

UC DAVIS
ADVANCED TRANSPORTATION
INFRASTRUCTURE RESEARCH CENTER

Initial Study and
Tiered Mitigated Negative Declaration

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

State Clearinghouse No. 2007012104

Prepared By:

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1 PROJECT INFORMATION

Project title:

Advanced Transportation Infrastructure Research Center

Project location:

University of California, Davis
Yolo

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 guides 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 Advanced Transportation Infrastructure Research Center (ATIRC) (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 guides 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 result in a new potentially significant impact that was not previously identified in the 2003 LRDP EIR, but a project-specific mitigation measure would reduce this potential impact to a less-than-significant level. Therefore, preparation of a Mitigated Negative Declaration is appropriate (the Proposed Mitigated Negative Declaration is presented in Appendix A).

This Initial Study concludes that many potentially significant project impacts 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.

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. None of the conditions described in CEQA or the CEQA Guidelines calling for preparation of a subsequent or supplemental EIR have occurred.

2.3 PUBLIC AND AGENCY REVIEW

The Draft Tiered Initial Study was circulated for public and agency review from January 25, 2007 to February 23, 2007. Copies of the document, the 2003 LRDP, and the 2003 LRDP EIR were 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 5:00 PM on February 23, 2007 and can be e-mailed to environreview@ucdavis.edu or sent to:

John A. Meyer
Vice Chancellor - Resource Management and Planning
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One Shields Avenue
376 Mrak Hall
Davis, CA 95616

During the public review period, one comment was submitted from the State of California Department of Water Resources. The comment from the Department of Water Resources provided permit information for projects that could encroach on an adopted flood control plan. The proposed ATIRC project would not encroach on an adopted flood control plan and the comment resulted in no changes to the tiered initial study.

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 chancellor by The Board of Regents of the University of California (The Regents) and is expected to be considered by the campus' Facilities and Enterprise Policy Committee in April 2007.

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 – Fish and Game Determination: indicates if the project has a potential to impact wildlife or habitat and if an associated Fish and Game filing fee would be paid.

Section 9 – References: lists references used in the preparation of this document.

Section 10 – Agencies and Persons Consulted: provides the names of individuals contacted in preparation of this document.

Section 11 – Report Preparers: lists the names of individuals involved in the preparation of this document.

Appendix A –Mitigated Negative Declaration: presents the Mitigated Negative Declaration for the project.

Appendix B –Mitigation Monitoring Plan: summarizes implementation guidelines for the Project-Specific Mitigation Measure that were not previously identified in the 2003 LRDP EIR.

Appendix C –Comments Received: contains the comment that was received during the public comment period.

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 3.1). 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

The UC Davis Advanced Transportation Infrastructure Research Center (ATIRC) project would provide a facility for two research programs: the Pavement Research Center (PRC) and the Advanced Highway Maintenance and Construction Technology Research Center (AHMCT).

The PRC is moving from UC Berkeley to UC Davis. Research at the PRC will be conducted in a variety of areas including geotechnical engineering, construction engineering and management, traffic engineering, material, mechanics, performance modeling, systems analysis and economics, information management, and planning. Undergraduate and graduate courses would be taught at the facility.

Investigators at the AHMCT conduct research on the methods for automating highway maintenance and construction activities for the purposes of improving highway safety, efficiency and safety of highway maintenance and construction activities, and reliability of highway infrastructure, and of minimizing congestion delays and minimizing the environmental impacts of highway maintenance and construction activities.

The four-acre ATIRC project includes (1) the construction of two paved test tracks for pavement testing and equipment evaluation; (2) construction of 42,800 gross square feet (gsf) (26,000 assignable square feet (asf)) of new buildings to provide laboratory space, offices, meeting rooms, and shop space; and (3) site development (parking areas, drainage facilities, access roads, landscaping, lighting, and fencing) needed to support the proposed facilities. Construction of the proposed facilities would occur in phases with the first phase expected to start construction in late 2007 and future phases to be constructed as funding becomes available. The proposed project would increase the campus population by approximately 40 people (faculty and staff). The ATIRC project would be located on the West Campus at UC Davis approximately 1,000 feet west of the intersection of Hopkins Road and the Airport Road as shown on Figures 2, 3, and 4.

Figure 4 Project Site Plan and Phases

3.3 PROJECT SITE

The ATIRC project site is located on the West Campus at UC Davis and consists of approximately four acres. The project site is approximately 2,000 feet west of the runways at the campus airport and approximately 1,500 feet south of Hutchison Drive. The project site can be accessed by traveling south on Hopkins Road from Hutchison Drive and then turning west on a new service road south of the Contained Research Building (Figure 3.3). The new service road (currently unnamed) provides access to the Contained Research Building and the Service Unit Park complex (south of the service road). The service road continues westward as a dirt and gravel field road until it reaches the project site. The service road is proposed to be developed into a paved road for the ATIRC project as described in Section 3.5.1 of this Initial Study.

The four-acre project site is a flat rectangular-shaped parcel. The land has previously been used for agricultural research but is not currently in production for agricultural products and is not being used for agricultural research. The field is mowed periodically to keep grass and weed levels low. A variety of agricultural support facilities including temporary buildings and storage sheds occupy the land to the north of the project site. To the west of the project site are UC Davis agricultural fields used for agricultural research. To the south of the project site, the UC Davis Service Unit Park is a planned complex of buildings to be constructed in phases for administrative functions such as warehousing, mail services, and maintenance. Upon completion, the Service Unit Park development will abut the southern boundary of the ATIRC project site. The eastern portion of the Service Unit Park complex is currently under construction but the western portion (closest to the ATIRC site) is not currently scheduled to start construction. To the east of the project site the vacant field was designated in the 2003 LRDP as land for *Research Park-Low Density*, as land use designation intended to provide space at UC Davis for collaborative efforts between UC Davis and non-University entities such as research corporations or governmental agencies seeking to establish a research group at UC Davis.

The 2003 LRDP designated the ATIRC site as *Research Park-Low Density*, and the proposed ATIRC development is a collaborative effort between UC Davis and a governmental entity (the California Department of Transportation) as envisioned by the 2003 LRDP *Research Park-Low Density* designation. Funding for the ATIRC project would be provided by a non-University entity to construct and operate ATIRC, and the facility would be administered by UC Davis. The proposed use would be consistent with the *Research Park-Low Density* land use designation, and the 2003 LRDP EIR (page 3-19) described that some campus uses would take place within the *Research Park-Low Density* designation (UC Davis ORMP 2003f). The ATIRC development is considered appropriate for the *Research Park-Low Density* designation and consistent with the land use planning and campus development objectives of the 2003 LRDP.

3.4 PROJECT NEED AND OBJECTIVES

The following section describes the background, need, and objectives for the ATIRC project. Section 3.4.1 describes the needs of the PRC and Section 3.4.2 describes the needs of the Advanced Highway Maintenance and Construction Technology (AHMCT) Research Center which are the two research group that are expected to most utilize the ATIRC.

3.4.1 Pavement Research Center

The University of California has been performing pavement research for more than 50 years at the PRC located at the Richmond Field Station (RFS) of the Berkeley campus. The UC Berkeley pavement

research program has a history of significant contributions to pavement research and technological advances for highway, airport, and port facilities. In the past 15 years, the PRC at UC Berkeley has received substantial support from a variety of sources, including the California state government, other state governments, the federal government, and private industry.

The current facilities at the RFS are functional but are inefficient due to facility limitations and inadequate infrastructure. Several of the facilities are exposed to the elements, such as the concrete mixing area and the asphalt rolling area, making it difficult to control specimen preparation temperatures. The laboratories do not have adequate electrical and data infrastructure making it difficult and expensive to place new equipment in the laboratory. A portion of the RFS facilities were designed and constructed in 1952 as a pavement and geotechnical materials laboratory. The materials preparation area is housed in a borrowed facility. A trailer is currently on loan to house office space. The Heavy Vehicle Simulator (HVS) site is located away from the other facilities and has limited space for test tracks.

PRC personnel include two primary faculty members, six associated faculty members, four post-doctoral researchers and research engineers, ten graduate student researchers, ten technical and administrative staff members, and twenty undergraduate student researchers. There are also visiting scholars and research sponsors that work at the Center. The faculty, staff and equipment is scheduled to relocate to the Davis campus in July 2007. The Federal Highways Administration sponsored pavement deflection equipment calibration facility (an indoor laboratory for analyzing pavement samples), currently in Nevada, closed in 2003 and will relocate to UC Davis as part of this project.

There is currently no space available at the Davis campus for the activities of the PRC. Ten UC Davis graduate students are required to travel to the Richmond Field Station on a regular basis to perform research, thesis project activities, and attend meetings with PRC staff assisting them. There are no facilities at the Davis campus for demonstrations and exercises for graduate and undergraduate pavement and materials classes. There are no facilities at the Davis campus supporting pavement research, development and technology transfer.

Research at the PRC---The Pavement Research program has performed approximately \$5 million of research annually for the past 4 years, of which approximately \$2.6 million funds staff, students, equipment, travel and overhead costs. This research is sponsored by the California Department of Transportation, other state DOTs, the Federal Highway Administration, and private industry.

