campus performed a tree survey of the central campus project site. The survey documented 45 trees on or adjacent to the central campus site, of which eight individual trees (one valley oak and seven coast redwoods) and two groves of trees (all coast redwoods, a total of 15 trees) were rated as heritage or specimen. The project is not anticipated to remove any trees, and will not remove the heritage/specimen individuals or groves. Trimming of trees along the existing paved service road to the south campus project site would be required in order to deliver the large electrical equipment to the site and install it. The impact would be less than significant.
f) The campus does not fall within the boundaries of, nor is it adjacent to, an adopted regional Habitat Conservation Plan (HCP) or Natural Community Conservation Plan (NCCP). The campus has implemented two low effects HCPs for VELB at Russell Ranch. The Electrical Improvements Phase 3 project is not located at Russell Ranch. Therefore, the proposed project would not conflict with an adopted HCP or NCCP.

**Summary**

Mitigation measures 4.4-2, 4.4-3(a-d), 4.4-4(a-b), 4.4-5, 4.4-6 (a-b), 4.4-11, 4.4-12, and 4.4-14 from the 2003 LRDP EIR are relevant to the proposed project and reduce the significance of impacts on biological resources to the extent feasible. The proposed project would not exceed the levels of significance of biological resource impacts previously addressed in the 2003 LRDP EIR, nor would it introduce any new significant biological resource impacts that were not previously addressed.
7.5 CULTURAL RESOURCES

7.5.1 Background

Section 4.5 of the 2003 LRDP EIR addresses the effects of campus growth under the 2003 LRDP on cultural resources. The following discussion summarizes information presented in the ‘Setting’ subsection of Section 4.5 of the 2003 LRDP EIR.

Campus

Cultural resources on campus include prehistoric and historic resources. Prehistoric resources are those sites and artifacts associated with the indigenous, non-Euroamerican population, generally dating prior to contact with people of European descent. Historic resources include structures, features, artifacts, and sites that date from Euroamerican settlement of the region.

Archaeological Resources

The campus lies in the ethnographic territory of the Patwin. Since 1991, extensive archaeological investigations (survey, testing, monitoring, and/or excavation) have been conducted on campus in conjunction with the development of campus projects (Nadolski 2003). Patwin sites, including burials, have been identified at several locations on the central campus. Areas within 800 feet of the banks of the historic channel of Putah Creek and its tributaries and slough channels, and within 800 feet of specific known archaeological sites, have been identified as archaeologically sensitive zones on campus.

Historic Resources

The earliest direct historic contacts in the Davis area probably occurred during 1806 to 1808. Farming on a large scale began in the Davis area in the 1850s. A “university farm” was established at Davis in 1906, classes began in 1909, and Davis became a general University of California campus in 1959. No properties within the campus are listed on the National Register of Historic Places. Six properties on or near the campus have been recorded with the California Inventory of Historic Resources. Historic architectural features typically must be at least 50 years of age to be considered for listing on the California Register of Historical Resources (CRHR).

Project Site

No historic resources exist on or adjacent to either the south or the central campus project site. The proposed central campus site is within an LRDP EIR archaeologically sensitive zone along the former Putah Creek channel, as identified in the 2003 LRDP EIR. Previous archaeological investigations for sites immediately adjacent to this parcel were found to be negative for the presence of cultural resources. Due to the negative findings on adjacent sites, the small area to be disturbed, and the nature of the disturbance, archaeological consultants did not recommend that additional surveys be conducted (Pacific Legacy, 2005).

7.5.2 2003 LRDP EIR Standards of Significance

In addition to the following archaeological and historical standards of significance identified in the 2003 LRDP EIR, an additional standard from the CEQA Guidelines’ Environmental Checklist (“c” in the checklist below) was found not applicable to campus growth under the 2003 LRDP.

Archaeological Resources
The 2003 LRDP EIR considers an impact on archaeological resources significant if growth under the 2003 LRDP would:

- Cause a substantial adverse change in the significance of a unique archaeological resource pursuant to CEQA Guideline § 15064.5.
- Disturb any human remains, including those interred outside of formal cemeteries.

A “unique archaeological resource” is defined under CEQA through Public Resources Code Section 21083.2(g). A unique archaeological resource implies an archaeological artifact, object, or site about which it can be clearly demonstrated that there is a high probability that it meets one of the following criteria:

- The archaeological artifact, object, or site contains information needed to answer important scientific questions and there is a demonstrable public interest in that information, or
- The archaeological artifact, object, or site has a special and particular quality, such as being the oldest of its type or the best available example of its type, or
- The archaeological artifact, object, or site is directly associated with a scientifically recognized important prehistoric or historic event or person.

For a resource to qualify as a unique archaeological resource, the agency must determine that there is a high probability that the resource meets one of these criteria without merely adding to the current body of knowledge (PRC § 21083.2(g)). An archaeological artifact, object, or site that does not meet the above criteria is a nonunique archaeological resource (PRC § 21083.2(h)). An impact on a nonunique resource is not a significant environmental impact under CEQA (CEQA Guideline § 15064.5(c)(4)). If an archaeological resource qualifies as a historical resource under CRHR or other criteria, then the resource is treated as a historical resource for the purposes of CEQA (CEQA Guideline § 15064.5(c)(2)).

Section 15064.5 of the CEQA Guidelines assigns special importance to human remains and specifies procedures to be used when Native American remains are discovered. These procedures are detailed under PRC § 5097.98. California Health and Safety Code § 7050.5(b) prohibits disturbance of human remains uncovered by excavation until the Coroner has made a finding relative to PRC § 5097 procedures.

**Historical Resources**

For the purposes of this EIR, as mandated by PRC § 21083.2, impacts of the proposed project on an historical resource would be considered significant if they would:

- cause a significant adverse change in the significance of a historical resource as defined in CEQA Guideline § 15064.5.

The standards of significance for historical resources are based on Appendix G and § 15064.5 of the CEQA Guidelines. Accordingly, historical resources include resources listed in, or determined to be eligible for listing in, the CRHR; resources included in a qualifying local register (such as the City of Davis Register of Historic Resources); and resources that the lead agency determines to meet the criteria for listing in the CRHR. These criteria may apply to any historic built environmental feature, and to historic or prehistoric archaeological sites. Properties or sites that are eligible for inclusion in
the CRHR are termed “historical resources”. Under the provisions of CEQA Guideline Section 15064.5(a)(3), generally a lead agency should find that a property is historically significant if it determines that it meets one or more of the criteria for listing on the CRHR, which extend to any building, structure, feature or site that:

- is associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage;
- is associated with lives of persons important in our past;
- embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
- has yielded, or may be likely to yield, information important in prehistory or history.

With few exceptions, to qualify as a historical resource a property must be at least 50 years old and also must retain physical integrity and integrity to its period of significance. For historic structures and buildings, significantly altering the setting, remodeling, or moving the structure may diminish or destroy its integrity. However, under some conditions, a building that has been moved or altered may still retain its historic significance. Landscaping or landscape features may in some cases contribute to the significance of an historic architectural property. Such elements would be assessed as part of the evaluation of the related historic architectural property. Archaeological sites also may qualify as historical resources under CEQA Guideline Section 15064.5(a)(3). Archaeological sites most often are assessed relative to CRHR Criterion D (for potential to yield data important to history or prehistory). An archaeological deposit that has been extensively disturbed and archaeological artifacts found in isolation may not be eligible for listing on the CRHR, because the lack of stratigraphic context may reduce the potential for the resource to yield significant data. A resource that does not meet one of the criteria for eligibility to the CRHR is not a historical resource under CEQA, and impacts to such a property are not significant.

7.5.3 2003 LRDP EIR Impacts and Mitigation Measures

Impacts of campus growth under the 2003 LRDP through 2015-16 on cultural resources are evaluated in Section 4.5 of the 2003 LRDP EIR. As analyzed in Section 4 of this Initial Study, the proposed project is within the scope of analysis in the 2003 LRDP EIR. Significant and potentially significant cultural resources impacts identified in the 2003 LRDP EIR that are relevant to the proposed project are presented below with their corresponding levels of significance before and after application of mitigation measures identified in the 2003 LRDP EIR. Mitigation measures are included to reduce the magnitude of project-level impact 4.5-3 and cumulative impact 4.5-5, but these impacts are identified as significant and unavoidable because they cannot be fully mitigated.

<table>
<thead>
<tr>
<th>2003 LRDP EIR Impacts</th>
<th>Level of Significance Prior to Mitigation</th>
<th>Level of Significance After Mitigation</th>
</tr>
</thead>
<tbody>
<tr>
<td>CULTURAL RESOURCES</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.5-1</td>
<td>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.</td>
<td>PS</td>
</tr>
<tr>
<td>4.5-2</td>
<td>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.</td>
<td>PS</td>
</tr>
<tr>
<td>4.5-3</td>
<td>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.</td>
<td>S</td>
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</tbody>
</table>
Mitigation measures in the 2003 LRDP EIR that are applicable to the proposed project are presented below. Since these mitigation measures are already being carried out as part of implementation of the 2003 LRDP, they will not be readopted in this Initial Study or Negative Declaration. The benefits of these mitigation measures will be achieved independently of considering them as specific mitigation measures of this project. Nothing in this Initial Study in any way alters the obligations of the campus to implement 2003 LRDP EIR mitigation measures.

### 2003 LRDP EIR Mitigation Measures

#### 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:

(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).

| 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
2003 LRDP EIR Mitigation Measures
CULTURAL RESOURCES

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.

(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).

(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.

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.

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.

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 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.

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)

(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).

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.

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.

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 that 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).
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 Implement LRDP Mitigations 4.5-1 through 4.5-4.

7.5.4 Environmental Checklist and Discussion

<table>
<thead>
<tr>
<th>CULTURAL RESOURCES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Would the project…</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>a) Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?</td>
</tr>
<tr>
<td>b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?</td>
</tr>
<tr>
<td>c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?</td>
</tr>
<tr>
<td>d) Disturb any human remains, including those interred outside of formal cemeteries?</td>
</tr>
</tbody>
</table>

a) There are no historical resources on either the proposed south or central campus project sites. No impact would occur.

b) The 2003 LRDP EIR identified that development under the 2003 LRDP could damage or destroy archaeological resources as a result of grading, excavation, ground disturbance or other project development (LRDP Impact 4.5-1). This risk is highest on campus along the historic banks of the tributaries and slough channels of Putah Creek and in the vicinity of previously discovered archaeological sites. The central campus project site is near the historic Putah Creek channel. However, areas immediately adjacent to the proposed project site have been subjected to archaeological survey and/or monitoring and findings have been consistently negative for the presence of cultural resources (Pacific Legacy 2003, Pacific Legacy 1998, Pacific Legacy 1996, BioSystems Analysis 1994). As a result, in order to implement Mitigation Measure 4.5-1(a), these studies were reviewed by a qualified archaeologist who concluded that, due to the negative findings from adjacent project areas, no additional pre-project survey or subsurface testing of the proposed project site was required (Pacific Legacy 2005). Since the project site is within an archaeologically sensitive zone designated pursuant to the 2003 LRDP EIR, archaeological monitoring of the initial and deeper ground disturbing project construction activities will be conducted to insure that any potential cultural resources are protected, following the guidelines outlined in Mitigation Measure 4.5-1(b). If any archaeological resources are uncovered as a result of construction activities for the proposed project, Mitigation Measures 4.5-2(a) and 4.5-3 will be implemented to document and protect such resources to the extent possible. The south campus...
project site is not near any documented archaeological sites, but archaeological monitoring was recommended for it (Pacific Legacy 2005).

The 2003 LRDP EIR identified that development under the 2003 LRDP would contribute to the cumulative damage to and loss of archaeological resources in Yolo and Solano counties (LRDP Impact 4.5-5). Because any disturbance of native soils involves the potential to result in impacts to archaeological resources, the proposed project could contribute to this impact. LRDP Mitigation Measure 4.5-5, which is relevant to the proposed project, requires the campus to implement the measures discussed above to survey and protect cultural resources. However, the University cannot ensure that other regional jurisdictions would act to protect cultural resources. In addition, it is possible that significant archaeological resources on campus and/or the region could not be protected. Because this impact cannot be fully mitigated, this cumulative impact is considered significant and unavoidable. This impact was adequately analyzed in the 2003 LRDP EIR and was fully addressed in the Findings and Statement of Overriding Considerations adopted by The Regents in connection with its approval of the 2003 LRDP. No conditions have changed and no new information is available since certification of the 2003 LRDP EIR that would alter this previous analysis.

c) During the course of development at UC Davis, extensive excavation for buildings and infrastructure, and extensive agricultural operations have not revealed the presence of unique paleontological or geological resources. It appears that the campus lacks unique paleontological and geological resources due to the deep alluvial deposition of fairly uniform soil types in the area. No impact would occur, and no additional analysis is required.

d) The 2003 LRDP EIR found the potential for development under the 2003 LRDP to disturb human remains, including those interred outside of formal cemeteries (LRDP Impact 4.5-4). LRDP Mitigation 4.5-4(a-d), included in the proposed project, would ensure that human remains in archaeological and isolated contexts would be protected from destruction that might take place from development through measures including identification, Native American consultation, preservation in place or recovery, respectful treatment and study, and reinterment. Therefore, this impact would be less than significant.

Summary

Mitigation measures 4.5-1(a-b), 4.5-2(a), 4.5-3, 4.5-4(a-d), and 4.5-5 from the 2003 LRDP EIR are relevant to the proposed project and reduce the significance of impacts on cultural resources to the extent feasible. The proposed project would not exceed the levels of significance of cultural resource impacts previously addressed in the 2003 LRDP EIR, nor would it introduce any new significant cultural resource impacts that were not previously addressed.


7.6  **Geology, Soils, & Seismicity**

7.6.1  **Background**

Section 4.6 of the 2003 LRDP EIR addresses the geology, soils, and seismicity effects of campus growth under the 2003 LRDP. The following discussion summarizes information presented in the ‘Setting’ subsection of Section 4.6 of the 2003 LRDP EIR.

**Campus**

The campus is located within the Putah Creek Plain of California’s Great Valley geomorphic province. Except for the somewhat raised elevation along the levee adjacent to Putah Creek, the campus is topographically flat. Soils on campus generally contain a high amount of silt and clay, and as a result, are moderately to slowly permeable and have slow runoff rates, minimal erosion hazards, and moderate to high shrink-swell potential. The predominant soil constraint to construction on campus is soil shrink-swell potential (the potential for soil volume to change with a loss or gain in moisture).