The planned building and test track will support sponsored research in the following academic areas:

- Geotechnical Engineering
- Construction Engineering and Management
- Traffic Engineering Materials
- Mechanics
- Statistical Performance Modeling
- Systems Analysis/Economics
- Information Management
- Planning

Teaching at the PRC--- The laboratories and specimen preparation areas of the planned building would utilize data collection instruments embedded in the test track pavement to develop new approaches to undergraduate engineering education by emphasizing the use of real data and exposure to the collection, organization, and analysis of real data sets, as opposed to the more typical use of "canned" data sets that have been cleaned and prepared before the students use them. The test sections would be used for a

variety of measurements, including analysis of water runoff from paved and unpaved areas (an automatic weather station would also be operating on the site), ground infiltration, seasonal soil properties (suction gauges and moisture content gauges will be operating), and pavement analysis.

The laboratories and testing equipment may be used for other faculty, graduate students and undergraduate students working in materials, particularly cementitious materials, and geotechnical engineering. The full-scale pavement test sections and instrumentation also provide test beds for evaluation of storm water runoff mitigation strategies under study by environmental engineers at UC Davis. The laboratories and accelerated pavement testing test track will be used for demonstrations included in UC technology transfer courses, seminars, and classes for public and private sector industry engineers and technicians.

External Service at the PRC---The facility will house a Federal Highways Administration sponsored pavement deflection testing equipment calibration technology to serve public and private industry for the western states. This equipment is needed to conduct pavement tests to determine the suitability of certain pavement types for specific applications.

3.4.2 AHMCT Research Center

The AHMCT Research Center at UC Davis was established in 1991 and is one of the largest continually supported research centers on the UC Davis campus. The AHMCT Research Center investigates methods for automating highway maintenance and construction activities for the purposes of:

- Improving the safety of both highway workers and the traveling public.
- Improving the efficiency of highway maintenance and construction activities.
- Improving the reliability of the highway infrastructure.
- Minimizing the congestion delays brought on by highway maintenance and construction activities.
- Minimizing the negative environmental impacts of highway maintenance and construction activities.

AHMCT uses approximately 6,000 square feet of space in the core campus at UC Davis in the Academic Surge Building for Rapid Prototyping Laboratory, Computer Laboratory, Robotics Laboratory, AHMCT Center Office, and offices for the Directors, students, and staff.

A critical element of the AHMCT Center's work is the integration of the robotic and automated equipment onto vehicles for field-testing. The 3,200 asf vehicle accessible Vehicle Integration Laboratory in Walker Hall is used for assembly and fabrication of component subsystems, as well as total system integration. The laboratory needs to be relocated from Walker Hall to accommodate a seismic renovation project. The Large Vehicle Integration Laboratory is 7,500 square feet of rented off-campus space and accommodates research projects connected to large vehicles that cannot access the core of campus. Current personnel include two professors, five research engineers, four staff members, and twenty graduate students.

AHMCT personnel using engineering expertise in fabricating prototype equipment also support other programs on campus at UC Davis. For example, AHMCT is currently designing and developing the robot for the UC Davis Geotechnical Centrifuge and working with UC Davis Medical Center in the design of a CT-scan device for mammography. AHMCT also have participated in National Science Foundation (NSF) projects with other programs such as the Transportation Policy and Technology Graduate Group

and Institute of Transportation Studies (ITS). The proposed building spaces would enhance continued research programs of the AHMCT and consolidation of the AHMCT Research Center activities to the ATIRC will greatly improve the efficiency of the AHMCT. The following discussion provides additional information regarding the activities of the AHMCT.

Research at the AHMCT---The AHMCT Research Center has performed, on average, over \$2.5 million of research annually for the past 10 years. This research has been sponsored by the California Department of Transportation, other state DOTs, the Federal Highway Administration, and the National Science Foundation. The work of the AHMCT Research Center provides innovative advanced technology research and solutions that increases the efficiency of public and private sector contractors. The efforts lead to safer highways and reductions in environmental pollution. AHMCT typically deploys two new machines per year for field-testing, and has approximately 12 on-going research projects at any given time. The machines developed by the AHMCT Research Center can be expected to result in improving the efficiency of highway related operations as well as reducing injuries and deaths of the workers and the traveling public.

Teaching at the AHMCT---The AHMCT research projects are the basis for undergraduate student projects, the graduate work and theses for both MS and Ph.D. students, and research work for postdoctoral scholars. AHMCT engages approximately 20 such students.

3.4.3 Project Objectives

The objectives of the ATIRC project are to:

1. Provide adequate laboratory and office space, vehicle development space, space for component fabrication, component and machine assembly, hydraulic system testing, mechanical, electrical and system integration, and indoor qualification testing.
2. Provide test tracks for pavement research and construction vehicle evaluation. One track would replace the Richmond field station facilities. The second test track would be used for both pavement construction research as well as vehicle testing. Its primary use would be to test AHMCT machines thus removing AHMCT staff and student from public roads and parking lots. The tracks would allow for normal development testing and higher levels of testing for a variety of purposes such as endurance testing. The tracks would accommodate the PRC and AHMCT teaching and research activities on campus.
3. Solve efficiency and safety problems associated with AHMCT research. In addition to AHMCT's Academic Surge space, the facilities will accommodate the undergraduate student, graduate student, and faculty academic and research needs on campus.
4. Relocate the AHMCT activities out of the central campus to eliminate the need for AHMCT to bring large vehicles to Walker Hall into the congested area of the core campus.
5. Provide space for the Federal Highway Administration sponsored pavement deflection equipment calibration facility.
6. Consolidate the PRC at the AHMCT Research Centers to facilitate a high level of efficiency, communication, and coordination to allow the programs to operate smoothly.

3.5 PROJECT ELEMENTS

3.5.1 Buildings and Facilities

The ATIRC project would be constructed in phases as described below and shown on Figure 4. Phase 1 construction is intended to provide the basic site development needs (utilities, grading, and infrastructure) and research facilities to start conducting research at the ATIRC site. The additional phases would consolidate operations to the ATIRC site and provide the necessary support facilities to efficiently conduct the ATIRC research program.

Phase 1---Phase 1 construction would include the roadway upgrades and utility connections to serve the ATIRC, the proposed test tracks, temporary office trailers, overall site grading, fencing, landscaping, parking, and stormwater facilities. The proposed roadway upgrades consist of upgrading an existing dirt and gravel field road to a gravel road capable of supporting heavy machinery. The upgraded road would extend from Hutchison Drive to the west side of the project site, a distance of approximately 1,600 feet. The other road upgrade would consist of extending the service road from Hopkins Road that currently provides access to the Service Unit Park. The road upgrade would be up to 1,000 feet long and would change the road from a dirt road to a two-lane asphalt road. Most utility connections would be placed underneath the upgraded access road.

The Heavy Vehicle Simulator Pavement Test Track would be approximately 35 feet by 300 feet (Figure 3.4). The test track area would be used to build experimental pavement structures that would be tested using the Heavy Vehicle Simulator (HVS). The HVS is a mobile load frame used to apply wheel loads to the pavement. The HVS would operate on electrical power and adequate electrical connections would be provided to the test track site. The HVS is a very large machine that measures 70 feet long and weighs more than 70 tons. During a typical test, the HVS can be parked over a test area and once the machine is properly stabilized, a moving set of wheels can be run back and forth under very high pressure. The continuous back and forth movement of the wheels along the test pavement simulates continuous traffic from large tractor-trailer transport trucks.

The HVS can be run continuously 24 hours per day and seven days a week in order to test the durability of pavement materials and engineering. In a two to three month period, the HVS can replicate 20 years of highway use and deterioration. Through accelerated testing of pavement sections, engineers can improve the durability of highway design. These research efforts ultimately result in increased longevity of highways which consequently results in decreased costs for highway maintenance, decreased congestion from avoided construction projects, and decreased use of materials and energy that would have been used to rebuild highways. At the proposed ATIRC facility, the test track would be designed to accommodate two HVS machines operating simultaneously. One HVS would be based at the UC Davis ATIRC facility and a second HVS would occasionally be brought to UC Davis to complete special testing projects.

The Closed Circuit Vehicle Test Track would be an "L" shape that would be 1,000 feet by 30 feet (Figure 3.4). The AHMCT Research center develops first generation prototype machines for highway operations and maintenance. Examples of these include street sweepers, striper trucks for pavement markings, and other similar maintenance vehicles. The track would allow for safe and convenient qualification testing of components and machines prior to their deployment in the Caltrans work force. Machines would be tested to determine the efficiency and reliability of new equipment. By using a closed test track for this type of testing, researchers can design specific testing protocols and research techniques that would be difficult to replicate in conditions that are found on highway that are open to the general public.

Phase 2---The phase 2 construction would include new buildings to meet the space needs described below. The space will probably be constructed as two separate buildings but the detailed design effort will analyze cost factors and code requirements to better evaluate the option of constructing a single building or multiple buildings to provide the necessary space.

Advanced Vehicle Development Space (6,300 gsf): This would be a large shop space for large vehicle equipment development. This space would be air conditioned and would have forklift access with 14-foot high doors, concrete floors, and access for a compressed air supply, vacuum, and water supply.

Mechanical Operations Support Space (3,000 gsf): This space would include welding and machine shops, metal and wood materials storage, and a machinists office. The office would need to be air conditioned.

Pavement Deflection Device Calibration Space (1,500 gsf): This space would be one room used to calibrate Falling Weight Deflectometers (FWD). This room would require a special concrete floor, multiple electrical outlets, and a 10-foot roll up door. It will need a ventilation system for vehicle exhaust, but will not need to be air conditioned.

Pavement Materials Specimen Preparation Space (5,000 gsf): This space would house specimen preparation equipment for asphalt mixes, concrete materials and soils materials. Activities would include aggregate drying and sieving, concrete mixing, shaded storage for concrete aggregates and pallets of pavement slab samples, and rolling wheel compaction of asphalt concrete. These rooms would be large, ranging between about 200 and 1000 square feet. They would not need to be air conditioned. They would need forklift access with 14-foot high doors, and multiple electrical outlets. They would need concrete floors and access to house air supply, vacuum, and water. Some rooms will need drainable floors with large cleanable traps in them for removing cement and soils fines.

Phase 3---The phase 3 construction would include the 15,000 gsf Pavement Materials Laboratory and an expansion of the employee parking area to accommodate more researchers using the ATIRC as their primary place of work. The Pavement Materials Laboratory building would provide laboratory space for conducting pavement research. The one-story building would be located south of the Phase 2 building and would be oriented in an east-west direction.

Phase 4 and Phase 5---Phases 4 and 5 of the ATIRC project would construct new building space of approximately 7,000 gsf to provide permanent office space and approximately 5,000 gsf of building space for meeting and conference rooms. The building space would be constructed immediately east of the Phase 3—Pavement Materials Laboratory building.

3.5.2 Landscaping and Fencing

The ATIRC project would include landscaping along the perimeter of the site and along the stormwater detention facilities. The landscaping would include mostly native plants that would need only minimal irrigation and maintenance. The project would include a six-foot tall chainlink fence around the ATIRC perimeter to exclude people and animals from the vehicle test tracks. The fencing would be necessary to provide security and site safety during operation of the test vehicles and the heavy vehicle simulator.

3.5.3 Utilities and Infrastructure

As discussed briefly below and analyzed in Section 7.16, the proposed project would require connections to campus utilities and infrastructure including domestic water, sanitary sewer, storm drainage, electricity, natural gas, and telecommunications.

- **Domestic Water:** The ATIRC project would connect to the campus domestic water system approximately 250 feet east of the project site along the new access road and approximately 300 feet north of the project site at an existing underground water main.
- **Sanitary Sewer:** The ATIRC project would connect to the campus sanitary sewer system in one of two possible locations. The first potential connection site is approximately 250 feet east of the project site along the new access road. The second potential connection site is approximately 900 feet east of the project site at a sewer main located beneath Hopkins Road.
- **Storm Drainage:** The ATIRC project would provide stormwater detention basins within the project site in order to eliminate detain flows to campus stormwater drainage system during most storms (Figure 3.4). The new basins would be connected to the campus stormwater drainage system at a point 300 feet south and east of the project site. The basins would be designed to discharge excess stormwater during large storms to the campus drainage system which conveys water in an underground pipe to Putah Creek approximately 3,000 feet to the south.
- **Electricity:** The ATIRC project would connect to the campus electrical system approximately 250 feet south of the project site at an underground electrical vault.
- **Natural Gas:** The ATIRC project will connect to the campus natural gas system approximately 250 feet east of the project site along the new access road.
- **Telecommunications:** The proposed project would connect to the campus telecommunications system approximately 250 feet east of the project site.

3.5.4 Sustainable Design Elements

The proposed project would comply with the Regental Policy on Green Building Design and Clean Energy Standards and Sustainable Transportation, and would meet the campus baseline¹ as applicable to the project.

3.5.5 Population

The proposed project would add approximately 40 people (staff and faculty) to the campus population. Approximately 50 graduate and undergraduates would work or conduct projects at the facility but the no

¹ UC Davis has established a campus baseline, which is the minimum number of applicable *Leadership in Energy and Environmental Design* (LEED) rating system “points” that each project on the campus will achieve. With the passage of the Regental Policy on Green Building Design and Clean Energy Standards, each campus in the UC System was required to devise a campus baseline. While the UC System does not require each system campus to apply for United States Green Building Council LEED certification, the UC has committed to achieving a level of building performance comparable to that of LEED certification. The campus baseline provides the starting level of building performance objectives for all campus projects, with the exception of medical facilities.

increase is expected to the graduate or undergraduate campus population because the ATIRC affiliated students are already UC Davis students.

3.6 CONSTRUCTION SCHEDULE AND STAGING

Construction of the proposed project is anticipated to begin in late 2007. The schedule for completing construction for all phases of the ATIRC project is currently unknown and will be based on the incremental funding process for each phase. Construction of all phases could be completed by 2009 or could extend into future years. Construction staging and contractor parking associated with the proposed project would occur on the project site.

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 2003 LRDP identified the development of the proposed ATIRC site with a use that would involve a research collaboration between UC Davis and a non-university entity. The proposed development is consistent with that concept and would result in the expected density and style of development expected in the 2003 LRDP and evaluated in the 2003 LRDP EIR.

4.2 2003 LRDP LAND USE DESIGNATION

The 2003 LRDP designated the ATIRC site as *Research Park-Low Density*, and the proposed ATIRC development is a collaborative effort between UC Davis and a governmental entity (the California Department of Transportation) as envisioned by the 2003 LRDP *Research Park-Low Density* designation. Funding for the ATIRC project would be provided by a non-University entity to construct and operate ATIRC, and the facility would be administered by UC Davis. The proposed use would be consistent with the *Research Park-Low Density* land use designation, and the 2003 LRDP EIR (page 3-19) described that some campus uses would take place within the *Research Park-Low Density* designation (UC Davis ORMP 2003f). The ATIRC development is considered appropriate for the *Research Park-Low Density* designation and consistent with the land use planning and campus development objectives of the 2003 LRDP.

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 employees². In addition, the

² 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).

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 approximately 40 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.

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 by providing new facilities to support teaching and research at UC Davis and would co-locate the operations of two research groups with similar facility needs and research objectives.

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

Cluster New Development: Cluster new development areas on the edges of agricultural zones to retain larger, more usable blocks of agricultural lands. Buffer urban uses from nearby agricultural land to maintain long-term viability of agricultural uses. LRDP Agricultural Resources Objectives, page 29.

The ATIRC project is proposed for an area of campus that will concentrate new development on the UC Davis west campus into focused area that can be efficiently served by campus utilities and would avoid creating a patchwork of separate development sites that could disrupt continued use of campus agricultural lands.

Airport Zone: Maintain and expand low density academic, support, and research park uses along the Hopkins Road corridor. Include an open space setback along the west side of Hopkins Road for an off-street bike path and landscaped area to connect points north to the Putah Creek Riparian Reserve. LRDP West Campus Objectives, page 44.

The ATIRC project would establish a land use in the Airport Zone that is consistent with the uses proposed in the *Research Park-Low Density* land use designation. The project does not include the proposed setback along Hopkins Road because the ATIRC site is not adjacent to Hopkins Road.

Stormwater Runoff: Utilize on-site stormwater runoff as a resource to create ponds with habitat value. LRDP Water Resources Objectives, page 21.

The proposed project would create stormwater ponds that would include native landscaping in order to provide habitat value as well as stormwater detention.

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 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 wetland and riparian habitat (Section 7.4) and increased water extraction from the shallow/intermediate aquifers (Section 7.8)
- The proposed project would incrementally contribute to, but would not exceed, 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); 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); degraded receiving water quality (Section 7.8); increased water extraction from the deep 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); construction of wastewater treatment facilities (Section 7.16).
- The proposed project would incrementally contribute to, but would not exceed, less-than-significant cumulative impacts identified in the 2003 LRDP EIR related to: exposure to carbon monoxide concentrations (Section 7.3); 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); exceedance of storm water drainage systems (Section 7.8); discharge of treated effluent to Putah Creek (Section 7.8); inability to meet housing demand (Section 7.12); construction of libraries (Section 7.14); 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.

- | | | |
|--|---|--|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Agricultural Resources | <input type="checkbox"/> Air Quality |
| <input type="checkbox"/> Biological Resources | <input type="checkbox"/> Cultural Resources | <input type="checkbox"/> Geology, Soils & Seismicity |
| <input type="checkbox"/> Hazards & Hazardous Materials | <input type="checkbox"/> Hydrology & Water Quality | <input type="checkbox"/> Land Use & Planning |
| <input type="checkbox"/> Mineral Resources | <input type="checkbox"/> Noise | <input type="checkbox"/> Population & Housing |
| <input type="checkbox"/> Public Services | <input type="checkbox"/> Recreation | <input type="checkbox"/> Transportation, Circulation & Parking |
| <input type="checkbox"/> Utilities/Service Systems | <input type="checkbox"/> 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 proposed project would require a project-specific mitigation measure to reduce the potential effects of test equipment noise to a less-than-significant level. The Mitigated Negative Declaration is included in Appendix A.