A series of low foothills, including the Dunnigan Hills, the Capay Hills, and the English Hills, lie approximately 20 miles west of the campus at the eastern base of the Coast Range. The presence of subsurface thrust faults within these regional foothills and within 100 miles of the campus indicates the potential for seismic ground shaking in the Davis region. The Davis region is not located within an Alquist-Priolo Fault Zone as defined in the Alquist-Priolo Earthquake Fault Zoning Act, which is designed to prohibit the construction of structures for human occupancy across active faults. According to the California Geological Survey’s Probabilistic Seismic Hazard Assessment for the State of California, the peak ground acceleration with a 10 percent probability of being exceeded in 50 years is 0.2 to 0.3g on the central campus, increasing to 0.3 to 0.4g on the western portion of Russell Ranch (CDOC 1996). By comparison, in most parts of the San Francisco Bay Area, the peak ground acceleration is 0.5g or greater. Likely effects of ground shaking during a probable maximum intensity earthquake for the area could include structural damage to stucco, masonry walls, and chimneys, which could expose people to risks associated with falling objects and potential building collapse.

**Project Site**

A geotechnical and soils electrical resistivity study will be performed for the project, as part of determining the level of precision necessary for transformer placement. Electrical resistivity of soils directly affects the electrical grounding of the equipment. The engineering and design process for the project facilities will incorporate the findings from the geotechnical survey to ensure compliance with the California Building Code.

7.6.2  **2003 LRDP EIR Standards of Significance**

The 2003 LRDP EIR considers an impact related to geology, soils, and seismicity significant if growth under the 2003 LRDP would:

- Expose people or structures to potential substantial adverse effects involving strong seismic ground shaking.
- Expose people or structures to potential substantial adverse effects involving seismic-related ground failure.
- Result in substantial soil erosion or the loss of topsoil. (Impacts associated with this standard are addressed in Section 7.8 Hydrology & Water Quality.)
• Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or offsite landslide, lateral spreading, subsidence, liquefaction, or collapse.

• Be located on expansive soil, creating substantial risks to life or property.

• Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.

Additional standards from the CEQA Guidelines' Environmental Checklist ("a,i" and "a,iv" in the checklist below) were found not applicable to campus growth under the 2003 LRDP.

7.6.3 2003 LRDP EIR Impacts and Mitigation Measures

Impacts of campus growth under the 2003 LRDP through 2015-16 related to geology, soils, and seismicity are evaluated in Section 4.6 of the 2003 LRDP EIR. As analyzed in Section 4 of this Initial Study, the proposed project is within the scope of analysis in the 2003 LRDP EIR. No significant impacts identified in the 2003 LRDP EIR related to geology, soils, and seismicity are relevant to the proposed project.

7.6.4 Environmental Checklist and Discussion

<table>
<thead>
<tr>
<th>GEOLOGY, SOILS, &amp; SEISMICITY</th>
<th>Potentially Significant Impact</th>
<th>Less than Significant Impact with Mitigation</th>
<th>Impact for which 2003 LRDP EIR is Sufficient</th>
<th>Less than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Would the project…</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.</td>
<td>✔️</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☑️</td>
</tr>
<tr>
<td>ii) Strong seismic ground shaking?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☑️</td>
<td>☑️</td>
</tr>
<tr>
<td>iii) Seismic-related ground failure, including liquefaction?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☑️</td>
<td>☑️</td>
</tr>
<tr>
<td>iv) Landslides?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☑️</td>
<td>☑️</td>
</tr>
<tr>
<td>b) Result in substantial soil erosion or the loss of topsoil?</td>
<td>☐</td>
<td>☐</td>
<td>☑️</td>
<td>☑️</td>
<td>☑️</td>
</tr>
<tr>
<td>c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or offsite landslide, lateral spreading, subsidence, liquefaction or collapse?</td>
<td>☐</td>
<td>☐</td>
<td>☑️</td>
<td>☑️</td>
<td>☑️</td>
</tr>
<tr>
<td>d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?</td>
<td>☐</td>
<td>☐</td>
<td>☑️</td>
<td>☑️</td>
<td>☑️</td>
</tr>
</tbody>
</table>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

☐ ☐ ☐ ☐ ☐ ☑

a,i) The UC Davis campus and the surrounding area are not located within an Alquist-Priolo Earthquake Fault Zone, and the closest known active fault rupture zones are over 30 miles away. Therefore, no impact would occur and no further analysis is required.

a,ii) The campus is located in a seismically active area that could experience ground shaking, liquefaction, and settlement. The peak ground acceleration for the main campus is estimated to be 0.2 to 0.3g, and 0.3 to 0.4g on the western portion of Russell Ranch. This intensity of seismic groundshaking has the potential to dislodge objects from shelves and to damage or destroy buildings and other structures. In the case of such a seismic event, people on campus and in the area would be exposed to these hazards.

The campus minimizes hazards associated with damage or destruction to buildings and other structures by reviewing and approving all draft building plans for compliance with the California Building Code (CBC), which includes specific structural seismic safety provisions. The campus also adheres to the University of California Seismic Safety Policy, which requires anchorage for seismic resistance of nonstructural building elements such as furnishings, fixtures, material storage facilities, and utilities that could create a hazard if dislodged during an earthquake. Campus EH&S provides guidance for preparing department-level Illness and Injury Prevention Plans that emphasize methods for minimizing seismic hazards in laboratories, for example, by properly securing chemical containers and gas cylinders. Each campus department has a Safety Coordinator who develops and maintains a departmental emergency response plan. The departmental emergency response plans must be submitted to the Emergency Preparedness Policy Group for annual review to assure consistency with the campus Emergency Operations Plan, which includes seismic safety and building evacuation procedures. The emergency procedures incorporated into the departmental emergency response plans further reduce the hazards from seismic shaking by preparing faculty, staff, and students for emergencies. All of these procedures would be implemented as part of the proposed project. Therefore, the project-level impact associated with risks due to seismic ground shaking would be less than significant. In addition, it is reasonable to assume that all regional jurisdictions would enforce the seismic provisions of the CBC; therefore, the cumulative impact is also considered less than significant.

a,iii) The potential for liquefaction on the campus is generally low because the depth to groundwater is relatively large (30 to 80 feet, depending on the season). Furthermore, as discussed above for (a,ii), campus policy requires compliance with the CBC and the University of California Seismic Safety Policy, which include structural and nonstructural seismic safety provisions. Complying with the provisions of the CBC requires that a geotechnical investigation be performed to provide data for the architect and/or engineer to responsibly design the project. Geotechnical investigations address the potential for liquefaction, lateral spreading, and other types of ground failure. Because, in compliance with campus procedure, the project will comply with the CBC and the University of California Seismic Safety Policy, impacts associated with seismic-related ground failure would be less than significant.

The Davis area subsided by approximately 2 inches between 1999 and 2002. Because the subsidence is regional, unlike local differential settlement, it would not affect building foundations. Subsidence can adversely affect utilities such as storm drains which rely on gradient for gravity-driven flow if the differential subsidence across the length of the pipeline causes the gradient of the pipelines to change direction. On the campus, the differential subsidence is about 0.4 inch per mile. Thus, over a period of 10 years, the gradient of a pipeline could change by as
much as 4 inches per mile. Gravity-driven pipelines typically used for wastewater and storm water are designed with gradients between 0.5 and 1 percent (27 to 53 feet drop per mile). Given these gradients, the small potential change of about 4 inches per mile over a period of 10 years would not affect the functioning of existing and proposed storm drains or other utilities.

a,iv) The UC Davis campus and the surrounding area are characterized by flat topography and, therefore, would not be subject to landslides. Therefore, no impact would occur and no further analysis is required.

b) The soil types that occur on the UC Davis campus generally, including the two project sites, contain a high amount of silt and clay, and these soil types have minimal erosion hazard associated with them (see pages 4.6-1,2 and Figure 4.6-1 of the 2003 LRDP EIR). Therefore, this impact was determined to be less than significant in the 2003 LRDP EIR. The relationship between receiving water quality and potential soil erosion as a result of construction activities is addressed in items (a) and (c) in Section 7.8 Hydrology & Water Quality.

c) See the discussion in item (a,iii) above.

d) The soils in several areas of the campus have high shrink/swell potential and could, on a site-specific basis, have the potential to create risk to life or property. Campus policy requires compliance with the CBC, which includes provisions for construction on expansive soils such as proper fill selection, moisture control, and compaction during construction. Complying with the provisions of the CBC requires that a geotechnical investigation be performed to provide data for the architect and/or engineer to responsibly design the project. The engineering and design process for the project facilities will incorporate the findings from the geotechnical survey to ensure adequate design for compliance with the California Building Code. The project will comply with the CBC, which will ensure that this impact is less than significant.

e) The 2003 LRDP EIR identifies that an impact would result if soils are incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems. No septic tanks or alternative wastewater disposal systems are included in the proposed project, and there would be no impact.

**Summary**

The proposed project would not exceed the levels of significance of geology, soils, and seismicity impacts previously addressed in the 2003 LRDP EIR, nor would it introduce any new significant impacts that were not previously addressed. No mitigation measures from the 2003 LRDP EIR regarding geology, soils, and seismicity impacts are relevant to the proposed project.
7.7 HAZARDS & HAZARDOUS MATERIALS

7.7.1 Background

Section 4.7 of the 2003 LRDP EIR addresses the hazards and hazardous materials effects of campus growth under the 2003 LRDP. The following discussion summarizes information presented in the ‘Setting’ subsection of Section 4.7 of the 2003 LRDP EIR.

Campus

A variety of hazardous materials are used on campus during the course of daily operations. Hazardous chemicals used on campus include: chemical solvents, reagents, and aromatic hydrocarbons that are used in campus laboratories; pesticides, fungicides, and herbicides used by agricultural programs and in landscape maintenance; relatively small amounts of solvents, paints, and acids used by fine arts programs; gasoline and diesel fuels, oils and lubricants, antifreeze, cleaning solvents and corrodés, paints and paint thinners, and freon refrigerants used in vehicle and building maintenance. In addition, radioactive materials, biohazardous materials, and laboratory animals are used in teaching and research activities. The use of hazardous materials on campus generates hazardous byproducts that must eventually be handled and disposed of as hazardous wastes.

Generation, transportation, and disposal of hazardous wastes are regulated by various agencies. The lead federal regulatory agency is the Environmental Protection Agency. The State Department of Toxic Substances Control (DTSC) has primary state regulatory responsibility but can delegate enforcement authority to local jurisdictions that enter into agreements with the state agency, as it did with Yolo County Department of Environmental Health (YCDEH) under the Certified Unified Program Agency (CUPA) program.

The campus’ Office of Environmental Health and Safety (EH&S) coordinates most local, state, and federal regulatory compliance functions related to the campus’ health, safety, and environmental issues. EH&S performs safety education and training, regulatory interpretation and applicability, approval of potentially hazardous procedures, resolution of safety problems, surveillance, and monitoring. In addition, EH&S provides guidance for several campus safety programs, including: the Chemical Inventory System, which tracks inventory and use of hazardous materials on campus; the CUPA Self-Audit Program, which complies with the terms of an agreement with the YCDEH; development of laboratory-specific Chemical Hygiene Plans; the Radiation and X-Ray Safety Programs; and the Biological Safety Administrative Advisory Committee. EH&S is also a working partner in such campus administrative advisory groups as the Chemical Safety Committee, the Radiation Safety Committees, the Animal Use and Care Committee, and the Biological Safety Committee. External administrative and benchmarking reviews of the EH&S programs are conducted periodically to identify means of further improving the programs. Benchmarking performed by the Campus Safety, Health, and Environmental Management Association (CSHEMA) in 2000 honored the UC Davis EH&S with a “Unique or Innovative Program Award” for its daily on-call program.

Project Site

The campus completed Phase I site investigations for both the proposed south and central campus project sites (Cutler 2005a, 2005b). The south campus site is currently fenced irrigated pasture and an electrical equipment storage yard. In 2004, over 100 gallons of oil from two oil-filled transformers and an oil-filled switch leaked on to the soil of the storage area. A composite sample of the oil was tested by a certified laboratory and found to be below the California regulatory threshold. The site was cleaned up and the contaminated soil was disposed at an appropriate landfill. The site may have asbestos fiber concrete irrigation pipe. The central campus site was previously used by the campus for...
chemical and radiological waste storage. Both Phase I and Phase II environmental assessments investigated past activities. Twenty-nine soil borings were drilled and samples were analyzed; all samples were either non-detect levels or well below regulatory levels. No further assessment or remediation was recommended. The proposed use of the site for electrical equipment and a small equipment building does not conflict with these findings.

### 7.7.2 2003 LRDP EIR Standards of Significance

The 2003 LRDP EIR considers a hazards and hazardous materials impact significant if growth under the 2003 LRDP would:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.
- 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.
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within ¼ mile of an existing or proposed school.
- Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, create a significant hazard to the public or the environment.
- For a project within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, result in a safety hazard for people residing or working in the project area.
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

Additional standards from the CEQA Guidelines’ Environmental Checklist (“f” and “h” in the checklist below) were found not applicable to campus growth under the 2003 LRDP.

### 7.7.3 2003 LRDP EIR Impacts and Mitigation Measures

Impacts of campus growth under the 2003 LRDP through 2015-16 related to hazards and hazardous materials are evaluated in Section 4.7 of the 2003 LRDP EIR. As analyzed in Section 4 of this Initial Study, the proposed project is within the scope of analysis in the 2003 LRDP EIR. Potentially significant hazards and hazardous materials impacts identified in the 2003 LRDP EIR that are relevant to the proposed project are presented below with their corresponding levels of significance before and after application of mitigation measures identified in the 2003 LRDP EIR. In addition, LRDP Impacts 4.7-1, 4.7-2, 4.7-8, 4.7-9, 4.7-12, and 4.7-13, presented below, are considered less than significant prior to mitigation, but the 2003 LRDP EIR identified mitigation to further reduce the significance of these impacts. Less than significant impacts without mitigation measures are not presented here.

### 2003 LRDP EIR Impacts

<table>
<thead>
<tr>
<th>HAZARDS &amp; HAZARDOUS MATERIALS</th>
<th>Level of Significance</th>
<th>Level of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Prior to Mitigation</td>
<td>After Mitigation</td>
</tr>
<tr>
<td>4.7-1Implementation 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.</td>
<td>LS</td>
<td>LS</td>
</tr>
</tbody>
</table>
Mitigation measures in the 2003 LRDP EIR that are applicable to the proposed project are presented below. Since these mitigation measures are already being carried out as part of implementation of the 2003 LRDP, they will not be readopted in this Initial Study or Negative Declaration. The benefits of these mitigation measures will be achieved independently of considering them as specific mitigation measures of this project. Nothing in this Initial Study in any way alters the obligations of the campus to implement 2003 LRDP EIR mitigation measures.

### 2003 LRDP EIR Mitigation Measures

#### HAZARDS & HAZARDOUS MATERIALS

<table>
<thead>
<tr>
<th>Mitigation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.7-1</td>
<td>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&amp;S audits and safety training. These programs may be replaced by other programs that incorporate similar health and safety measures.</td>
</tr>
<tr>
<td>4.7-2(a)</td>
<td>Implement LRDP Mitigation 4.7-1.</td>
</tr>
<tr>
<td>4.7-2(b)</td>
<td>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.</td>
</tr>
<tr>
<td>4.7-8</td>
<td>The campus shall continue to require that packaging of chemicals to be transported on public roads conform with all legal requirements.</td>
</tr>
<tr>
<td>4.7-9</td>
<td>Implement LRDP Mitigations 4.7-1 through 4.7-8.</td>
</tr>
</tbody>
</table>
| 4.7-12     | The campus shall perform due diligence assessments of all sites where ground-disturbing construction is
2003 LRDP EIR Mitigation Measures
HAZARDS & HAZARDOUS MATERIALS

proposed.

4.7-13 The campus shall survey buildings for potential contamination before any demolition or renovation work is performed.

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.

7.7.4 Environmental Checklist and Discussion

<table>
<thead>
<tr>
<th>HAZARDS &amp; HAZARDOUS MATERIALS</th>
<th>Potentially Significant Impact</th>
<th>Less than Significant with Mitigation</th>
<th>Impact for which 2003 LRDP EIR is Sufficient</th>
<th>Less than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Would the project…</td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?</td>
<td>☑</td>
<td>☑</td>
<td>☑</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>b) 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?</td>
<td>☑</td>
<td>☑</td>
<td>☑</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?</td>
<td>☑</td>
<td>☑</td>
<td>☑</td>
<td>☐</td>
<td>☑</td>
</tr>
<tr>
<td>d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?</td>
<td>☑</td>
<td>☑</td>
<td>☑</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?</td>
<td>☑</td>
<td>☑</td>
<td>☑</td>
<td>☐</td>
<td>☑</td>
</tr>
<tr>
<td>f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?</td>
<td>☑</td>
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</tr>
<tr>
<td>g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?</td>
<td>☑</td>
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</tr>
<tr>
<td>h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?</td>
<td>☑</td>
<td>☑</td>
<td>☑</td>
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</tbody>
</table>
a) The project would use standard construction materials that could include hazardous substances such as gasoline, cements, sealants, paints and solvents. Routine operation and maintenance of the equipment is not anticipated to require use of products containing hazardous materials other than cleaners or other products for routine maintenance. These products currently are in use on campus, and the amounts associated with use at the project sites would be similar to or less than existing operations and maintenance activities. The new transformer would be filled with mineral oil, as PCBs are no longer used in transformers. The impact would be less than significant.

Hazardous Chemicals

The 2003 LRDP EIR found that implementation of the 2003 LRDP would increase routine hazardous chemical use (Impact 4.7-1), routine generation of hazardous chemical wastes (Impact 4.7-2), and routine hazardous materials transport to and from the campus (Impact 4.7-8) by UC Davis laboratories, departments, and maintenance/support operations, which would not create significant hazards to the public or the environment. The campus achieves a high level of compliance with regulatory standards and campus policies relevant to use, transport, and disposal of hazardous materials, as discussed further in the 'Setting' subsection to Section 4.7 of the 2003 LRDP EIR. Hazardous waste treatment, storage, and disposal facilities currently have available capacity to accept and safely manage UC Davis chemical waste. The campus will continue to implement relevant safety programs and meet relevant standards regarding hazardous materials use, transport, and waste management for the proposed project, as well as for other projects proposed under the 2003 LRDP. Therefore, these project-level impacts would be less than significant. To ensure that safety policies continue to be implemented and to further reduce the significance of these impacts, LRDP Mitigations 4.7-1, 4.7-2(a-b), and 4.7-8 are included as part of the proposed project.

Given the campus' and local jurisdiction’s existing policies and compliance with state and federal regulations, the 2003 LRDP EIR found that cumulative impacts related to the use and transport of hazardous materials and the generation of hazardous waste are less than significant.

b) The 2003 LRDP EIR found that 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 (Impact 4.7-9). Compliance with all applicable federal and state laws, as well as campus programs, practices, and procedures related to the transportation, storage, and use of hazardous materials, would continue for the proposed project as well as other projects proposed under the 2003 LRDP, minimizing the potential for an accidental release of hazardous materials and providing for prompt and effective cleanup if an accidental release occurs. Therefore, this impact is considered less than significant. To ensure continued compliance with relevant laws and campus policies and to further reduce this less-than-significant impact, the LRDP Mitigation 4.7-9 is included as part of the project.

c) No schools or child care centers are within ¼ mile of either project site. Therefore, no impact to those attending existing or proposed schools would occur.

d) The Laboratory for Energy Related Research/South Campus Disposal site is the only campus site that is listed as a hazardous materials site pursuant to Government Code Section 65962.5. The proposed project would not disturb this site.

The 2003 LRDP EIR found that construction activities under the 2003 LRDP would not expose construction workers and campus occupants to contaminated soil or groundwater (Impact 4.7-12) and that demolition or renovation of buildings under the 2003 LRDP would not expose construction workers or campus occupants to contaminated building materials (Impact 4.7-13). Campus policy requires that due diligence surveys be performed for all proposed project sites as
part of the project planning process. Site surveys for both the south and central campus project sites were performed due to prior and current uses at the sites for equipment, chemical, and radioactive material storage. The results of both investigations demonstrated that there were non-detect or below regulatory threshold levels for a range of contaminants (chromium, copper, lead, mercury, zinc, PCBs, radioactive materials, VOCs and semi-VOCs, pesticides, sulfides, cyanides, and CAM 17 metals), thus no further investigations or remediation are needed. Federal and state regulations require that workers who may be exposed to contaminants during the course of their jobs know of the presence of contamination and be properly trained. In addition, these regulations require that appropriate engineering and administrative controls and protective equipment be provided to reduce exposure to safe levels. Current campus due diligence policy and Cal/OSHA regulations minimize the exposure of construction workers to contaminants. In addition, if contaminants are identified on project sites, the campus would coordinate site remediation. Therefore, the impacts would be less than significant. To ensure that due diligence surveys are performed and to further reduce this less-than-significant impact, LRDP Mitigations 4.7-12 and 4.7-13 have been implemented as part of the proposed project.

e) The central campus site is the closest project site to the University Airport, and is approximately 1.5 miles away. The proposed project would not conflict with airport operations. Therefore, the impact would be less than significant.

f) The University Airport is a public use airport, not a private airstrip. No other airport facilities are within the immediate vicinity of the campus. No impact would occur. Refer to item e) above for a discussion of potential safety hazards associated with the University airport, a local public use airport.

g) The 2003 LRDP EIR found that implementation of the 2003 LRDP could interfere with the campus’ Emergency Operations Plan through construction-related road closures (Impact 4.7-17). The project is not anticipated to require any road closures. However, if road closures were needed for some stage of equipment delivery or construction, under current campus procedures if there are changes in traffic patterns resulting from construction lane or roadway closures, the UC Davis Office of Architects and Engineers initiates notification of emergency services, including the UC Davis Fire Department and Police Department, and American Medical Response, which provides regional ambulance services to the campus. In addition, to ensure that the proposed project would not impair implementation of or physically interfere with emergency response and evacuation efforts, LRDP Mitigation 4.7-17, which requires the campus to keep at least one lane open in both directions to the extent feasible, will be included as part of the proposed project. No other potential impacts associated with interference of an adopted emergency response plan or emergency evacuation plan would occur.

h) Areas along Putah Creek are the only areas on campus that could be susceptible to wildland fires. Urbanization will not occur in close proximity to these areas under the 2003 LRDP because land along Putah Creek is designated for Open Space and Teaching and Research Fields, and land adjacent to these open areas is designated primarily for Teaching and Research Fields and low density development. Neither project site is in proximity to Putah Creek. Therefore, no impact would occur.

**Summary**

Mitigation measures 4.7-1, 4.7-2(a-b), 4.7-8, 4.7-9, 4.7-12, 4.7-13, and 4.7-17 from the 2003 LRDP EIR are relevant to the proposed project and reduce the significance of hazards and hazardous materials impacts to the extent feasible. The proposed project would not exceed the levels of significance of hazards and hazardous materials impacts previously addressed in the 2003
LRDP EIR, nor would it introduce any new significant hazards and hazardous materials impacts that were not previously addressed.
7.8 Hydrology & Water Quality

7.8.1 Background

Section 4.8 of the 2003 LRDP EIR addresses the hydrology and water quality effects of campus growth under the 2003 LRDP. The following discussion summarizes information presented in the 'Setting' subsection of Section 4.8 of the 2003 LRDP EIR.

Campus

Surface Water Resources

The UC Davis campus is located in the Lower Sacramento watershed. Putah Creek, the principal waterway in the Davis area, originates from springs in the Mayacmas Mountains northwest of the campus, flows into Lake Berryessa, through Winters, along the southern boundary of Russell Ranch, along the southern boundary of UC Davis' west and south campuses, and eventually into the Yolo Bypass, an overflow channel for the Sacramento River. The North Fork Cutoff and the Arboretum Waterway on campus follow the historic channel of Putah Creek, but currently have no natural flow. The North Fork Cutoff is a typically dry stream channel on the west campus that is currently occupied by sheep and cattle programs in the Department of Animal Science. The Arboretum Waterway serves as the storm water detention basin for the central campus.

UC Davis is a member of the Solano Project, and currently has rights to purchase 4,000 acre-feet of Putah Creek water from Lake Berryessa per year, although reductions in deliveries can occur during drought conditions. The water is delivered to the southwest corner of the campus via an underground pipeline. UC Davis also has rights to surface water from Putah and Cache Creeks. The campus has not used this water in the recent past, but the tenant farmer at Russell Ranch uses approximately 3,750 acre-feet of water per year from Putah and Cache creeks (via Willow Canal) for irrigation of commercial crops.

The quantity and quality of flows in Putah Creek are highly variable and depend on releases from Lake Berryessa, precipitation, storm water runoff, and treated effluent discharge. The campus' tertiary level Wastewater Treatment Plant (WWTP) is the only major discharger of treated effluent to Putah Creek. The plant is regulated under a National Pollutant Discharge Elimination System (NPDES) Waste Discharge Requirement (WDR) permit issued by the Central Valley Regional Water Quality Control Board (CVRWQCB).

Groundwater Resources

The campus is underlain by sand and gravel alluvial deposits that include deep and shallow/intermediate depth aquifers. Deep gravel and sand aquifers underlie the campus between 600 to 1,500 feet below ground surface and supply the campus domestic/fire system. Historic annual domestic water use on campus over the past three decades has ranged from less than 600 million gallons per year (mgy) during drought conditions to nearly 900 mgy (UC Davis 1997). Despite the campus' significant growth in recent decades, the campus' deep aquifer demands have not significantly increased since the late 1960s, a trend that reflects the success of the campus' water conservation efforts.

Shallow/intermediate depth sand and gravel aquifers underlie the campus at depths from 150 to 800 feet below ground surface and supply the campus utility water system, main campus agricultural water needs, and campus and tenant farmer irrigation needs at Russell Ranch. Over the past ten years, an average of approximately 2,657 acre-feet per year of shallow/intermediate aquifer water was used.
for agricultural purposes on campus, including approximately 1,813 acre-feet on the main campus and approximately 844 acre-feet at Russell Ranch (UC Davis Agricultural Services 2003, UC Davis ORMP 2003c). Water levels in the shallow/intermediate aquifer vary seasonally and strongly correlate to precipitation. A generally upward recharge trend over the period from 1957 to 2002 indicates that there has not been long-term overdraft of the shallow/intermediate depth aquifers.

Regional groundwater quality is generally characterized as having high mineral content. Calcium, magnesium, and sulfates have been identified as the dominant problematic constituents.

Flooding & Drainage

On campus, the South Fork of Putah Creek, the North Fork Cutoff, and the Arboretum Waterway channels are designated as FEMA 100-year floodplain areas. In addition, a portion of Russell Ranch along County Road 31 and a portion of the west campus along County Road 98 are also subject to flooding during a 100-year storm event.

The central campus drainage system intercepts and collects runoff and transports this water to the Arboretum Waterway. During large storm events, water rises in the Arboretum Waterway, overtops the weir at the west end of the waterway, and flows into the pump pond located north of the weir. From the pump pond, water is pumped through an underground storm drain to the South Fork of Putah Creek. The peak discharge from the Arboretum Waterway to Putah Creek measured since December 1999 was 65 cubic feet per second (cfs). The majority of land in the west and south campuses and at Russell Ranch is used as teaching and research fields and is not drained by a storm drainage system. Irrigation practices on campus teaching and research fields typically do not generate surface runoff. However, large storm events may result in shallow overland flows. In addition, developed areas on the west and south campuses include storm water conveyance systems that drain to Putah Creek.

To protect the quality of storm water on campus that ultimately drains to Putah Creek, UC Davis construction and industrial activities are subject to the NPDES storm water requirements. Routine maintenance and minor construction activities on campus are subject to the campus’ Phase II Storm Water Management Plan (SWMP).

Project Site

The proposed south campus site is irrigated pasture on approximately three-quarters of the site. The remainder of the south campus site is a crushed gravel pad with stored equipment. Drainage at this site is typical of campus soils. There are no storm drain connections at this site: storm water either infiltrates the soil or runs off the site in a sheet flow. The central campus site is predominantly paved, with some compacted dirt or unpaved areas. Several trailers, small outbuildings, and stored equipment are located on the site. The central campus site is separated from the UC Davis Arboretum, to the south, by Putah Creek Lodge Road, a paved road. Stormwater flowing off the site flows into roadway stormwater collection gutters that ultimately flow to the Arboretum Waterway.

7.8.2 2003 LRDP EIR Standards of Significance

The 2003 LRDP EIR considers a hydrology and water quality impact significant if growth under the 2003 LRDP would:

- Violate any water quality standards or waste discharge requirements.
• Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level.

• Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on site or off site.

• Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on site or off site.

• Create or contribute runoff water that would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff.

• Otherwise substantially degrade water quality.

• Place within a 100-year flood hazard area structures that would impede or redirect flood flows.

• Expose people or structures to a significant risk of loss, injury, or death involving flooding.