6 DETERMINATION

On the basis of this initial evaluation:

- 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.
- The proposed project **COULD** have a significant effect on the environment that has not been previously addressed in the 2003 LRDP EIR, and a new project-specific mitigation measures, in addition to those previously identified in the 2003 LRDP EIR, is required to reduce this effect to such a point that clearly no significant impact would occur. A **MITIGATED NEGATIVE DECLARATION** will be prepared, and the proposed Mitigated Negative Declaration is included in Appendix A.
- 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

Date

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 was not previously addressed in the 2003 LRDP EIR and may be significant based on substantial evidence and the appropriate significance criteria. If the project may result in one or more Potentially Significant Impacts, an EIR is required. This Tiered Initial Study does not identify any potentially significant impacts that were not addressed in the 2003 LRDP or which can not be reduced to less than significant with implementation of a project specific mitigation measure. Therefore, no 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 identifies a potentially significant impact that was not previously addressed in the 2003 LRDP EIR and presents a project-specific mitigation measure that would reduce the effect to a less-than-significant level.
- 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, and the LRDP EIR contained an adequate project-level analysis for the impact.
- Less than Significant Impact: An effect for which only less than significant impacts result.
- 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

The ATIRC project site is an undeveloped agricultural field on the west campus at UC Davis. Views from the project site include a view of the Coast Range hills west of UC Davis and nearby UC Davis facilities to the north, south, and east. The view to the west is mostly of the western skyline toward the Coast Range and does not provide a expansive view of the Coast Range. Views toward the project site are limited because of trees that block most views from nearby roadways.

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 project-level impact 4.1-1 and cumulative impact 4.1-4, but these impacts are identified as significant and unavoidable because they are considered irreversible. Mitigation measures are relevant to reduce the magnitude of cumulative impacts 4.1-5 and 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.

2003 LRDP EIR Impacts		Level of Significance Prior to Mitigation	Level of Significance After Mitigation
AESTHETICS			
4.1-1	Development under the 2003 LRDP could have an adverse effect on scenic vistas west across agricultural lands to the Coast Range.	S	SU
4.1-3	Development under the 2003 LRDP could create substantial light or glare on campus that could adversely affect daytime or nighttime views in the area.	PS	LS
4.1-4	Development under the 2003 LRDP together with other development in the region could affect local scenic vistas west across agricultural lands to the Coast Range.	S	SU
4.1-6	Implementation of the 2003 LRDP together with cumulative development in the region would create new sources of light and glare that could adversely affect daytime or nighttime views in the region.	S	SU

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

- 4.1-1 The campus Design Review Committee shall consider scenic views while planning for projects under the 2003 LRDP to maintain scenic views to the extent feasible. Design considerations could include establishing open landscaping and deciduous trees along important view corridors.
- 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.
- 4.1-4(a) Implement LRDP Mitigation 4.1-1.
- 4.1-4(b) The City of Davis, Yolo County, and Solano County can and should implement the General Plan policies that support the long-term establishment and preservation of scenic vistas.
- 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

AESTHETICS	Potentially Significant Impact	Less than Significant with Mitigation	Impact for which 2003 LRDP EIR is Sufficient	Less than Significant Impact	No Impact
Would the project...					
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?
-

- 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 scenic vistas to the west across agricultural land to the Coast Range. The proposed project could disrupt views to the Coast Range. Although the ATIRC project would be mostly screened by existing buildings and trees, the project could contribute to some loss of views toward the Coast Range. The 2003 LRDP EIR found that development under the 2003 LRDP could have an adverse effect on scenic vistas west across agricultural lands to the Coast Range (LRDP Impact 4.1-1). In compliance with LRDP Mitigation 4.1-1, included in the project, the campus Design Review Committee would consider scenic views as part of the project planning and design process. However, as determined in the 2003 LRDP EIR, scenic views that are lost to development cannot be replaced. Therefore, this impact would be 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 has become available since certification of the 2003 LRDP EIR that would alter this previous analysis.

The 2003 LRDP EIR also found that development under the 2003 LRDP together with other development in the region could cumulatively affect local scenic vistas west across agricultural lands to the Coast Range (LRDP Impact 4.1-4). In compliance with LRDP Mitigation 4.1-4(a-b), the campus would implement LRDP Mitigation 4.1-1 (described above), and local jurisdictions can and should implement policies that support the long-term establishment and preservation of scenic vistas. While these measures would reduce the magnitude of this impact, lost access to scenic vistas is considered irreversible, and 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 has become available since certification of the 2003 LRDP EIR that would alter this previous analysis.

- b,c) The campus is not located near a state scenic highway. 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. No valued elements are located at the project site. 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). The proposed project would include site lighting that could contribute to light and glare impacts. 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 has become available since certification of the 2003 LRDP EIR that would alter this previous analysis.

Summary

Mitigation measures 4.1-1, 4.1-3 (a-d), 4.1-4 (a,b), 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 AGRICULTURAL RESOURCES

7.2.1 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.

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.

Project Site

The FMMP designates the project site as Prime Farmland. Surrounding the project site, the FMMP designates land to the east and north as Urban and Built-Up land while land to the south is designated as Prime Farmland. The 2003 LRDP EIR anticipated that the project site would be subject to conversion from Prime Farmland during the implementation period of the 2003 LRDP.

7.2.2 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.

2003 LRDP EIR Impacts		Level of Significance Prior to Mitigation	Level of Significance After Mitigation
AGRICULTURAL RESOURCES			
4.2-1	Growth under the 2003 LRDP would convert approximately 745 acres of prime farmland (as defined by the State Farmland Mapping and Monitoring Program) on campus to nonagricultural uses.	S	SU
4.2-3	Cumulative development would result in the conversion of prime farmland, unique farmland, and/or farmland of statewide importance to nonagricultural use.	S	SU

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

AGRICULTURAL RESOURCES

4.2-1	Prior to conversion of prime farmland to nonagricultural uses under the 2003 LRDP, the campus shall preserve approximately 525 acres of prime farmland either at the Russell Ranch, within the area designated for Teaching and Research Fields, or 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.
4.2-3	Implement LRDP Mitigation 4.2-1.

7.2.4 Environmental Checklist and Discussion

AGRICULTURAL RESOURCES	Potentially Significant Impact	Less than Significant with Mitigation	Impact for which 2003 LRDP EIR is Sufficient	Less than Significant Impact	No Impact
Would the project...					
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<p>a) The FMMP designates the project site as Prime Farmland. Surrounding the project site, the FMMP designates land to the east and north as Urban and Built-Up land while land to the south is designated as Prime Farmland. The project would convert four acres of prime farmland. The 2003 LRDP EIR anticipated that the project site would be subject to conversion from Prime Farmland during the implementation period of the 2003 LRDP. Because the proposed project would convert Prime Farmland to a non-agricultural use, LRDP Mitigation Measure 4.2-1 (mitigation for farmland loss) and 4.2-3 (cumulative impact associated with loss of prime farmland) are relevant to the proposed project. LRDP Mitigation 4.2-1 would be implemented to designate approximately four acres of prime farmland for preservation (at a ratio of one acre preserved for each acre converted). The 2003 LRDP EIR identifies impacts 4.2-1 and 4.2-3 as significant and unavoidable because they are considered irreversible. Impacts on farmland were fully addressed in LRDP Mitigation 4.2-1 to reduce the significance of agricultural impacts to the extent feasible. 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 has become available since certification of the 2003 LRDP EIR that would alter this previous analysis. The campus continues to investigate land areas that would be appropriate to designate as prime farmland in compliance with LRDP Mitigation 4.2-1. At this time, the Russell Ranch or Kidwell parcels may still be used for this purpose. Prior to converting the agricultural field for the ATIRC project, the Chancellor will select a site for ATIRC farmland preservation.</p> <p>b) Campus lands are state lands and are not eligible for Williamson Act agreements, nor are they subject to local zoning controls. Therefore, the proposed project would not conflict with an existing zoning for agricultural use or a Williamson Act contract, and no impact would occur.</p> <p>c) The proposed project would not result in other changes that could result in conversion of Farmland to non-agricultural use. The proposed ATIRC project would not be affected by off-site on-going agricultural uses the west of the project site and the adjacent agricultural uses would not be affected by the ATIRC activities. The proposed project would enhance an existing agricultural field road to allow for occasional delivery of large machinery to the project site. The deliveries would occur two to four times per year for one to two hours each. During ATIRC use of the road, agricultural vehicles would need to use parallel roads or wait for the machinery to pass. The potential impact would be less-than-significant because of the limited duration and use of the road.</p>					

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, the 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 (PM_{2.5}). Ozone is evaluated by assessing emissions of its precursors: reactive organic gases (ROG) and NO_x.

Toxic air contaminants (TACs) are airborne pollutants for which there are no air quality standards but which 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. TAC’s 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 tend to have a greater influence on changes in measured ambient pollutant concentrations. Ambient concentrations of CO and PM₁₀, however 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 or nonattainment is based on monitored data throughout the SVAB.

Project Site

The project is located in the central portion of the West Campus at UC Davis. There are no sensitive receptors or contaminant sources near the ATIRC site.