Additional standards from the CEQA Guidelines’ Environmental Checklist (“g” and “j” in the checklist below) were found not applicable to campus growth under the 2003 LRDP.

### 7.8.3 2003 LRDP EIR Impacts and Mitigation Measures

Impacts of campus growth under the 2003 LRDP through 2015-16 on hydrology and water quality are evaluated in Section 4.8 of the 2003 LRDP EIR. As analyzed in Section 4 of this Initial Study, the proposed project is within the scope of analysis in the 2003 LRDP EIR. Significant and potentially significant hydrology and water quality impacts identified in the 2003 LRDP EIR that are relevant to the proposed project are presented below with their corresponding levels of significance before and after application of mitigation measures identified in the 2003 LRDP EIR. In addition, impact 4.8-1, presented below, is considered less than significant prior to mitigation, but mitigation measures were identified in the 2003 LRDP EIR to further reduce the significance of this impact. Other less than significant impacts that do not include mitigation measures are not presented here. Mitigation measures are included to reduce the magnitude of project-level impacts 4.8-5 and 4.8-6 and cumulative impacts 4.8-13 and 4.8-14, but these impacts are identified as significant and unavoidable because they cannot be fully mitigated. Mitigation is also relevant to reduce the magnitude of cumulative impact 4.8-10, but this impact is identified as significant and unavoidable because mitigation falls within other jurisdictions to enforce and monitor and therefore cannot be guaranteed by the University of California.

<table>
<thead>
<tr>
<th>2003 LRDP EIR Impacts</th>
<th>Hydrology &amp; Water Quality</th>
<th>Level of Significance Prior to Mitigation</th>
<th>Level of Significance After Mitigation</th>
</tr>
</thead>
<tbody>
<tr>
<td>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.</td>
<td>LS</td>
<td>LS</td>
<td></td>
</tr>
<tr>
<td>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.</td>
<td>PS</td>
<td>LS</td>
<td></td>
</tr>
<tr>
<td>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</td>
<td>PS</td>
<td>LS</td>
<td></td>
</tr>
</tbody>
</table>
### 2003 LRDP EIR Impacts
#### HYDROLOGY & WATER QUALITY

<table>
<thead>
<tr>
<th>Level of Significance Prior to Mitigation</th>
<th>Level of Significance After Mitigation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Storm water drainage systems and result in localized flooding and contribution to offsite flooding.</td>
<td></td>
</tr>
<tr>
<td><strong>4.8-5</strong> 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.</td>
<td>S</td>
</tr>
<tr>
<td><strong>4.8-6</strong> 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.</td>
<td>SU</td>
</tr>
<tr>
<td><strong>4.8-10</strong> 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.</td>
<td>S</td>
</tr>
<tr>
<td><strong>4.8-11</strong> 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.</td>
<td>PS</td>
</tr>
<tr>
<td><strong>4.8-13</strong> 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.</td>
<td>S</td>
</tr>
<tr>
<td><strong>4.8-14</strong> 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.</td>
<td>S</td>
</tr>
</tbody>
</table>

Levels of Significance: LS=Less than Significant, S=Significant, PS=Potentially Significant, SU=Significant and Unavoidable

Mitigation measures in the 2003 LRDP EIR that are applicable to the proposed project are presented below. Since these mitigation measures are already being carried out as part of implementation of the 2003 LRDP, they will not be readopted in this Initial Study or Negative Declaration. The benefits of these mitigation measures will be achieved independently of considering them as specific mitigation measures of this project. Nothing in this Initial Study in any way alters the obligations of the campus to implement 2003 LRDP EIR mitigation measures.

### 2003 LRDP EIR Mitigation Measures
#### HYDROLOGY & WATER QUALITY

<table>
<thead>
<tr>
<th>Level of Significance Prior to Mitigation</th>
<th>Level of Significance After Mitigation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Storm water drainage systems and result in localized flooding and contribution to offsite flooding.</td>
<td></td>
</tr>
<tr>
<td><strong>4.8-1</strong> 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.</td>
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</table>

Mitigation measures in the 2003 LRDP EIR that are applicable to the proposed project are presented below. Since these mitigation measures are already being carried out as part of implementation of the 2003 LRDP, they will not be readopted in this Initial Study or Negative Declaration. The benefits of these mitigation measures will be achieved independently of considering them as specific mitigation measures of this project. Nothing in this Initial Study in any way alters the obligations of the campus to implement 2003 LRDP EIR mitigation measures.

### 2003 LRDP EIR Mitigation Measures
#### HYDROLOGY & WATER QUALITY

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<td>Storm water drainage systems and result in localized flooding and contribution to offsite flooding.</td>
<td></td>
</tr>
<tr>
<td><strong>4.8-1</strong> 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.</td>
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</table>

Mitigation measures in the 2003 LRDP EIR that are applicable to the proposed project are presented below. Since these mitigation measures are already being carried out as part of implementation of the 2003 LRDP, they will not be readopted in this Initial Study or Negative Declaration. The benefits of these mitigation measures will be achieved independently of considering them as specific mitigation measures of this project. Nothing in this Initial Study in any way alters the obligations of the campus to implement 2003 LRDP EIR mitigation measures.
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.

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.

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.

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(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.

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 extensometer, to determine the vertical location of local subsidence.

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.

4.8-10(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.

4.8-11 The campus shall implement LRDP Mitigation 4.8-3(a-c) in order to prevent flooding on campus.

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.
### 2003 LRDP EIR Mitigation Measures

**HYDROLOGY & WATER QUALITY**

- 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)

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.

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).

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### 7.8.4 Environmental Checklist and Discussion

<table>
<thead>
<tr>
<th>HYDROLOGY &amp; WATER QUALITY</th>
<th>Potentially Significant Impact</th>
<th>Less than Significant with Mitigation</th>
<th>Impact for which 2003 LRDP EIR is Sufficient</th>
<th>Less than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Would the project…</td>
<td></td>
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</tr>
<tr>
<td>a) Violate any water quality standards or waste discharge requirements?</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?</td>
<td>☐</td>
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</tr>
<tr>
<td>c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?</td>
<td>☐</td>
<td>☐</td>
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</tr>
<tr>
<td>e) Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>f) Otherwise substantially degrade water quality?</td>
<td>☐</td>
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</tr>
<tr>
<td>g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
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<td>☐</td>
</tr>
</tbody>
</table>
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?  

i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?  

j) Inundation by seiche, tsunami, or mudflow?  

---

a, f) **Construction**

The 2003 LRDP EIR found that construction on campus under the 2003 LRDP would not contribute substantial loads of sediment or other pollutants to storm water runoff (Impact 4.8-1). Construction on campus is covered under the NPDES state-wide General Permit for Discharge of Storm Water Associated with Construction Activity. As part of this permit, campus construction projects managed by outside contractors and/or disturbing over one acre (including the proposed project) must implement Storm Water Pollution Prevention Plans (SWPPPs), which specify Best Management Practices (BMPs) to reduce the contribution of sediments, spilled and leaked liquids from construction equipment, and other construction-related pollutants to storm water runoff. All routine maintenance activities and any construction projects disturbing less than one acre that are not managed by outside contractors are covered under the campus’ Phase II Municipal Storm Water Management Plan, which requires BMPs to reduce contribution of pollutants to storm water runoff. Because the UC Davis campus is required to comply with the NPDES state-wide permit and Phase II requirements, the water quality effects associated with construction activities on campus are considered to be less than significant. In addition, LRDP Mitigation 4.8-1, included as part of the project, requires the campus to implement BMPs to reduce construction-related water quality impacts.

**Operation**

The 2003 LRDP EIR found that campus growth under the 2003 LRDP would increase discharge of treated effluent from the campus WWTP into the South Fork of Putah Creek, which could exceed waste discharge requirements and degrade receiving water quality (Impact 4.8-4). The proposed project would not make any connections to the sanitary sewer system and would not contribute to the discharge of treated effluent from the campus WWTP. Therefore, no impact would occur.

b) **Deep Aquifer**

The proposed project would not use water from the deep aquifer, since the project would not need to use domestic water. Thus, the project would have no impact on the deep water aquifer with respect to extraction for domestic water supply. The south campus project site would be covered with crushed gravel, which would offer permeability in the areas where concrete pads were not built. The project would convert less than an acre of land to impervious surface (the footprints of the equipment enclosures on the south and central campus sites and the concrete pads for the transformer and related equipment and possible paving of the existing gravel service roadway to the south campus site). The analysis in the 2003 LRDP EIR determined that the deep aquifer is confined with limited lateral and vertical recharge and is overlain by thick clay layers that are relatively impermeable. Because of these characteristics, increased impervious surfaces associated with development under the 2003 LRDP will not significantly affect the recharge capacity of the deep aquifer. Therefore, the impact of this project on the deep aquifer would be less than significant.
The 2003 LRDP EIR found that growth under the 2003 LRDP and other development in the region would cumulatively increase the amount of water extracted from the deep aquifer and would increase impervious surfaces, which 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 (Impact 4.8-13). The long-term reliability of the deep aquifer could be at risk if both UC Davis and the City of Davis rely on the aquifer to meet their future needs. In compliance with LRDP Mitigation 4.8-13(a), included in the proposed project, the campus would: minimize withdrawals from those aquifers shared with the City of Davis by locating new wells on the west campus when feasible, monitor the deep aquifer, conserve water, and manage water supplies efficiently. LRDP Mitigation 4.8-13(b) recognizes the City of Davis General Plan's objectives regarding reduction of water extraction from the deep aquifer. However, regardless of mitigation, because the effects of increased demand on the volume of the deep aquifer are currently not well understood, this impact is considered significant and unavoidable. This impact was adequately analyzed in the 2003 LRDP EIR and was fully addressed in the Findings and Statement of Overriding Considerations adopted by The Regents in connection with its approval of the 2003 LRDP. No conditions have changed and no new information is available since certification of the 2003 LRDP EIR that would alter this previous analysis.

**Shallow/Intermediate Aquifer**

The project would not install landscaping, thus no irrigation water from the shallow/intermediate aquifers would be needed. The project would convert less than an acre of land to an impermeable surface. The 2003 LRDP EIR found that the campus' extraction from shallow/intermediate aquifers could deplete groundwater levels and could contribute to local subsidence. In addition, increased impervious coverage could interfere with recharge of the shallow/intermediate aquifers. This could result in a net deficit in the intermediate aquifer volume or a lowering of the local groundwater table (Impact 4.8-6). The 2001 baseline annual campus demand (including irrigation demand associated with the tenant farmer at Russell Ranch) for water from the shallow/intermediate aquifers was approximately 3,827 acre-feet. Under the 2003 LRDP, due to conversion of teaching and research fields to other uses with reduced irrigation requirements, overall annual demand for water from the shallow/intermediate aquifers is anticipated to decrease to approximately 3,362 acre-feet through 2015-16 (UC Davis ORMP 2003c). The proposed project would contribute to that decrease by removing some land from irrigated pasture. However, these projections do not address the potential identified in LRDP Mitigation 4.8-5(d) for intermediate aquifer water to be used to serve the campus' domestic water needs. If this mitigation is implemented, demand for water from the intermediate aquifer could increase. In addition, recent monitoring efforts indicate subsidence in the campus vicinity. Due to the short history of subsidence monitoring in the area, the extent and cause of this subsidence is currently unknown, however, extraction from the shallow/intermediate aquifer could be a contributing factor. Additionally, development under the 2003 LRDP, including the proposed project, would increase the amount of impervious surfaces on campus. However, because the soils underlying the campus generally have low permeability and would provide limited recharge, new impervious surfaces are not likely to significantly reduce the amount and rate of groundwater recharge. Most recharge in the area is associated with streams and waterways, which would not be affected by the project.

LRDP Mitigation 4.8-6(a-c), included as part of the proposed project, would require continued utility water conservation efforts, monitoring of the intermediate aquifer, and subsidence monitoring efforts. Furthermore, implementation of LRDP Mitigation 4.8 6(e), included in the proposed project, would encourage project designs on campus that increase percolation and infiltration to the shallow/intermediate aquifer. The project would use a crushed gravel bed on the south campus site, which would still allow for percolation on the site in the areas that do not
have concrete equipment pads, equipment enclosures, or possible paving of the existing gravel service roadway. If the monitoring efforts required by LRDP Mitigation 4.8-6(b) or (c) identify that campus intermediate aquifer use is contributing to a net deficit in aquifer volume or significant subsidence, LRDP Mitigation 4.8-6(d) would be implemented to reduce campus utility water use by requiring use of Solano Project surface water and/or tertiary treated wastewater effluent from the campus WWTP for irrigation of campus recreation fields. Regardless of mitigation, the combination of effects from continued demand for water from the shallow/intermediate aquifer, local subsidence trends, and increased coverage could potentially result in a significant impact on intermediate aquifer groundwater levels. Therefore, Impact 4.8-6 is considered significant and unavoidable. This impact was adequately analyzed in the 2003 LRDP EIR and was fully addressed in the Findings and Statement of Overriding Considerations adopted by The Regents in connection with its approval of the 2003 LRDP. No conditions have changed and no new information is available since certification of the 2003 LRDP EIR that would alter this previous analysis.