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 NO_x 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		Level of Significance Prior to Mitigation	Level of Significance After Mitigation
AIR QUALITY			
4.3-1	Implementation of the 2003 LRDP would result in daily operational emissions above the YSAQMD thresholds that may contribute substantially to a violation of air quality standards or hinder attainment of the regional air quality plan.	S	SU
4.3-3	Emissions from construction activities associated with the 2003 LRDP would exceed YSAQMD thresholds.	S	SU
4.3-6	Implementation of the 2003 LRDP, in conjunction with other regional development, would result in a cumulatively considerable increase of non-attainment pollutants.	S	SU

2003 LRDP EIR Impacts		Level of Significance Prior to Mitigation	Level of Significance After Mitigation
AIR QUALITY			
4.3-8	Regional growth could result in an increase in toxic air contaminants if compensating technological improvements are not implemented.	PS	LS

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

2003 LRDP EIR Mitigation Measures

AIR QUALITY

- 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(c) The campus shall implement the following control measures to reduce emissions of ozone precursors from construction equipment exhaust:
- To the extent that equipment is available and cost effective, the campus shall encourage contractors to use alternate fuels and retrofit existing engines in construction equipment.
 - Minimize idling time to a maximum of 5 minutes when construction equipment is not in use.
 - To the extent practicable, manage operation of heavy-duty equipment to reduce emissions.
 - To the extent practicable, employ construction management techniques such as timing construction to occur outside the ozone season of May through October, or scheduling equipment use to limit unnecessary concurrent operation.
- 4.3-6 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

AIR QUALITY		Potentially Significant Impact	Less than Significant with Mitigation	Impact for which 2003 LRDP EIR is Sufficient	Less than Significant Impact	No Impact
Would the project...						
a)	Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b)	Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c)	Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d)	Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- e) Create objectionable odors affecting a substantial number of people?

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 PM₁₀ 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 PM₁₀. In addition, exhaust pollutants would be emitted during use of construction equipment.

The proposed project is in a rural area of the west campus at UC Davis and is not near sensitive receptors. Construction projects at the project site are expected to last approximately six months to one year and require six to eight construction vehicles operating simultaneously during active construction periods. 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, even with these mitigation measures, the proposed project would generate the 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 has become available since certification of the 2003 LRDP EIR that would alter this previous analysis.

Operation

Criteria Pollutants

The proposed project would result in emissions of criteria pollutants from building equipment fueled by natural gas, by gasoline and diesel powered vehicle emissions at the vehicle test track, and from employee automobile emissions. 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. The vehicles using the vehicle test track are an unusual addition to the type of emission sources on-campus but the contribution of emissions from these vehicles would be relatively small compared to the overall development levels expected under the 2003 LRDP and would be within the projected emission levels in the 2003 LRDP EIR. The campus is located in an area that is in nonattainment of O₃ and PM₁₀ standards. The Sacramento Regional Clean Air Plan, which covers the campus, contains strategies for lowering the region's emissions to meet the O₃ 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 O₃ standards 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 has become available since certification of the 2003 LRDP EIR that would alter this previous analysis.

Toxic Air Contaminants

The proposed project is not expected to result in increased emissions of toxic air contaminants. The research proposed for the AHMCT would include the use of diesel powered vehicles that emit TAC's but these emissions are currently occurring at campus roadways and parking lots as a result of current research and would not increase as a result of the proposed project. Health Risk Assessment (HRA) calculations performed as part of the 2003 LRDP EIR predicted that the cancer risk from campus operations through academic year 2015-16 will be below 10 in one million for both the off-campus and on-campus Maximally Exposed Individual, assuming a 70-year exposure period. The non-cancer health risk was calculated to be below 1.0 on the hazard index. Therefore, the 2003 LRDP EIR concluded that development under the 2003 LRDP would not exceed either health risk standard, and the impact associated with TAC generation would be less than significant.

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 has become 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 result in emissions of unusual odors. Any odor impacts during construction or maintenance at the proposed facility would be temporary and less-than-significant.

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 urban areas and agricultural lands that include remnant riparian 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; or (6) 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: northern California black walnut, burrowing owl, Swainson’s hawk, valley elderberry longhorn beetle, California tiger salamander, chinook salmon, giant garter snake, steelhead, and northwestern pond turtle.

Project Site

The proposed site has recently been used for teaching and research fields, is now managed for weed control, and supports no natural vegetation. Most of the site has been cropland/pastureland that was used in the past for production of alfalfa and oats. The site has been fallow for several years and has been used for manure spreading. A survey for elderberry shrubs conducted on, and within 100 feet of the site found two elderberry bushes beyond the boundaries of the site, but none showed exit holes produced by valley elderberry longhorn beetle (VELB) (Fulks 2004b). The project site could provide suitable foraging habitat for burrowing owl, but because it is routinely plowed, it likely would not be used for nesting. The site is also potential foraging area for Swainson’s hawk. There are no wetlands, ponds or other water bodies on site. The site has previously been surveyed for rare plants (see Figure 4.4-2 of the 2003 LRDP EIR) and no special status plant species were found to be present on the site. Species that require streams or riparian habitat (i.e. Chinook salmon, steelhead, giant garter snake and northwestern pond turtle) would not be present on site.

Habitat

Cropland/Pasture is the only habitat type on the project site. 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.

Cropland provides food and cover for wildlife species such as songbirds and small rodents, and foraging opportunities for raptors due to the frequent mowing or harvesting of the fields that make the prey readily available. The State listed threatened Swainson's hawk relies heavily on Cropland for foraging. Plant species associated with Cropland habitat include cultivated crops, isolated oak trees, and non native herbs, shrubs, and trees associated with landscaped or disturbed edges along roads, irrigation ditches, and agricultural fields. These habitat elements, when present, may provide perching and nesting habitat for birds, as well as food, cover, and movement corridors for birds and other wildlife.

Special Status Species

No special status plant species are expected to occur on the project site. Burrowing Owl and Valley Elderberry Longhorn Beetle could potentially occur on the project site. Also, Swainson's Hawk are known to nest in the vicinity of the project site.

Burrowing Owl. The burrowing owl (*Speotyto cunicularia*) is fully protected against take pursuant to Section 3503.5 of the California Fish and Game Code and is a CDFG species of special concern. In addition, biologists and environmental organizations concerned about the status of burrowing owls in California have proposed listing it under the California Endangered Species Act (CESA). Burrowing owls are small birds with the relatively unique habits of being active during the day as well as in the evening and nesting underground. They typically use burrow systems formerly occupied by ground squirrels or other large burrow dwelling rodents. Their diet is usually dominated by insects but may also include small mammals, reptiles, and amphibians. Burrowing owls generally forage in open fields with relatively sparse, short vegetation; their foraging ability is disrupted by dense, tall vegetation.

Nesting burrowing owls have been recorded at various central campus locations since 1981. No information is available on the status of burrowing owls on the campus prior to 1981. A significant reduction in the number of breeding pairs has occurred since 22 pairs were observed in 1981. Only 12 pairs were observed in 1986, and breeding was not observed on the central campus from 1992 through 1997 (Jones and Stokes 1992-2000). During the last decade, nesting burrowing owls have been observed adjacent to the University Airport's runway (1 pair) and sporadically on teaching and research fields west of SR 113 between Russell Boulevard and Hutchison Drive (1-2 pairs). The project site is located west of the airport about 1,000 feet from the runway. Dispersed young from other areas could become established on previously unoccupied campus sites. Ground squirrel colonies and scattered burrows along the edges of fields and roads represent potential nesting habitat for the burrowing owl.

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.

Over the last decade, Swainson's Hawks have nested within ½ mile of the project site along Putah Creek and in a tree within existing development to the northeast. This latter tree is approximately ¼ mile from the project site and is screened from the site by intervening buildings, vegetation and trees. This nest tree is at a site with high levels of human activity. It is immediately adjacent to the campus swine facility, feed lot, and feed mill. It also is approximately 100 yards from the north end of the University Airport runway. Swainson's Hawks have also nested at several locations along Putah Creek. All are over ¼ mile away and are completely screened from the project site by intervening buildings, vegetation, and trees.

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. There are no elderberry bushes at the project site (Fulks 2004a) Two elderberry bushes are located adjacent to the site, but none shows evidence of use by VELB (Fulks 2004b).

Trees

The proposed project would affect no trees ATIRC site.

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, or coastal wetland) 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 applicable local policies protecting biological resources such as a tree protection policy or ordinance.

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 impact 4.4-12 but this impact is 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.

2003 LRDP EIR Impacts		Level of Significance Prior to Mitigation	Level of Significance After Mitigation
BIOLOGICAL RESOURCES			
4.4-1	Development allowed under the 2003 LRDP could result in the loss of special-status plant species or species that may be added to the special-status plant list in the future.	PS	LS
4.4-2	Development allowed under the 2003 LRDP would result in the conversion of approximately 550 acres of Agricultural Land and Ruderal/Annual Grassland habitat to campus-related development which would result in the loss of general wildlife habitat for resident and migratory species, including foraging habitat for the Swainson’s hawk.	PS	LS
4.4-3	Development allowed under the 2003 LRDP would result in the conversion of approximately 65 acres of Agricultural Land and Ruderal/Annual Grassland habitat suitable for nesting burrowing owls to campus-related development.	PS	LS
4.4-4	Development allowed under the 2003 LRDP could result in the failure of nesting efforts by nesting raptors, including Swainson’s hawks or other birds of prey.	PS	LS
4.4-5	Development allowed under the 2003 LRDP would result in the loss of active nest sites for Swainson’s hawk.	PS	LS
4.4-6	Development allowed under the 2003 LRDP would result in the loss of potential habitat for the VELB.	PS	LS
4.4-12	Development allowed under the 2003 LRDP would contribute 550 acres to the cumulative loss in the region of over 1,500 acres of Agricultural Land and Ruderal/Annual Grassland habitat for resident and migratory wildlife species including Swainson’s hawks and burrowing owls.	S	SU

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

BIOLOGICAL RESOURCES

- 4.4-1(a) During the project planning phase, the campus shall conduct a rare plant survey if the site is previously undeveloped and is in a valley-foothill riparian, open water pond, riverine, wetland or ruderal/annual grassland or habitat. Surveys shall be conducted by qualified biologists in accordance with the most current CDFG/USFWS guidelines or protocols and shall be conducted during the blooming period of the plant species with potential to occur in the area, as listed in Table 4.4-2. If these surveys reveal no occurrences of any species, then no further mitigation would be required.
- 4.4-1(b) Should surveys determine that special-status plant species are present, measures will be taken to avoid the plants and the associated habitat necessary for long-term maintenance of the population. If avoidance is not feasible the campus will provide off-site compensation at a 1:1 ratio. Off-site compensation will include preservation of existing populations at other sites and/or enhancement of the affected species. The campus will preserve either an equal number of the affected plants or an equal area of the affected species habitat. The campus shall also develop and fund the implementation of a plan to manage and monitor the preserve to ensure the long-term survival of the preserved population.
- 4.4-2 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.
- 4.4-3(a) The Russell Ranch Mitigation Area shall include at least 195 acres of grassland habitat suitable for use by burrowing owls. Ground squirrels in the mitigation area shall not be subject to control measures and will be allowed to fluctuate in response to local conditions. Artificial burrows may be installed if ground squirrel populations are not providing a sufficient number of burrows to support burrowing owls.
- 4.4-3(b) The campus shall survey proposed development areas with potential habitat for the presence or absence of burrowing owls.
- 4.4-3(c) The campus shall conduct a pre-construction survey of proposed project sites during the breeding season (from approximately February 1 through August 31), consistent with CDFG guidelines, in the same calendar year that construction is planned to begin. The survey shall be conducted by a qualified biologist to determine if any burrowing owls are nesting on or directly adjacent to any proposed project site. If phased construction procedures are planned for the proposed project, the results of the above survey shall be valid only for the season when it is conducted.
- If the pre-construction breeding season survey does not identify any nesting raptor species on the project site, then no further mitigation would be required. However, should any burrowing owls be found nesting on the project site, then LRDP Mitigation 4.4-3(d) shall be implemented.
- 4.4-3(d) During the breeding season, the campus, consistent with CDFG guidelines, shall not disturb an occupied burrow while there is an active nest and/or juvenile owls are present. Avoidance shall include the establishment of a non-disturbance buffer zone around the nest site consistent with CDFG guidelines. The buffer zone shall be delineated by highly visible temporary construction fencing. The occupied nest site shall be monitored by a qualified biologist to determine when the juvenile owl is fledged and independent. Disturbance of an occupied burrow shall

2003 LRDP EIR Mitigation Measures

BIOLOGICAL RESOURCES

only occur outside the breeding season and when there is no nest or juvenile owl based on monitoring by a qualified biologist.

- Based on approval by CDFG, pre-construction and pre-breeding season exclusion measures may be implemented to preclude burrowing owl occupation of the project site prior to project-related disturbance. These include the following measures:
- Obviously inactive burrows in the project area will be closed. Active or potentially active ground squirrel burrows will be monitored to confirm use by ground squirrels and not by burrowing owls before ground squirrels are removed and the burrow is closed. One-way doors will be used on active burrows if use by ground squirrels cannot be confirmed.
- The owls will be displaced from the occupied burrows according to the CDFG burrowing owl guidelines. The owls will be displaced from their burrows by installing one-way exit doors in occupied or potential burrows within the area of disturbance. After 48 hours with the doors in place, the burrows will then be closed to prevent reoccupation by owls.
- Where feasible, artificial burrows will be provided in adjacent suitable habitat consistent with CDFG guidelines.

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;
- 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

2003 LRDP EIR Mitigation Measures

BIOLOGICAL RESOURCES

- 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.
- 4.4-12 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.

7.4.4 Environmental Checklist and Discussion

BIOLOGICAL RESOURCES

Would the project...	Potentially Significant Impact	Less than Significant with Mitigation	Impact for which 2003 LRDP EIR is Sufficient	Less than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- | | | | | | |
|--|--------------------------|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
-

a) **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 project site is already completely developed, and no habitat for rare plants is present on the site. There would thus be no impacts on special-status plants. The project has thus already complied with LRDP Mitigation 4.4-1(a).

Wildlife

Swainson’s Hawk: The 2003 LRDP EIR found that development under the 2003 LRDP would result in conversion of cropland, which would 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).

Construction of the ATIRC would result in the loss of 4 acres of teaching and research fields, and could affect nesting Swainson’s hawks, if any hawks nest within trees near the project site before the start of construction. The closest existing nest site is about ¼ mile from the project site, north of the airport runway. Due to the distance, screening, and habituation to existing levels of activity, if birds use this existing site during construction of ATIRC, no impact is expected. Nesting sites along Putah Creek are over ¼ mile away from the site, and due to the distance, screening, and habituation to existing levels of activity, if birds use these sites along the creek during construction of the ATIRC, no impact is expected.

Implementation of LRDP Mitigation 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 requires 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 implementation of LRDP Mitigation Measure 4.4-12. These mitigation measures would reduce LRDP impacts to less than significant, but cumulative loss of agricultural land in the region was determined to be a cumulatively significant impact. The proposed project does not alter the cumulative impact of the LRDP, and analysis of this impact in the 2003 LRDP EIR is sufficient.

Burrowing Owl: The 2003 LRDP EIR found that development under the 2003 LRDP would result in conversion of teaching and research fields, which would result in loss of habitat suitable for nesting burrowing owls (LRDP Impact 4.4-3). Construction of the ATIRC would result in the loss of 4 acres of fields, and burrowing owls have been found as close as the runway of the airport, which is just on

the opposite side of Hopkins Road from the project site. The site could be suitable foraging habitat for burrowing owls, and while it appears that none are currently present on the site, owls could nest on the site before construction begins.

Implementation of LRDP Mitigation Measures 4.4-3 (a)-(d) would ensure that habitat for burrowing owls would be preserved and preconstruction surveys shall be conducted at the ATIRC site. If any occupied burrows of burrowing owls were found on site, they would not be disturbed. If necessary, pre-construction and pre-breeding season exclusion measures would be implemented. Cumulative loss of agricultural land, which provides habitat for burrowing owls, is addressed through implementation of LRDP Mitigation Measure 4.4-12. These mitigation measures would reduce LRDP impacts to less than significant, but cumulative loss of agricultural land in the region was determined to be a cumulatively significant impact. The proposed project does not alter the cumulative impact of the LRDP, and analysis of this impact in the 2003 LRDP EIR is sufficient.

Valley Elderberry Longhorn Beetle (VELB): Because there are no elderberry bushes on the ATIRC site, there would be no impacts to the VELB from construction of that facility. However, there are two elderberry bushes located along the margins of the ATIRC site. 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). All existing elderberry bushes on the site would be preserved in place, which would comply with LRDP Mitigation Measures 4.4-6 (a). It would not be necessary to transplant elderberry bushes 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 or wetland areas on the project site, thus the project would have no impact on these resources.
- d) The Putah Creek corridor, which is the southern boundary of the campus, 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 project is approximately 2,200 feet from the Putah Creek corridor. 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 ATIRC project would affect no trees. No impact would occur.
- 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 Valley Elderberry Longhorn Beetle at Russell Ranch. The project is not located at Russell Ranch. Therefore, the proposed project would not conflict with an adopted HCP or NCCP.

Summary

Mitigation measures 4.4-1 (a,b), 4.4-2, 4.4-3 (a-d), 4.4-4 (a,b), 4.4-5, 4.4-6 (a,b), and 4.4-12 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

There are no historic resources on the site. The site shows no sign of prior development activity. A survey for potential cultural resources was conducted and indicated that it is not likely that intact cultural deposits exist on the site (Pacific Legacy 1998). Therefore, no additional archaeological evaluations were recommended prior to construction. The study did recommend that any construction activity at the project site include construction monitoring to allow assessment of any cultural materials that may be present on the project site.

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 Guidelines § 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 Guidelines § 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 it would:

- cause a significant adverse change in the significance of a historical resource as defined in CEQA Guidelines § 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 Guidelines § 15064.5(a)(3), generally a lead agency should find that a property is historically significant if it determines that the property 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 may also 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.