The 2003 LRDP EIR found that growth under the 2003 LRDP and other development in the region would cumulatively increase the amount of water extracted from shallow/intermediate aquifers and would 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 (Impact 4.8-14). Although campus extraction of water from the shallow/intermediate aquifers is anticipated to continue to decrease through 2015-16, a potential increase in extraction in the Davis area could cause well levels to decrease. In addition, extraction from these aquifers could be causing subsidence that has been observed in the area, and increases in impervious surfaces could impede the amount of groundwater recharge. Implementation of LRDP Mitigation 4.8-13(a) and (b) would reduce the campus and City extractions from the shallow/intermediate aquifers, would reduce the amount of new impervious surfaces in the area, and would continue groundwater level and subsidence monitoring efforts. Regardless of mitigation, the combination of effects from continued local demand for water from the shallow/intermediate aquifers, local subsidence trends, and increased coverage could result in a significant and unavoidable impact on the aquifers. This impact was adequately analyzed in the 2003 LRDP EIR and was fully addressed in the Findings and Statement of Overriding Considerations adopted by The Regents in connection with its approval of the 2003 LRDP. No conditions have changed and no new information is available since certification of the 2003 LRDP EIR that would alter this previous analysis.

c) The proposed project would cover less than one acre with impermeable surface, but would develop approximately two acres. Currently, the south campus site is covered with both irrigated pasture grasses and crushed gravel upon which equipment is stored. The central campus site has a variety of small buildings, undeveloped, bare dirt areas, and vegetated areas with trees and shrubs. The south campus site is not connected to a drainage system; runoff infiltrates on site or sheet flows off site. The central campus site drains to the Arboretum Waterway, via the campus stormwater system. The south campus site will be covered in crushed gravel, allowing percolation across the site, except for areas covered with concrete pads for the transformer and related equipment, the equipment enclosures, and possible paving of the existing gravel service roadway. As with the existing substation transformers, holding basins around each pad for the new transformer would be created and linked to a railroad drainage ditch that ultimately empties to Putah Creek. The holding basins serve as containment basins in the event of any spills of mineral oil (the cooling and cushioning fluid for the transformer coils), so that the spills could be remediated. Additionally, storm water runoff from the transformer pad will be channeled through an oil separator tank, which will have a valve-controlled outlet to the drainage ditch. The south and central campus sites will each have enclosed spaces to house switchgears and monitoring equipment.
The 2003 LRDP EIR found that development under the 2003 LRDP would increase impervious surfaces on the campus and could alter drainage patterns, thereby increasing runoff and loads of pollutants in storm water, which could adversely affect surface water quality (Impact 4.8-2). Discharge of storm water to the Arboretum Waterway is covered under a NPDES Phase II permit for small municipal storm water systems, which requires BMPs to reduce pollutants in storm water discharge to the maximum extent practicable. LRDP Mitigation 4.8-2 requires the campus to comply with Phase II regulations. As described in item (a) above, both construction and operation activities are required to employ BMPs. With implementation of Phase II requirements, increases in storm water runoff and levels of contaminants in runoff associated with implementation of the 2003 LRDP, including the proposed project, would have a less-than-significant impact on receiving waters. The proposed project would minimally contribute to the overall increase in runoff associated with development evaluated in the 2003 LRDP EIR.

The 2003 LRDP EIR found that development under the 2003 LRDP, in conjunction with construction activities, increased impervious surfaces, and alterations to drainage patterns associated with other development in the watershed could increase storm water runoff and could provide substantial sources of polluted runoff, which could adversely affect receiving water quality (Impact 4.8-10). LRDP Mitigations 4.8-10 (a-c) require the campus and regional jurisdictions to comply with NPDES Phase II requirements and implement SWPPPs for specified industrial and construction activities. However, implementation of LRDP Mitigation 4.8-10(b) and (c) cannot be guaranteed by the University of California because it falls within other jurisdictions to enforce and monitor. Therefore, the impact is considered significant and unavoidable. This impact was adequately analyzed in the 2003 LRDP EIR and was fully addressed in the Findings and Statement of Overriding Considerations adopted by The Regents in connection with its approval of the 2003 LRDP. No conditions have changed and no new information is available since certification of the 2003 LRDP EIR that would alter this previous analysis.

d, e) The proposed project would not require any storm drain connections to handle storm water, and involves a minimal increase in impermeable surface (less than one acre). Therefore, no impact would occur.

Storm water runoff pollution is evaluated further in items (a,f) and (c) above.

g, h) The proposed project would be constructed outside the 100-year flood zones on campus (see 2003 LRDP EIR, Figure 4.8-4, 100-Year Floodplain); and, the project does not include any housing. Therefore, no impact would occur.

i) The campus is located approximately 23 miles downstream of the Monticello Dam (forming Lake Berryessa) and approximately 15 miles downstream of the Putah Diversion Dam. An inundation study prepared by the U.S. Bureau of Reclamation shows that, in the highly unlikely case of a dam breach, the campus (as well as the City of Davis) would be inundated under a maximum of 3 to 9 feet of water approximately 3.5 to 4 hours following the breach (USBR 1998). However, the probability of such a release is far less than one in one million (USBR 2000). As of June 2000, Monticello Dam was determined to be in satisfactory condition, and the dam exhibited no unusual cracks, seeps, or deformations. In addition, the State Department of Dam Safety evaluates dams regularly, which would give adequate time to respond to any deterioration in the safety of the structure. Therefore, the risk of flooding on campus as a result of a dam failure is considered to be a less-than-significant impact.
j) The campus is not subject to inundation by seiche, tsunami, or mudflow. The campus is generally flat and is not located in close proximity to any large water bodies. Therefore, no impact would occur.

Summary

Mitigation Measures 4.8-1, 4.8-2, 4.8-3(a-b), 4.8-5(b,d), 4.8-6(b-e), 4.8-10(a-c), 4.8-11, 4.8-13(a-b), 4.8-14(a-b) from the 2003 LRDP EIR are relevant to the proposed project and reduce the significance of hydrology and water quality impacts to the extent feasible. The proposed project would not exceed the levels of significance of hydrology and water quality impacts previously addressed in the 2003 LRDP EIR, nor would it introduce any new significant hydrology and water quality impacts that were not previously addressed.
7.9 **LAND USE & PLANNING**

7.9.1 **Background**

Section 4.9 of the 2003 LRDP EIR addresses the land use and planning effects of campus growth under the 2003 LRDP. The following discussion summarizes information presented in the ‘Setting’ subsection of Section 4.9 of the 2003 LRDP EIR.

**Campus**

The approximately 5,300-acre UC Davis campus is located within Yolo and Solano counties. Local land use is predominantly agricultural, with small cities and towns. The campus is surrounded by extensive agricultural uses to the west and south and by residential, institutional, and commercial land uses in the City of Davis, to the north and east. The City of Davis is a university-oriented community with over 62,000 residents. The UC Davis campus consists of four general units: the central campus, the south campus, the west campus, and Russell Ranch. In addition, the University of California owns several properties in the City of Davis, including buildings in downtown Davis and buildings and vacant parcels in the South Davis Research Park, located south of I-80.

As a state entity, UC Davis is not subject to municipal policies such as the City of Davis General Plan. Nevertheless, such policies are of interest to the campus.

The 2003 LRDP is the campus’ primary land use planning guide. It designates campus lands for the following uses through 2015-16: **Academic and Administrative (High and Low Density)**; **Teaching and Research Fields**; **Teaching and Research Open Space**; **Parking**; **Physical Education, Intercollegiate Athletics, and Recreation (PE/ICA/Recreation)**; **Research Park (High and Low Density)**; **Formal Open Space**; **Community Gardens**; **Faculty/Staff Housing, Student Housing**; **Mixed Use Housing**; and **Elementary School**.

**Project Site**

The current land uses of the south campus site are irrigated pasture and storage space for electrical system equipment. The current use of the central campus site is for storage and staging for the campus Operations and Maintenance division. The 2003 LRDP assigns both project sites a **Support Services** land use designation. This designation allows for facilities required to service the campus on a daily basis, specialized facilities such as the University Airport, and setbacks, landscaping, paths, on-site utility services, sidewalks, and all parking lots and roads associated with facilities.

7.9.2 **2003 LRDP EIR Standards of Significance**

The 2003 LRDP EIR considers a land use and planning impact significant if growth under the 2003 LRDP would:

- Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental effect.
- Result in development of land uses that are substantially incompatible with existing adjacent land uses or with planned uses.
- Conflict with any applicable habitat conservation plan or natural community conservation plan.

An additional standard from the CEQA Guidelines’ Environmental Checklist (“a” in the checklist below) was found not applicable to campus growth under the 2003 LRDP.
7.9.3 2003 LRDP EIR Impacts and Mitigation Measures

Impacts of campus growth under the 2003 LRDP through 2015-16 related to land use and planning are evaluated in Section 4.9 of the 2003 LRDP EIR. As analyzed in Section 4 of this Initial Study, the proposed project is within the scope of analysis in the 2003 LRDP EIR. The 2003 LRDP EIR did not identify any potentially significant or significant land use and planning impacts. The less than significant land use and planning impacts identified in the 2003 LRDP EIR do not require mitigation.

7.9.4 Environmental Checklist and Discussion

<table>
<thead>
<tr>
<th>LAND USE &amp; PLANNING</th>
<th>Potentially Significant Impact</th>
<th>Less than Significant Impact with Mitigation</th>
<th>Impact for which 2003 LRDP EIR is Sufficient</th>
<th>Less than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Physically divide an established community?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
</tr>
<tr>
<td>b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
</tr>
<tr>
<td>c) Conflict with any applicable habitat conservation plan or natural community conservation plan?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
</tr>
<tr>
<td>d) Result in development of land uses that are substantially incompatible with existing adjacent land uses or with planned uses?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
</tr>
</tbody>
</table>

a) The proposed project would have no potential to physically divide an established community. No impact would occur and no additional analysis is required.

b) The applicable land use plan for the campus is the 2003 LRDP. Both the south and the central campus sites are consistent with the 2003 LRDP Support Services land use designation. No impact would occur.

c) The campus does not fall within the boundaries of, nor is it adjacent to, an adopted regional HCP or NCCP. The campus has implemented two low effects HCPs for VELB at Russell Ranch. The project is not located at Russell Ranch. Therefore, the proposed project would not conflict with an adopted HCP or NCCP.

d) The 2003 LRDP EIR identifies that an impact could result if land uses are developed under the 2003 LRDP EIR that are substantially incompatible with existing adjacent land uses or with planned uses. Both proposed sites are compatible with existing and planned adjacent land uses. The south campus site is adjacent to the existing substation, and the central campus site is situated amid numerous other campus support services. Use of both sites for electrical system improvements is compatible with the sites’ context and surrounding uses. No impact would occur.

Summary

The 2003 LRDP EIR did not identify any significant land use and planning impacts, nor did it identify any associated mitigation measures. The proposed project would not exceed the levels of significance of land use and planning impacts previously addressed in the 2003 LRDP EIR, nor
would it introduce any new significant land use and planning impacts that were not previously addressed.
7.10 MINERAL RESOURCES

7.10.1 Background

Section 4.6, Geology, Soils, and Seismicity, of the 2003 LRDP EIR briefly addresses mineral resources issues. The 2003 LRDP EIR concludes that development on campus would not impede extraction or result in the loss of availability of mineral resources.

Sand and gravel are important mineral resources in the region (CDOC 2000). However, natural gas is the only known or potential mineral resource that has been identified on campus. Natural gas can be extracted at wells placed considerable distances from deposits. No other known or potential mineral resources have been identified on the UC Davis campus. Therefore, development on campus does not impede extraction or result in the loss of availability of mineral resources.

7.10.2 2003 LRDP EIR

Because development on campus would not impede extraction or result in the loss of availability of mineral resources, the 2003 LRDP EIR did not identify any standards of significance, impacts, or mitigation measures associated with mineral resources. As analyzed in Section 4 of this Initial Study, the proposed project is within the scope of analysis in the 2003 LRDP EIR.

7.10.3 Environmental Checklist and Discussion

<table>
<thead>
<tr>
<th>MINERAL RESOURCES</th>
<th>Potentially Significant Impact</th>
<th>Less than Significant with Mitigation</th>
<th>Impact for which 2003 LRDP EIR is Sufficient</th>
<th>Less than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Would the project…</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
</tr>
<tr>
<td>b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
</tr>
</tbody>
</table>

a, b) Natural gas is the only known or potential mineral resource that has been identified on campus. Natural gas can be extracted at wells placed considerable distances from deposits. Therefore, development on campus would not impede extraction or result in the loss of availability of a known mineral resource. No impact would occur and no further analysis is required.
7.11 Noise

7.11.1 Background

Section 4.10 of the 2003 LRDP EIR addresses the noise effects of campus growth under the 2003 LRDP. The following discussion summarizes information presented in the ‘Setting’ subsection of Section 4.10 of the 2003 LRDP EIR.

Campus

The primary noise source in the vicinity of the campus is vehicular traffic using I-80, SR 113, and local roads. Other sources of noise include occasional aircraft over-flights associated with the University Airport located on the west campus and another small airport in the vicinity, agricultural activities, railroads, and landscaping activities. Land use surrounding the campus is primarily agricultural, with residential, commercial, and other uses concentrated along the northern and eastern boundaries of the main campus.

Sound is technically described in terms of amplitude (loudness) and frequency (pitch). The standard unit of sound amplitude measurement is the decibel (dB), and the decibel scale adjusted for A-weighting (dBA) is a special frequency-dependent rating scale that relates to the frequency sensitivity of the human ear. Community noise usually consists of a base of steady “ambient” noise that is the sum of many distant and indistinguishable noise sources, as well as more distinct sounds from individual local sources. A number of noise descriptors are used to analyze the effects of community noise on people, including the following:

- $L_{eq}$, the equivalent energy noise level, is the average acoustic energy content of noise, measured during a prescribed period, typically one hour.
- $L_{day}$, the Day-Night Average Sound Level, is a 24-hour-average $L_{eq}$ with a 10 dBA “penalty” added to noise occurring during the hours of 10:00 PM to 7:00 AM to account for greater nocturnal noise sensitivity.
- CNEL, the Community Noise Equivalent Level, is a 24-hour-average $L_{eq}$ with a “penalty” of 5 dB added to evening noise occurring between 7:00 PM and 10:00 PM, and a “penalty” of 10 dB added to nighttime noise occurring between 10:00 PM and 7:00 AM.

Noise monitoring over a 24-hour period in 2003 at sites located in urban areas on and adjacent to the campus (including areas next to freeways, roads, residences, and academic buildings) reflected CNEL levels ranging from 63 to 65 dBA CNEL. Ambient noise levels measured over a short period at various urban sites on campus varied from 49 to 63 dBA $L_{eq}$.

Project Site

Trains passing by on the adjacent railroad tracks and traffic driving on the adjacent I-80 freeway are the major existing noise sources on the south campus site. The south campus site is approximately 400 feet from the centerline of the I-80 freeway. The 2003 LRDP EIR reported a noise level of 66 CNEL dBA for a measurement point on the campus that is equivalent to that distance. The south site is also within 750 feet of a railroad line. Service vehicles and operations and maintenance activities and distant mechanical equipment are the main sources of noise at the central campus project site.

Afternoon background noise levels near the central campus project site ranged from 50 dBA to 54 dBA (UC Davis Office of Resource Management and Planning, April 2005).
7.11.2 2003 LRDP EIR Standards of Significance

The 2003 LRDP EIR considers a noise impact significant if growth under the 2003 LRDP would result in the following:

- Exposure of persons to or generation of noise levels in excess of levels set forth in Table 4.10-3 of the 2003 LRDP EIR.

Table 2: Thresholds of Significance for Noise Evaluations

<table>
<thead>
<tr>
<th>Noise Source</th>
<th>Criterion Noise Level</th>
<th>Substantial Increase in Noise Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Road Traffic and Other Long-Term</td>
<td>65 dBA CNEL</td>
<td>&gt;=3 dBA if CNEL w/project is &gt;= 65 dBA</td>
</tr>
<tr>
<td>Sources</td>
<td></td>
<td>&gt;=5 dBA if CNEL w/project is 50–64 dBA</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&gt;=10 dBA if CNEL w/project is &lt; 50 dBA</td>
</tr>
<tr>
<td>Railroad</td>
<td>Within 750 feet of railroad line</td>
<td></td>
</tr>
<tr>
<td>Construction (temporary)</td>
<td>80 dBA L_{A,eq} \text{dn} t (7:00 a-7:00 p)</td>
<td>Not Applicable</td>
</tr>
<tr>
<td></td>
<td>80 dBA L_{A,eq} \text{dn} t (7:00 p-11:00 p)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>70 dBA L_{A,eq} \text{dn} t (11:00 p-7:00 a)</td>
<td></td>
</tr>
</tbody>
</table>

Source: 2003 LRDP EIR

- The 2003 LRDP would not substantially increase rail activity; therefore, a threshold of significance for rail noise is not included in this table.
- At noise-sensitive land use unless otherwise noted. Noise-sensitive land uses include residential and institutional land uses.
- Screening analysis distance criterion from FTA 1995.
- L_{A,eq} is an average measurement over an eight-hour period.

- Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.
- A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project.
- A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.
- For a project within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, exposure of people residing or working in the project area to excessive noise levels.

7.11.3 2003 LRDP EIR Impacts and Mitigation Measures

Impacts of campus growth under the 2003 LRDP through 2015-16 related to noise are evaluated in Section 4.10 of the 2003 LRDP EIR. As analyzed in Section 4 of this Initial Study, the proposed project is within the scope of analysis in the 2003 LRDP EIR. Significant and potentially significant noise impacts identified in the 2003 LRDP EIR that are relevant to the proposed project are presented below with their corresponding levels of significance before and after application of mitigation measures identified in the 2003 LRDP EIR.

<table>
<thead>
<tr>
<th>2003 LRDP EIR Impacts</th>
<th>Level of Significance Prior to Mitigation</th>
<th>Level of Significance After Mitigation</th>
</tr>
</thead>
<tbody>
<tr>
<td>NOISE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.10-1</td>
<td>PS</td>
<td>LS</td>
</tr>
</tbody>
</table>

Construction of campus facilities pursuant to the 2003 LRDP could expose nearby receptors to excessive groundborne vibration and airborne or...
Mitigation measures in the 2003 LRDP EIR that are applicable to the proposed project are presented below. Since these mitigation measures are already being carried out as part of implementation of the 2003 LRDP, they will not be readopted in this Initial Study or Negative Declaration. The benefits of these mitigation measures will be achieved independently of considering them as specific mitigation measures of this project. Nothing in this Initial Study in any way alters the obligations of the campus to implement 2003 LRDP EIR mitigation measures.

### 2003 LRDP EIR Mitigation Measures

#### NOISE

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.
- 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.

### 7.11.4 Environmental Checklist and Discussion

#### NOISE

<table>
<thead>
<tr>
<th>Would the project…</th>
<th>Potentially Significant Impact</th>
<th>Less than Significant with Mitigation</th>
<th>Impact for which 2003 LRDP EIR is Sufficient</th>
<th>Less than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?</td>
<td>❏</td>
<td>❏</td>
<td>❏</td>
<td>❏</td>
<td>❏</td>
</tr>
<tr>
<td>b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?</td>
<td>❏</td>
<td>❏</td>
<td>❏</td>
<td>❏</td>
<td>❏</td>
</tr>
<tr>
<td>c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?</td>
<td>❏</td>
<td>❏</td>
<td>❏</td>
<td>❏</td>
<td>❏</td>
</tr>
</tbody>
</table>
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

☐ ☐ ☑ ☐ ☐ ☐

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

☐ ☐ ☐ ☐ ☐ ☑

f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

☐ ☐ ☐ ☐ ☐ ☑

a,c) Generation of noise levels on or adjacent to the project site associated with service vehicle trips and mechanical equipment operation would contribute to ambient noise levels on campus. It is not anticipated that the proposed project would necessitate any increases in vehicle trips or in associated noise levels on the campus. Neither of the project sites have any nearby sensitive receptors. The project proposes to add a 30 MVA transformer and a second connection to the high voltage lines running adjacent to the south campus site. Both the transformer and the high voltage lines produce some electrical humming noise. However, that noise would not be audible off the site due to nearby freeway and railroad noise. The project involves installing switchgear enclosures on each of the south and central campus sites to house associated electrical distribution and monitoring equipment. The equipment might produce some electrical humming noise, but the enclosures would attenuate much of the noise, and noise from the equipment is not likely to travel off site. The impacts would be less than significant.

b,d) The proposed project would use conventional construction techniques and machinery. On the south campus site, construction activities would mainly involve site preparation (e.g. light grading), concrete pours for the transformer pads, and the use of a crane or other, similar construction equipment (e.g. a cherry picker) to place the new electrical equipment on the pads and to make the new connection to the adjacent PG&E high voltage lines. Construction activities on the central campus site are likely to include some trenching, placing the new switchgear on the site with a crane or other, similar construction equipment, and running a truck with a wire spool to pull new wiring through an existing duct bank to the Health Sciences District switchgear building at Garrod Drive. Both sites would have new, prefabricated, climate controlled switchgear enclosures installed on-site as mentioned above in items (a) and (c). Asphalt removal may be required as part of the dismantling of the existing overhead shade structure on the central campus site. No pile driving, blasting, or other special construction techniques are anticipated as part of this project on either site.

The 2003 LRDP EIR found that construction of campus facilities pursuant to the 2003 LRDP could expose nearby receptors to excessive groundborne vibration and airborne or groundborne noise (Impact 4.10-1). Construction under the 2003 LRDP, including the proposed project, would require temporary construction activities using conventional construction techniques and equipment that would not generate substantial levels of vibration or groundborne noise. Routine noise levels from conventional construction activities (with the normal number of equipment operating on the site) range from 75 to 86 dBA Leq at a distance of 50 feet, from 69 to 80 dBA Leq at a distance of 100 feet, from 55 to 66 dBA Leq at a distance of 500 feet, and 48 to 60 dBA Leq at a distance of 1,000 feet (although noise levels would likely be lower due to additional attenuation from ground effects, air absorption, and shielding from miscellaneous intervening structures). Noise from project construction is predicted to be below the significance criteria of 80 dBA Leq daytime and evening and 70 dBA Leq nighttime at a distance of 100 feet or more from the
construction activity. However, noise from construction would be audible and would temporarily elevate the local ambient noise level to some degree at distances greater than 100 feet from construction. LRDP Mitigation 4.10-1, included in the proposed project, would be implemented to control construction noise and the potential impact would be less than significant.

e) The 2003 LRDP, including the proposed project, does not propose changes to University Airport operations, nor does it propose occupied uses within the airport’s 65 CNEL noise contour. The proposed electrical improvements project would not introduce new population to the campus, would not place sensitive receptors near the University Airport, and is not a noise-sensitive use. Therefore, the project would not expose people to excessive noise levels associated with this public use airport. No impact would occur.

f) The University Airport is a public use airport, not a private airstrip. No other private airport facilities are within the immediate vicinity of the campus. No impact would occur. Refer to item e) above for discussion of potential noise impacts associated with the campus’ public use airports.

**Summary**

Mitigation measure 4.10-1 from the 2003 LRDP EIR is relevant to the proposed project and would reduce the significance of construction noise impacts to the extent feasible. The proposed project would not exceed the levels of significance of noise impacts previously addressed in the 2003 LRDP EIR, nor would it introduce any new significant noise impacts that were not previously addressed.
7.12  **POPULATION & HOUSING**

### 7.12.1 Background

Section 4.11 of the 2003 LRDP EIR addresses the population and housing effects of campus growth under the 2003 LRDP. The following discussion summarizes information presented in the ‘Setting’ subsection of Section 4.11 of the 2003 LRDP EIR.

The on-campus population at UC Davis includes students, faculty/staff, and non-UC Davis affiliates working on campus. The current and projected campus population figures are presented in Table 1 of this Tiered Initial Study. As of 2003, approximately 80 percent of the student population and 50 percent of the employee population lived in the Davis area, and approximately 94 percent of students and 90 percent of employees lived within the three-county area of Yolo, Solano, and Sacramento counties. Outside the City of Davis, the predominant residence locations of students and employees are Woodland, West Sacramento, Winters, Dixon, Vacaville, and Fairfield (UC Davis ORMP 2003d).

Vacancy rates in the City of Davis are considered low, and housing costs in the City are generally higher than those elsewhere in the region. Since 1994, the campus has been working toward the goals of maintaining a UC Davis housing supply that can accommodate 25 percent of the on-campus enrolled students and can offer housing to all eligible freshmen. The 2003 LRDP focuses on providing additional on-campus student housing that will accommodate a total of approximately 7,800 students on the core campus (or 26 percent of the peak student enrollment through 2015-16) and an additional 3,000 students in a west campus neighborhood. The campus currently offers one faculty and staff housing area (Aggie Village), which includes 21 single-family units (17 of which have cottages) and 16 duplexes. The 2003 LRDP plans to provide an additional 500 faculty and staff housing units within the west campus neighborhood through 2015-16.

### Project Site

The proposed south campus project site is currently used for irrigated pasture and storage of electrical substation equipment. The proposed central campus project site is currently used for storage and staging for campus Operations & Maintenance services. No housing is located or planned on or adjacent to either proposed site. The proposed project would not add any members to the campus population.

### 7.12.2 2003 LRDP EIR Standards of Significance

The 2003 LRDP EIR considers an impact related to population and housing significant if growth under the 2003 LRDP would:

- Directly induce substantial population growth in the area by proposing new housing and employment.
- Create a demand for housing that could not be accommodated by local jurisdictions.
- Induce substantial population growth in an area indirectly (for example, through extension of roads or other infrastructure).

Additional standards from the CEQA Guidelines’ Environmental Checklist (“b” and “c” in the checklist below) was found not applicable to campus growth under the 2003 LRDP.

### 7.12.3 2003 LRDP EIR Impacts and Mitigation Measures
Impacts of campus growth under the 2003 LRDP through 2015-16 related to population and housing are evaluated in Section 4.11 of the 2003 LRDP EIR. As analyzed in Section 4 of this Initial Study, the proposed project is within the scope of analysis in the 2003 LRDP EIR. The significant population and housing impact identified in the 2003 LRDP EIR is not relevant to the proposed project.

7.12.4 Environmental Checklist and Discussion

<table>
<thead>
<tr>
<th>POPULATION &amp; HOUSING</th>
<th>Potentially Significant Impact</th>
<th>Less than Significant with Mitigation</th>
<th>Impact for which 2003 LRDP EIR is Sufficient</th>
<th>Less than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>✓</td>
</tr>
<tr>
<td>b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>✓</td>
</tr>
<tr>
<td>c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>✓</td>
</tr>
<tr>
<td>d) Create a demand for housing that cannot be accommodated by local jurisdictions?</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>✓</td>
</tr>
</tbody>
</table>

a) The proposed project would build a new addition to the existing substation, expanding the substation to add electrical capacity and improve distribution and reliability for the campus. The project may pave an existing gravel service road, but would not add any new segments of roadway. The project would not directly result in increased enrollment or employment. The electrical system upgrade would not provide for growth in excess of the 2003 LRDP; and any paving improvement to the existing service road would serve only the substation and would not extend to areas outside the area identified for growth in the 2003 LRDP. No impact would occur.

b) The proposed project would not displace any existing housing. Therefore, no impact would occur.

c) The proposed project would not displace substantial numbers of people. Therefore, no impact would occur.

d) The proposed project would not result in increased enrollment or employment; hence, it would not create housing demand. Therefore, no impact would occur.

Summary

The 2003 LRDP EIR did not identify any mitigation measures to reduce the significance of impacts associated with population and housing. The proposed project would not exceed the levels of significance of population and housing impacts previously addressed in the 2003 LRDP EIR, nor would it introduce any new significant population and housing impacts that were not previously addressed.
### 7.13 PUBLIC SERVICES

#### 7.13.1 Background

Section 4.12 of the 2003 LRDP EIR addresses the public services effects of campus growth under the 2003 LRDP. The following discussion summarizes information presented in the ‘Setting’ subsection of Section 4.13 of the 2003 LRDP EIR.

In accordance with the CEQA Guidelines, this Public Services analysis evaluates the environmental effects associated with any physical changes required to meet increases in demand for public services, including police, fire protection, schools, and libraries. Project-level public services impacts are addressed by evaluating the effects of on-campus population growth on public services that directly serve the on-campus population (primarily UC Davis services). Cumulative public services impacts are addressed by evaluating the effects of off-campus population growth on the public services in the Cities of Davis, Dixon, Winters, and Woodland.

UC Davis provides most public services needed on campus, including fire protection, police protection, and library services. The Davis Joint Unified School District serves the City of Davis and portions of Yolo and Solano counties. These services are discussed further below:

- **Fire Protection:** The UC Davis Fire Department provides primary fire response and prevention, natural disaster response, hazardous materials incident response, and emergency medical service to the main campus. The fire department’s goal is to respond to 90 percent of campus emergency calls within 6 minutes (UC Davis Fire Department 2003). As of 2003, the UC Davis Fire Department achieves its stated standard of response (Chandler 2003).

- **Police:** In 2001-02, the UC Davis Police Department employed approximately 32 sworn officers to provide 24-hour service to the main campus and facilities owned and leased by UC Davis in the City of Davis, a service area including a campus population of approximately 36,445 people (including UC and non-UC employees, students, and dependents living in on-campus housing) (Chang 2001). Although the campus does not currently rely on any level of service standards, the Police Department has indicated that it would like to reach and maintain 1 sworn officer on the main campus per 1,000 members of the campus population. In 2001-02, the campus was just under this level, with approximately 0.9 sworn officers per 1,000 members of the campus population.

- **Schools:** In 2001-02 a total of approximately 8,677 students were enrolled in the DJUSD's nine elementary schools, two junior high schools, one high school, one continuation high school, and one independent study program. The DJUSD estimates student enrollment based on a rate of 0.69 student per single-family residential unit and 0.44 student per multi-family residential unit in its service area.

- **Libraries:** UC Davis currently has four main libraries, distributed among the academic centers of the central campus, which serve students, faculty, staff, and the general public, including: Shields Library (the main campus library located centrally on the core campus), the Carlson Health Sciences Library, the Law Library, and the Physical Sciences and Engineering Library.