2003 LRDP EIR Impacts		Level of Significance Prior to Mitigation	Level of Significance After Mitigation
CULTURAL RESOURCES			
4.5-1	Implementation of the 2003 LRDP could damage or destroy an archaeological resource or historic building or structure as the result of grading, excavation, ground disturbance or other project development.	PS	LS
4.5-2	Implementation of the LRDP could cause a substantial adverse change in the significance of a historical resource or unique archaeological resource, as defined in CEQA guidelines 15064.5, as the result of ground disturbance, alteration,	PS	LS

2003 LRDP EIR Impacts		Level of Significance Prior to Mitigation	Level of Significance After Mitigation
CULTURAL RESOURCES			
	removal or demolition associated with project development.		
4.5-3	Implementation of the LRDP could cause a substantial adverse change in the significance of a historical resource or unique archaeological resource, as defined in CEQA guidelines 15064.5, and the values that contribute to the significance of the resource cannot be preserved through documentation and data recovery.	S	SU
4.5-4	Implementation of the 2003 LRDP could disturb human remains, including those interred outside of formal cemeteries.	PS	LS
4.5-5	Development under the 2003 LRDP would contribute to cumulative damage to and loss of the resource base of unique archaeological resources and historical resources (including archaeological sites and historic buildings and structures) in Yolo and Solano counties.	S	SU

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

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

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informed how to recognize evidence of potential archaeological sites and artifacts. Prior to disturbing the soil, contractors shall be notified that they are required to watch for potential archaeological sites and artifacts and to notify the campus if any are found. In the event of a find, the campus shall implement item (vi), below.

- (ii) For project sites requiring a moderate or intensive level of investigation, a surface survey shall be conducted by a qualified archaeologist during project planning and design and prior to soil disturbing activities. For sites requiring moderate investigation, in the event of a surface find, intensive investigation will be implemented, as per item (iii), below. Irrespective of findings, the qualified archaeologist shall, in consultation with the campus, develop an archaeological monitoring plan to be implemented during the construction phase of the project. The frequency and duration of monitoring shall be adjusted in accordance with survey results, the nature of construction activities, and results during the monitoring 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

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- 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.
- 4.5-3 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

CULTURAL RESOURCES	Potentially Significant Impact	Less than Significant with Mitigation	Impact for which 2003 LRDP EIR is Sufficient	Less than Significant Impact	No Impact
Would the project...					
a) Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- a) There are no potentially historic resources on the project site. No impact would occur.
- b) A survey for potential cultural resources was conducted by a professional archaeologist in 1998 that included subsurface testing for cultural materials. No materials were found and the study concluded that it is not likely for intact cultural deposits to exist on the site (Pacific Legacy 1998). Therefore, no additional archaeological evaluations were recommended prior to construction. The study did recommend that any construction activity at the project site include construction monitoring to allow assessment of any cultural materials that may be present on the project site. In accordance with LRDP Mitigation 4.5-1 and 4.5-2, and 4.5-3 (construction monitoring and appropriate documentation) a qualified archaeologist will prepare a construction monitoring plan and will conduct construction monitoring during ground disturbing activities at the project site.

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 has become 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-c), 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 potential for soil volume to change with a loss or gain in moisture). The predominant soil constraint to construction on campus is soil shrink-swell potential.

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

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.

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 the effect of erosion on water quality 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

GEOLOGY, SOILS, & SEISMICITY	Potentially Significant Impact	Less than Significant with Mitigation	Impact for which 2003 LRDP EIR is Sufficient	Less than Significant Impact	No Impact
Would the project...					
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:					
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.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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 off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

- 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. 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, and therefore the cumulative impact is also considered less than significant.

- a,iii) See the discussion in item (c) below.
- 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 project site, 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) 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. Therefore, 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.

- 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 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

No LRDP EIR Mitigation Measures related to geology, soils, and seismicity are relevant to the proposed project. 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.

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 corrosives, 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

A phase 1 site survey to investigate for potential signs of environmental contamination revealed no items of concern and no items that would require additional investigation.

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, and 4.7-12, 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		Level of Significance Prior to Mitigation	Level of Significance After Mitigation
HAZARDS & HAZARDOUS MATERIALS			
4.7-1	Implementation of the 2003 LRDP would increase routine hazardous chemical use on campus by UC Davis laboratories and departments and in maintenance and support operations, which would not create significant hazards to the public or the environment.	LS	LS
4.7-2	Implementation of the 2003 LRDP could increase routine generation of hazardous wastes on campus by UC Davis laboratories and departments and from maintenance and support operations, which would not create significant hazards to the public or the environment.	LS	LS
4.7-8	Implementation of the 2003 LRDP would increase the routine transport of	LS	LS

2003 LRDP EIR Impacts HAZARDS & HAZARDOUS MATERIALS		Level of Significance Prior to Mitigation	Level of Significance After Mitigation
	hazardous materials to and from campus, which would not significantly increase hazards to the public or the environment.		
4.7-9	Implementation of the 2003 LRDP would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.	LS	LS
4.7-12	Construction activities on campus under the 2003 LRDP would not expose construction workers and campus occupants to contaminated soil or groundwater.	LS	LS
4.7-15	Implementation of the 2003 LRDP would include campus development within 2 miles of public use airports, which could result in safety hazards for people residing or working in the area, and would include lighting on recreation fields that could result in a hazard for aircraft.	PS	LS
4.7-17	Campus development under the 2003 LRDP could physically interfere with the campus' Emergency Operations Plan.	PS	LS

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 HAZARDS & HAZARDOUS MATERIALS

4.7-1	The campus shall continue to implement the same (or equivalent) safety plans, programs, practices, and procedures related to the use, storage, and disposal of hazardous chemical materials during the 2003 LRDP planning horizon, including, but not necessarily limited to, the Business Plan, Hazardous Materials Communication Program, Chemical Inventory System, CUPA Self-Audit program, Injury and Illness Prevention Program, Chemical Hygiene Plans, Medical Surveillance Program, Chemical Safety Advisory Committee, Chemical Carcinogen Safety Program, and EH&S audits and safety training. These programs may be replaced by other programs that incorporate similar health and safety measures.
4.7-2(a)	Implement LRDP Mitigation 4.7-1.
4.7-2(b)	The campus shall continue to implement the same (or equivalent) hazardous waste management programs during the 2003 LRDP planning horizon, including, but not necessarily limited to, hazardous waste storage and handling procedures, the waste minimization program, the pretreatment program, and the Waste Exclusion Program. These programs may be subject to modification as more stringent standards are developed or if the programs become obsolete through replacement by other programs that incorporate similar health and safety protection measures.
4.7-8	The campus shall continue to require that packaging of chemicals to be transported on public roads conform with all legal requirements.
4.7-9	Implement LRDP Mitigations 4.7-1 through 4.7-8.
4.7-12	The campus shall perform due diligence assessments of all sites where ground-disturbing construction is proposed.
4.7-15(b)	Lighting for recreation fields in the NMP will be tested by night flights, and adjusted as necessary to eliminate glare that could pose a hazard for aircraft.

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HAZARDS & HAZARDOUS MATERIALS

- 4.7-15(c) UC Davis or a developer acting on behalf of UC Davis shall include disclosure statements in marketing and sales materials for the NMP informing potential owners of property in the NMP of the presence of the University Airport.
- 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

HAZARDS & HAZARDOUS MATERIALS	Potentially Significant Impact	Less than Significant with Mitigation	Impact for which 2003 LRDP EIR is Sufficient	Less than Significant Impact	No Impact
Would the project...					
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- a) The proposed project would use typical hazardous materials such as solvents, architectural coatings, and construction equipment fuel during construction of the facility. During operation of the facility, hazardous materials use would include typical building cleaning supplies and a small amount of oil based products such as lubricants that would be used in the equipment machine shop.

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.

The proposed project would not use radioactive materials, biohazardous materials, or laboratory animals. Accordingly, no impacts to these issue areas would result from the proposed project.

- 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) Although hazardous materials associated with the proposed project could be handled within ¼ mile of existing and proposed schools and childcare centers, these materials would not be handled in quantities sufficient to pose a risk to occupants of the schools or to members of the campus and surrounding community. The potential consequences of an accidental release would be limited to the individual laboratory where the spill occurred, and people outside the buildings would not be exposed. Therefore, the impact to those attending existing or proposed schools would be less than significant.

There are no schools within ¼ mile of the project site. Existing schools within ¼ mile of campus include Martin Luther King High School on B Street in downtown Davis; Emerson Junior High

School on Calaveras Avenue; Rivendell Nursery School; Parkside Children's House (formerly Davis Montessori School); Redbud Montessori School north of the west campus; the Grace Valley Christian Academy on County Road 98; and the Fairfield Elementary School on Russell Boulevard at County Road 96. There are no proposed new Davis Joint Unified School District (DJUSD) school sites within ¼ mile of the campus boundaries. The future west campus neighborhood is planned to include DJUSD high school facility on the campus. Childcare centers are currently located on the campus.