### Project Site

The proposed south campus project site is currently used for irrigated pasture and storage of electrical substation equipment. The proposed central campus project site is currently used for storage and staging for campus Operations & Maintenance services. There are no existing or planned public service facilities (fire, police, schools or libraries) on or adjacent to either site.
7.13.2 2003 LRDP EIR Standards of Significance

The 2003 LRDP EIR considers a public services impact significant if growth under the 2003 LRDP would:

- Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services.

Effects associated with recreation services are evaluated in Section 7.14, Recreation, and effects associated with the capacity of the domestic fire water system to provide adequate fire protection are evaluated in Section 7.16, Utilities.

7.13.3 2003 LRDP EIR Impacts and Mitigation Measures

Impacts of campus growth under the 2003 LRDP through 2015-16 on public services are evaluated in Section 4.12 of the 2003 LRDP EIR. As analyzed in Section 4 of this Initial Study, the proposed project is within the scope of analysis in the 2003 LRDP EIR and would not contribute to public service impacts.

7.13.4 Environmental Checklist and Discussion

<table>
<thead>
<tr>
<th>Public Services</th>
<th>Potentially Significant Impact</th>
<th>Less than Significant with Mitigation</th>
<th>Impact for which 2003 LRDP EIR is Sufficient</th>
<th>Less than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Would the project…</td>
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</tr>
<tr>
<td>a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>i) Fire protection?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
</tr>
<tr>
<td>ii) Police protection?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
</tr>
<tr>
<td>iii) Schools?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
</tr>
<tr>
<td>iv) Parks?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
</tr>
<tr>
<td>v) Other public facilities?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
</tr>
</tbody>
</table>

a, i&ii) UC Davis and Regional Fire and Police Protection

The proposed project would be located on two physically separate sites on the south and central campuses. The project would not increase the campus population, and is not expected to result in an increase in the demand for campus fire and police services or regional fire and police services above the demand that is anticipated under the 2003 LRDP. No impact is expected.

a, iii) Schools
The proposed project would not increase the campus population and, accordingly, would not contribute to the number of school-age persons living in the region. No impact on school demand would occur.

a, iv) Effects associated with parks are evaluated in Section 7.14, Recreation.

a, v) Libraries

The proposed project would not increase the campus population, and thus would not increase demand on library resources and access in the region. No impact would occur.

**Summary**

No mitigation measures from the 2003 LRDP EIR are relevant to the proposed project. The proposed project would not exceed the levels of significance of public service impacts previously addressed in the 2003 LRDP EIR, nor would it introduce any new significant public service impacts that were not previously addressed.
7.14 RECREATION

7.14.1 Background

Section 4.13 of the 2003 LRDP EIR addresses the environmental effects associated with modifying recreational resources to meet campus growth under the 2003 LRDP. The following discussion summarizes information presented in the ‘Setting’ subsection of Section 4.13 of the 2003 LRDP EIR.

UC Davis contains many park-like areas and recreation facilities. Park facilities at UC Davis range in size from small picnic and landscaped areas within campus housing areas to extensively landscaped areas in the academic core of the central campus, such as the Arboretum. Areas such as the Quad, the landscaped areas along A Street and Russell Boulevard, the Putah Creek Riparian Reserve in the west campus, and many areas within the Arboretum are used regularly by members of the UC Davis campus and visitors to the campus.

Recreation facilities on the campus include structures, bike paths, and fields used for physical education, intercollegiate athletics, intramural sports, sports clubs, and general recreation. Recreation structures include Hickey Gym, Recreation Hall, the Recreation Swimming Pool, and Recreation Lodge. In addition, two major campus recreation facilities are currently under construction: the Activities and Recreation Center and the Schaal Aquatic Center. The general public may purchase privilege cards to use some campus recreation facilities, or may join community or campus organizations that have access to some facilities.

Project Site

The proposed south campus project site is currently used for irrigated pasture and storage of electrical substation equipment. The proposed central campus project site is currently used for storage and staging for campus Operations & Maintenance services. There are no existing or planned recreation facilities on or adjacent to either site.

7.14.2 2003 LRDP EIR Standards of Significance

The 2003 LRDP EIR considers a recreation impact significant if growth under the 2003 LRDP would:

- Increase the use of existing neighborhood and regional parks or other recreation facilities such that substantial physical deterioration of the facility would occur or be accelerated.
- Propose the construction of recreation facilities or require the expansion of recreation facilities, which might have an adverse physical effect on the environment.

7.14.3 2003 LRDP EIR Impacts and Mitigation Measures

Impacts of campus growth under the 2003 LRDP through 2015-16 associated with recreation are evaluated in Section 4.13 of the 2003 LRDP EIR. As analyzed in Section 4 of this Initial Study, the proposed project is within the scope of analysis in the 2003 LRDP EIR and would not contribute to recreation impacts as identified in the 2003 LRDP EIR.

7.14.4 Environmental Checklist and Discussion

<table>
<thead>
<tr>
<th>RECREATION</th>
<th>Potentially Significant Impact</th>
<th>Less than Significant with Mitigation</th>
<th>Impact for which 2003 LRDP EIR is Sufficient</th>
<th>Less than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Would the project…</td>
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</tbody>
</table>
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated? ☑

b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment? ☑

a,b) The proposed project would not increase the campus population, would not add to the demand for parks or recreational facilities on or off campus, and would not include any indoor or outdoor recreational facilities.

**Summary**

No mitigation measures from the 2003 LRDP EIR are relevant to the proposed project to reduce the significance of recreation-related impacts to the extent feasible. The proposed project would not exceed the levels of significance of recreation impacts previously addressed in the 2003 LRDP EIR, nor would it introduce any new significant recreation impacts that were not previously addressed.
7.15 **TRANSPORTATION, CIRCULATION, & PARKING**

7.15.1 **Background**

Section 4.14 of the 2003 LRDP EIR addresses the transportation, circulation, and parking effects of campus growth under the 2003 LRDP. The following discussion summarizes information presented in the ‘Setting’ subsection of Section 4.14 of the 2003 LRDP EIR.

**Campus**

UC Davis is served by six main campus roadways or “gateways” that connect the campus to residential and downtown areas in the City of Davis, and two gateways that provide direct access to regional freeways (I-80 and SR 113). Circulation within the central campus is accommodated primarily by the campus “loop” roadway system, which includes Russell Boulevard, A Street, New and Old Davis Road, California Avenue, and La Rue Road. Other roadways within the core campus area are restricted to transit and emergency vehicles, bicyclists, and pedestrians. Primary vehicular access to the south campus is provided by Old Davis Road, to the west campus by Hutchison Drive, and to Russell Ranch by Russell Boulevard.

Level of service (LOS) is a general measure of traffic operating conditions whereby a letter grade, from A (the best) to F (the worst), is assigned to roadway intersections. These grades represent the comfort and convenience associated with driving from the driver’s perspective. To assess the worst-case traffic conditions, LOS is measured during morning (7 to 9 AM) and afternoon (4 to 6 PM) peak commute times. The LOS of campus roadways varies. Monitoring of campus intersections during peak hours in Fall 2001 and Fall 2002 found that the Hutchison Drive/Health Sciences Drive intersection (with LOS E during the PM peak hour) was the only study intersection to operate below the campus’ operation standard (standards are identified in the following section). The campus is planning on installing a traffic signal at this intersection by fall 2006.

Bicycles are a major component of the transportation system at UC Davis and in the City of Davis. UC Davis has an extensive system of bicycle paths, which makes bicycles a popular form of travel on campus. The UC Davis Bicycle Plan (UC Davis 2002) estimates that 15,000 to 18,000 bicycles travel to the campus on a typical weekday during the Fall and Spring sessions when the weather is good.

Parking at UC Davis is provided by a combination of surface lots and parking structures. UC Davis Transportation and Parking Services (TAPS) oversees parking services on campus including selling parking passes, providing traffic control at special events, ticketing violators, and measuring parking utilization throughout campus on a quarterly basis. Approximately 14,500 parking spaces were provided on campus as of 2001-02.

**Project Site**

Access to the proposed south campus project site would be via the existing service road to the adjacent electrical substation. The existing service road connects to Old Davis Road. Access to the proposed central campus project site would be from an existing service road off of Putah Creek Lodge Road. The service roads do not have bicycle or pedestrian lanes. Both proposed sites would accommodate parking for service vehicles on site. Construction staging and parking would be accommodated on site as well.

7.15.2 **2003 LRDP EIR Standards of Significance**
The 2003 LRDP EIR considers a transportation, circulation, and parking impact significant if growth under the 2003 LRDP would:

- Cause an increase in the traffic that may be substantial in relation to the existing roadway capacity of the street system as indicated by LOS standards for congestion at intersections.

The addition of project traffic causing a LOS change from acceptable to unacceptable would have a significant impact. The following LOS thresholds apply to the study intersections.

- LOS D is the minimum acceptable LOS for UC Davis.
- LOS E is the minimum acceptable LOS for the City of Davis. LOS F is acceptable for the City of Davis Core Area.
- LOS E is the minimum acceptable LOS for I-80 and its associated interchanges.
- LOS C is the minimum acceptable LOS for SR 113 and its associated interchanges.

In addition, the project would have a significant impact if the project adds 10 or more vehicles to the volume of a study intersection that is expected to operate unacceptably without the project. For intersections that operate unacceptably without the project, even a small amount of additional traffic could increase the delay. For this EIR, future volumes are rounded to the nearest 10; therefore, 10 vehicles is the minimum amount of traffic that could be added to an intersection already operating at an unacceptable level.

Increased intersection congestion would also be a significant impact if it would exceed a LOS standard established by the county congestion management agency (or any affected agency or jurisdiction) for designated roads or highways.

- LOS E is the minimum acceptable LOS for roadways and intersections in Solano County.
- LOS E is the minimum acceptable LOS for I-80 and its associated interchanges between the Solano County limit and Olive Drive.
- LOS E is the minimum acceptable LOS for SR 113 and its associated interchanges within the Davis city limits.
- LOS E is the minimum acceptable LOS for Russell Boulevard between SR 113 and B Street.
- LOS E is the minimum acceptable LOS for Richards Boulevard between First Street and I-80.
- LOS E is the minimum acceptable LOS for First Street between B Street and Richards Boulevard.
- LOS E is the minimum acceptable LOS for B Street between First Street and 5th Street.

- Result in inadequate parking capacity.

For parking, a project would be considered to have a significant impact if it 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 without adequate time (usually 24 months) to implement a parking solution to campus construction standards.

- Conflict with applicable adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks).
Impacts related to safety risks associated with the UC Davis airport and emergency access are discussed in Section 7.7 Hazards and Hazardous Materials. The 2003 LRDP would make only limited changes to the roadway network and would not create or increase hazards due to design features such as dangerous intersections.

### 7.15.3 2003 LRDP EIR Impacts and Mitigation Measures

Impacts of campus growth under the 2003 LRDP through 2015-16 on traffic, circulation, and parking are evaluated in Section 4.14 of the 2003 LRDP EIR. As analyzed in Section 4 of this Initial Study, the proposed project is within the scope of analysis in the 2003 LRDP EIR. The proposed project would not contribute to transportation, circulation, or parking impacts identified in the 2003 LRDP EIR.

### 7.15.4 Environmental Checklist and Discussion

<table>
<thead>
<tr>
<th>TRANSPORTATION, CIRCULATION, &amp; PARKING</th>
<th>Potentially Significant Impact</th>
<th>Less than Significant with Mitigation</th>
<th>Impact for which 2003 LRDP EIR is Sufficient</th>
<th>Less than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Would the project…</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
</tr>
<tr>
<td>b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
</tr>
<tr>
<td>c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
</tr>
<tr>
<td>d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
</tr>
<tr>
<td>e) Result in inadequate emergency access?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
</tr>
<tr>
<td>f) Result in inadequate parking capacity?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
</tr>
<tr>
<td>g) Conflict with applicable adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
</tr>
</tbody>
</table>

a,b) The proposed project would not result in additional trips to or from the campus during the A.M. or P.M. peak hours because no additional staff would be employed to operate the expanded substation. No impact would occur.

c) Impacts related to safety risks associated with the UC Davis airport are discussed in Section 7.7, Hazards and Hazardous Materials.

d) The proposed project potentially would make only limited changes to the roadway network by possibly paving an existing gravel service road on the south campus site. The project would not create or increase hazards due to design features such as dangerous intersections or incompatible uses. The project would not add to the bicycles, pedestrians, and transit use on the core campus.
e) Impacts related to emergency access are discussed in Section 7.7, Hazards and Hazardous Materials.

f) The proposed project would not generate additional parking demand. No impact would occur.

g) The proposed project would not increase the campus population and would not, therefore, increase the demand for transit services. No impact would occur.

**Summary**

No mitigation measures from the 2003 LRDP EIR are relevant to the proposed project to reduce the significance of transportation, circulation, and parking impacts. The proposed project would not exceed the levels of significance of transportation, circulation, and parking impacts previously addressed in the 2003 LRDP EIR, nor would it introduce any new significant impacts that were not previously addressed.
7.16 Utilities & Service Systems

7.16.1 Background

Section 4.15 of the 2003 LRDP EIR addresses the effects of campus growth on utility systems under the 2003 LRDP. The campus provides the following utility and service systems to campus projects:

- Domestic/Fire Water
- Wastewater
- Electricity
- Utility Water
- Solid Waste
- Natural Gas
- Agricultural Water
- Chilled Water
- Telecommunications
- Storm Drainage
- Steam

The campus is required to comply with a UC-wide green building policy and clean energy standard. The policy encourages principles of energy efficiency and sustainability in the planning, financing, design, construction, renewal, maintenance, operation, space management, facilities utilization, and decommissioning of facilities and infrastructure to the extent possible, consistent with budgetary constraints and regulatory and programmatic requirements. In addition, the policy aims to minimize increased use of non-renewable energy by encouraging programs addressing energy efficiency, local renewable power and green power purchases from the electrical grid (UC Office of the President 2003).

Project Site

The proposed project would use campus utilities and service systems including solid waste, electricity and telecommunications. These utilities and service systems are discussed below:

- **Solid Waste**: UC Davis provides solid waste collection and recycling services for the campus. All nonrecycled and nonhazardous solid wastes collected on campus are disposed at the campus owned and operated Class III sanitary landfill located in the west campus west of County Road 98 and north of Putah Creek. The campus sends approximately 8,700 tons of solid waste to the campus landfill per year (approximately 34 tons per working day). In addition, approximately 3,300 tons of wastes from the UC Davis Medical Center in Sacramento are disposed at the landfill each year. The permitted capacity of the landfill is 500 tons per day, and the landfill unit currently being used has anticipated capacity to serve the campus needs through 2023. In 2001-02, approximately 10,804 tons of materials were diverted for recycling and reuse. The amount of materials diverted represents approximately 55 percent of the total waste generated on campus. The proposed project is not anticipated to generate any unusual waste, nor to generate more than a minimal amount of typical waste.

- **Electricity**: The main campus currently receives electricity from PG&E at the campus substation located south of I-80 and from an approximately 2.7 MW cogeneration plant located on the core campus in the CHCP facility. The campus electrical system has an available capacity of 64.4 megawatts (MW). Annual electrical usage on campus in 2001-02 was approximately 200 million kilowatt-hours (KWh) per year and peak demand was approximately 34,000 KW. The proposed project would upgrade the existing campus electrical system by both adding capacity and improving distribution for the electrical system. The proposed project would include one new 30 MVA transformer, a 1,200 amp circuit, and new distribution lines from the new substation to the new Thermal Energy Storage (TES) tank site switchgear, near Fleet Services and north of the UC Davis Arboretum, and new lines from the TES switchgear to the Health Sciences District switchgear, via existing duct bank. A second connection would be made from Pacific Gas & Electric (PG&E) transmission lines to
the expanded substation in order to increase system reliability. Climate-controlled switchgear enclosures on both the south and central campus sites and a control room on the south campus site would be installed to house the switchgears and related control equipment. The new distribution lines would be located in an existing duct bank on the central campus site, however a new extension of that duct bank may be needed from the existing bank to the new switchgear enclosure on the central campus site. The project would require minimal electricity to operate the equipment and climate control units for the switchgear enclosures, but the system would have adequate capacity to meet project needs with the increased capacity provided by implementation of the project.

- **Telecommunications**: The majority of all telephone, data, video, and wireless infrastructure and facilities on campus are owned by the campus and operated by the UC Davis Communications Resources Department. The main campus switching facility is located in the Telecommunications Building. As new buildings are constructed, the Communications Resources Department coordinates with the UC Davis Office of Architects and Engineers to design and direct the installation of intra- and inter-building telecommunications facilities in accordance with established standards. The proposed project would require telecommunications connections for installing emergency telephone service. The connection points have not been identified yet, but adequate capacity exists in the system to handle the project’s telecommunications needs, and the project would connect to the nearest exchanges.

### 7.16.2 2003 LRDP EIR Standards of Significance

The 2003 LRDP EIR considers a utilities and service systems impact significant if growth under the 2003 LRDP would:

- Exceed the Central Valley Regional Water Quality Control Board’s wastewater treatment requirements.
- Require or result in the construction or expansion of water or wastewater treatment facilities, which would cause significant environmental effects.
- Require or result in the construction or expansion of storm water drainage facilities, which could cause significant environmental effects.
- Result in the need for new or expanded water supply entitlements.
- Exceed available wastewater treatment capacity.
- Be served by a landfill with insufficient permitted capacity to accommodate the project’s solid waste disposal needs.
- Fail to comply with applicable federal, state, and local statutes and regulations related to solid waste.
- Require or result in the construction or expansion of electrical, natural gas, chilled water, or steam facilities, which would cause significant environmental impacts.
- Require or result in the construction or expansion of telecommunication facilities, which would cause significant environmental impacts.

### 7.16.3 2003 LRDP EIR Impacts and Mitigation Measures

Impacts of campus growth under the 2003 LRDP through 2015-16 on utilities and service systems are evaluated in Section 4.15 of the 2003 LRDP EIR. As analyzed in Section 4 of this Initial Study, the
The proposed project is within the scope of analysis in the 2003 LRDP EIR. Significant and potentially significant utilities and service systems impacts identified in the 2003 LRDP EIR that are relevant to the proposed project are presented below with their corresponding levels of significance before and after application of mitigation measures identified in the 2003 LRDP EIR. In addition, impacts 4.15-6 and 4.15-9, presented below, are considered less than significant prior to mitigation, but mitigation measures were identified in the 2003 LRDP EIR to further reduce the significance of these impacts. Less than significant impacts that do not include mitigation are not presented here.

### 2003 LRDP EIR Impacts

<table>
<thead>
<tr>
<th>Utilities &amp; Service Systems</th>
<th>Level of Significance Prior to Mitigation</th>
<th>Level of Significance After Mitigation</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.15-6</td>
<td>Implementation of the 2003 LRDP would require the expansion of the campus electrical system, which would not result in significant adverse environmental impacts.</td>
<td>LS</td>
</tr>
</tbody>
</table>

Levels of Significance: LS=Less than Significant, S=Significant, PS=Potentially Significant, SU=Significant and Unavoidable

Mitigation measures in the 2003 LRDP EIR that are applicable to the proposed project are presented below. Since these mitigation measures are already being carried out as part of implementation of the 2003 LRDP, they will not be readopted in this Initial Study or Negative Declaration. The benefits of these mitigation measures will be achieved independently of considering them as specific mitigation measures of this project. Nothing in this Initial Study in any way alters the obligations of the campus to implement 2003 LRDP EIR mitigation measures.

### 2003 LRDP EIR Mitigation Measures

<table>
<thead>
<tr>
<th>Utilities &amp; Service Systems</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.15-6(a)</td>
</tr>
<tr>
<td>4.15-6(b)</td>
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</tbody>
</table>

### 7.16.4 Environmental Checklist and Discussion

<table>
<thead>
<tr>
<th>Utilities &amp; Service Systems</th>
<th>Potentially Significant Impact</th>
<th>Less than Significant with Mitigation</th>
<th>Impact for which 2003 LRDP EIR is Sufficient</th>
<th>Less than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?</td>
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<tr>
<td>b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?</td>
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<td>☐</td>
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<td>☐</td>
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</tr>
<tr>
<td>c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
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</tbody>
</table>
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed? □ □ □ □ □ ☑

e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the providers existing commitments? □ □ □ □ □ ☑

f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs? □ □ □ ☑ □ □

g) Comply with federal, state, and local statutes and regulations related to solid waste? □ □ □ □ □ ☑

h) Require or result in the construction or expansion of electrical, natural gas, chilled water, or steam facilities, which would cause significant environmental impacts? □ □ □ ☑ □ □

i) Require or result in the construction or expansion of telecommunication facilities, which would cause significant environmental impacts? □ □ □ ☑ □ □

a) The proposed project would not contribute effluent to the campus wastewater treatment plant; therefore, no impact would occur.

b,d,e) Domestic and Utility Water Facilities

The project would not connect to the campus domestic water or utility water system. The project would not add any domestic or utility water extraction and conveyance systems or increase demand for domestic or utility water; therefore, no impact would occur.

Wastewater Facilities

The project would not contribute to regional population growth and would not add campus population. The project would not contribute effluent to the campus sanitary sewer system, nor contribute to a campus or cumulative demand for wastewater treatment facilities in the region; therefore, no impact would occur.

c) The proposed project would not require a connection to the campus storm water drainage system at either the south or the central campus sites. Storm drainage would be retained on site at the proposed south campus location, and the site would be covered with a crushed gravel bed which would allow continued infiltration of storm water. The central campus location currently flows to the street drains along Putah Creek Lodge Road, which ultimately feed into the Arboretum Waterway. The proposed project would remove the existing open overhead shade structure on the central campus site and install an enclosure on a concrete pad to house switchgear and monitoring equipment. It is anticipated that there would be no change in the net stormwater runoff. No impact would occur.

d) The waste disposal needs of the proposed project would be served by the campus landfill. As identified in the 2003 LRDP EIR, given the demands anticipated under the 2003 LRDP (including the proposed project), the life expectancy of the campus landfill is to 2023. Therefore, the campus landfill would have adequate capacity to serve the proposed project and the impact would be less than significant.
g) The proposed project is not anticipated to generate any atypical solid wastes. The proposed project would comply with all applicable statutes and regulations related to solid waste. Therefore, no impact would occur.

h) The project would not require natural gas, chilled water, or steam connections. The 2003 LRDP EIR identified that growth under the 2003 LRDP would require the expansion of the campus electrical system (LRDP Impact 4.15-6). The proposed project would increase capacity and improve distribution for the campus electrical system through the addition of a transformer and distribution lines from the substation to the TES switchgear through an existing duct bank to provide more electricity to the campus. The project would include additional distribution lines from the TES switchgear to the Health Sciences District switchgear, through an existing duct bank. This aspect of the project would not require any construction activity involving trenching or ground disturbance. Wires would be threaded through the existing duct bank and connected to the switchgear by having one medium-sized truck spool the wire, while on the other end of the duct bank, another mid-sized truck with a gear system would pull the wire through. The project would use existing duct banks to run distribution lines from the substation expansion to the central campus. The project may require some additional duct bank installation to bring the new distribution lines from an existing underground vault on the central campus project site to the proposed switchgear enclosure, which would involve trenching. Electrical utility extensions required by the proposed project would be constructed within a previously disturbed area. The campus would perform monitoring during construction (in compliance with 2003 LRDP Mitigations 4.4-1 and 4.5-1) to avoid inadvertent biological and cultural resource impacts. Therefore, environmental effects associated with utility extensions would be less than significant. LRDP Mitigations 4.15-6(a,b) included in the proposed project, would further reduce the significance of this impact by requiring the campus to continue to incorporate energy efficient design elements, meet or exceed Title 24 energy conservation requirements, and review the project to determine if the relevant utility supply is adequate at the point of connection and if any upgrades to the utility system are required. The Regent’s Policy on Green Building Design and Clean Energy Standards, adopted July 17, 2003, set a goal for all new building projects, other than acute-care facilities, approved after the 2004-05 fiscal year, to outperform the required provisions of the California Energy Code (Title 24) energy-efficiency standards by at least 20 percent. The proposed project would comply with relevant policy requirements.

i) The proposed project would require telecommunications connections for installing emergency telephone service. The connection points have not been identified yet, but adequate capacity exists in the system to handle the project’s telecommunications needs, and the project would connect to the nearest exchanges. No upgrades to the telecommunications system are required as a result of this project, thus no impact would occur.

Summary

Mitigation measures 4.15-6(a,b) from the 2003 LRDP EIR are relevant to the proposed project and reduce the significance of utility and service system impacts to the extent feasible. The proposed project would not exceed the levels of significance of utility and service system impacts previously addressed in the 2003 LRDP EIR, nor would it introduce any new significant impacts that were not previously addressed.
## Mandatory Findings of Significance

<table>
<thead>
<tr>
<th>Mandatory Findings of Significance</th>
<th>Potentially Significant Impact</th>
<th>Less than Significant with Mitigation</th>
<th>Impact for which 2003 LRDP EIR is Sufficient</th>
<th>Less than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>Would the project…</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?</td>
<td>☐</td>
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<tr>
<td>b) Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?</td>
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<tr>
<td>c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?</td>
<td>☐</td>
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</tbody>
</table>

a) The proposed project would not significantly affect fish or wildlife habitat, nor would it eliminate examples of California history or prehistory. Cumulative regional impacts could be significant, but mitigation measures to reduce these potentially significant impacts to less-than-significant levels are not available or are not within the jurisdiction of the University of California to enforce and monitor. These impacts were adequately analyzed in the 2003 LRDP EIR and fully addressed in the Findings and Statement of Overriding Considerations adopted by The Regents in connection with its approval of the 2003 LRDP. No conditions have changed and no new information is available since certification of the 2003 LRDP EIR that would alter this previous analysis.

b,c) The proposed project would not contribute to significant unavoidable impacts identified in the 2003 LRDP EIR related to: noise, population and housing, public services, recreation, transportation/circulation, and utilities and service systems. It would incrementally contribute to, but would not exceed, significant and unavoidable impacts related to: aesthetics, agriculture resources, air quality, biological resources, cultural resources, and hydrology and water quality. These impacts were adequately analyzed in the 2003 LRDP EIR and fully addressed in the Findings and Statement of Overriding Considerations adopted by The Regents in connection with its approval of the 2003 LRDP. No conditions have changed and no new information is available since certification of the 2003 LRDP EIR that would alter this previous analysis.
8 FISH & GAME DETERMINATION

Based on the information presented in this Tiered Initial Study, the project has a potential to adversely affect wildlife or the habitat upon which wildlife depend. Therefore, a filing fee will be paid.

_____ Certificate of Fee Exemption

__X__ Pay Fee
9 REFERENCES

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10 AGENCIES & PERSONS CONSULTED

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Damon Williams, Superintendent, UC Davis Operations & Maintenance

Kurt Wengler, Project Manager, UC Davis Architects & Engineers

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Matthew Dulcich, Associate Environmental Planner, UC Davis Office of Resource Management and Planning

Sid England, Director of Environmental Planning, UC Davis Office of Resource Management and Planning
APPENDIX A
PROPOSED NEGATIVE DECLARATION
PROPOSED NEGATIVE DECLARATION

**Lead Agency:** University of California

**Project Proponent:** University of California, Davis

**Project Location:** Solano County, UC Davis, south of Interstate 80 and east of Old Davis Road; and Yolo County, UC Davis, south of La Rue Road and west of Putah Creek Lodge Road

**Project Description:** The Electrical Improvements Phase 3 project would include one new 30 MVA transformer, a 1,200 amp circuit, new distribution lines from the expanded substation to the new Thermal Energy Storage (TES) tank site switchgear, north of the UC Davis Arboretum, and new distribution lines from the TES switchgear to the Health Sciences District switchgear, through existing duct banks. A second connection would be made from Pacific Gas & Electric (PG&E) transmission lines to the expanded substation in order to increase system reliability. An approximately 600 gross square feet (gsf) prefabricated switchgear enclosure and an approximately 300 gsf prefabricated control room would be installed on the south campus to house a switchgear and related monitoring and control equipment. An approximately 1,000 gsf prefabricated switchgear enclosure would be installed on the central campus to house the switchgear.

**Mitigation Measure:** No project-specific mitigation measures are required in addition to relevant mitigation measures from the 2003 Long Range Development Plan Environmental Impact Report.

**Reference:** This Proposed Negative Declaration incorporates by reference in their entirety the text of the Tiered Initial Study prepared for the project, the 2003 LRDP, and the 2003 LRDP EIR.

**Determination:** In accordance with CEQA, a Draft Tiered Initial Study has been prepared by UC Davis that evaluates the environmental effects of the proposed project. On the basis of the project's Draft Tiered Initial Study the campus found that the proposed project would not have a significant effect on the environment that has not been previously addressed in the 2003 LRDP EIR.

**Public Review:** In accordance with Section 15073 of the CEQA Guidelines, the Draft Tiered Initial Study for the project will be circulated for public and agency review from September 2, 2005 to October 3, 2005. Comments received during the review period and responses to these comments will be presented in the final Tiered Initial Study.