- 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) Campus policy requires that due diligence surveys be performed for all proposed project sites as part of the project planning process. A phase 1 site survey to investigate for potential signs of environmental contamination revealed no items of concern and no items that would require additional investigation. 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 Mitigation 4.7-12 has been implemented as part of the proposed project.

- e) The ATIRC site is located approximately 2,000 feet from the runways at the campus airport. The site lighting could result in unintended glare to pilots using the UC Davis airport. In accordance with LRDP Mitigation 4.7-15(b), the campus would conduct flight testing of the ATIRC lights to reduce any glare impacts caused by the proposed project and would mitigate any potential glare impacts to a less-than-significant level.
- 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). Although no road closures have been identified, if the project required road closures, the UC Davis Office of Architects and Engineers would initiate notification of emergency services agencies, 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. The potential impact would be less-than-significant.
- 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. The proposed project is approximately 3,000 feet from 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, 4.7-15 (a-c), 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 Mayacamas 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 largest 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 (Ludorff and Scalmanini 2003), 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 (Ludorff and Scalmanini 2003).

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 directs this water via underground pipes 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 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 that flow to temporary shallow ponds in places such as road and field edges. 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 project site is not served by a developed drainage system. During most storm events, rainwater is absorbed into the ground without draining off of the site. During periods of heavy or extended rainfall, some ponding of water occurs at the edge of the project site along the margins of the adjacent fields.

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 impact 4.8-5 and cumulative impact 4.8-13, 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.

2003 LRDP EIR Impacts		Level of Significance Prior to Mitigation	Level of Significance After Mitigation
HYDROLOGY & WATER QUALITY			
4.8-1	Campus construction activities associated with implementation of the 2003 LRDP would not contribute substantial loads of sediment or other pollutants in storm water runoff that could degrade receiving water quality.	LS	LS
4.8-2	Development under the 2003 LRDP would increase impervious surface on the campus and could alter drainage patterns, thereby increasing runoff and loads of pollutants in storm water, which could affect water quality.	PS	LS
4.8-3	Implementation of the 2003 LRDP could alter drainage patterns in the project area and increase impervious surfaces, which could exceed the capacity of storm water drainage systems and result in localized flooding and contribution to offsite flooding.	PS	LS
4.8-4	Campus growth under the 2003 LRDP would increase discharge of treated effluent from the campus wastewater treatment plant into the South Fork of Putah Creek, which could exceed waste discharge requirements and degrade receiving water quality.	PS	LS
4.8-5	Campus growth under the 2003 LRDP would increase the amount of water extracted from the deep aquifer and would increase impervious surfaces. This	S	SU

2003 LRDP EIR Impacts		Level of Significance Prior to Mitigation	Level of Significance After Mitigation
HYDROLOGY & WATER QUALITY			
	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.		
4.8-6	Campus growth under the 2003 LRDP could increase the amount of water extracted from the shallow/intermediate aquifer and would increase impervious surfaces. Extraction from the shallow/intermediate aquifer could deplete groundwater levels and could contribute to local subsidence, and increased impervious coverage could interfere substantially with recharge. This could result in a net deficit in the intermediate aquifer volume or a lowering of the local groundwater table.	SU	SU
4.8-9	Development under the 2003 LRDP could place non-residential structures within a 100-year floodplain, which could expose people and structures to risks associated with flooding and/or impede or redirect flows, contributing to flood hazards.	PS	LS
4.8-10	Development under the 2003 LRDP, in conjunction with construction activities, increased impervious surfaces, and alterations to drainage patterns associated with other development in the region that would increase impervious surface coverage in the watershed, could increase storm water runoff, and could provide substantial sources of polluted runoff, which could affect receiving water quality.	S	SU
4.8-11	Implementation of the 2003 LRDP in combination with regional development could alter drainage patterns and increase the rate or amount of surface runoff, which could exceed the capacity of storm water drainage systems and result in flooding within the Putah Creek watershed.	PS	LS
4.8-12	Growth under the 2003 LRDP and other development in the region would increase discharge of treated effluent to the Putah Creek watershed, which could degrade receiving water quality.	PS	LS
4.8-13	Growth under the 2003 LRDP and other development in the region would increase the amount of water extracted from the deep aquifer and increase impervious surfaces. This could result in a net deficit in the deep aquifer volume or a lowering of the local groundwater table but would not interfere substantially with recharge of the deep aquifer.	S	SU

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

- | | |
|-------|---|
| 4.8-1 | The campus shall continue to comply with the NPDES state-wide General Permit for Discharge of Storm Water Associated with Construction Activity by implementing control measures and BMPs required by project-specific SWPPPs and with the Phase II SWMP to eliminate or reduce non-storm and storm water discharges to receiving waters. |
|-------|---|

2003 LRDP EIR Mitigation Measures

HYDROLOGY & WATER QUALITY

- 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.
- 4.8-3(c) Campus development west of County Road 98 shall incorporate single- or multi-project basins in order to reduce storm event drainage flows to the Covell Drain.
- 4.8-4(a) The campus shall continue to monitor and modify its pretreatment program, WWTP operation, and/or treatment processes as necessary to comply with WDRs.
- 4.8-4(b) The campus shall implement a monitoring program specifically targeted at the following constituents: copper, cyanide, iron and nitrate + nitrite, and make appropriate modifications as necessary to the campus pretreatment program to avoid exceedance of permit limits for these constituents.
- 4.8-5(a) The campus shall continue to implement water conservation strategies to reduce demand for water from the deep aquifer. Domestic water conservation strategies shall include the following or equivalent measures:
- (i) Install water efficient shower heads and low-flow toilets that meet or exceed building code conservation requirements in all new campus buildings, and where feasible, retrofit existing buildings with these water efficient devices.
 - (ii) Continue the leak detection and repair program.
 - (iii) Continue converting existing single-pass cooling systems to cooling tower systems.
 - (iv) Use water-conservative landscaping on the west and south campuses where domestic water is used for irrigation.
 - (v) Replace domestic water irrigation systems on the west and south campuses with an alternate water source (shallow/intermediate or reclaimed water), where feasible.
 - (vi) Install water meters at the proposed neighborhood to encourage residential water conservation.
 - (vii) Identify and implement additional feasible water conservation strategies and programs including a water awareness program focused on water conservation.
- 4.8-5(b) The campus shall continue hydrogeologic monitoring and evaluation efforts to determine the long-term production and quality trends of the deep aquifer.
- 4.8-5(c) To the extent feasible, new water supply wells in the deep aquifer should be located on the west campus in sands and gravels that are not used by or available to the City of Davis for deep water extraction.
- 4.8-5(d) If continued hydrogeologic monitoring and evaluation efforts identify constraints in the deep aquifer's ability to provide for the campus' long-term water needs, the campus will treat shallow/intermediate aquifer and/or surface water from the Solano Project to serve domestic water demand.
- 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.

2003 LRDP EIR Mitigation Measures

HYDROLOGY & WATER QUALITY

- 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.
- 4.8-9(a) Prior to final design, the campus will review the plans for all structures to be constructed in the 100-year floodplain for compliance with the following FEMA requirements for non-residential structures:
- (i) Elevate the lowest floor (including the basement) to or above the base flood level; or
 - (ii) Together with attendant utility and sanitary facilities, design so that below the base flood level, the structure is watertight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy; and
 - (iii) Require that fully enclosed areas below the lowest floor that are subject to flooding be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for entry and exit of flood waters.
- 4.8-9(b) For structures placed within the 100-year floodplain, flood control devices will be designed to direct flows toward areas where flood hazards will be minimal.
- 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.
- 4.8-12 The campus shall implement LRDP Mitigation 4.8-4(a) and (b) to minimize the potential for degradation of receiving water quality.
- 4.8-13(a) Implement LRDP Mitigation 4.8-5(a-d).
- 4.8-13(b) The City of Davis is expected to implement measures to reduce the amount of water withdrawn from the deep aquifer consistent with policies adopted in its General Plan.
- Give priority to demand reduction and conservation over additional water resource development (Policy WATER 1.1)
 - Require water conserving landscaping (Policy WATER 1.2)
 - Provide for the current and long-range water needs of the Davis Planning Area, and for protection of the quality and quantity of groundwater resources (Policy WATER 2.1)
 - Manage groundwater resources so as to preserve both quantity and quality (Policy WATER 2.2)
 - Research, monitor and participate in issues in Yolo County and the area of origin of the City's groundwater that affect the quality and quantity of water (Policy WATER 4.1)
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7.8.4 Environmental Checklist and Discussion

HYDROLOGY & WATER QUALITY		Potentially Significant Impact	Less than Significant with Mitigation	Impact for which 2003 LRDP EIR is Sufficient	Less than Significant Impact	No Impact
Would the project...						
a)	Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f)	Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h)	Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j)	Inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

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 is expected to generate approximately 11,000 gpd of wastewater effluent. With current and future discharge control programs and possible operational changes, the increased discharge from the WWTP associated with the proposed project as well as other projects under the 2003 LRDP is expected to comply with NPDES regulations, and therefore will not cause degradation of receiving water quality. The campus will continue to monitor effluent discharge in compliance with the applicable WDRs for the WWTP, and if effluent limits are exceeded, the campus will modify its pretreatment program and WWTP operation as appropriate. These practices are further confirmed in LRDP Mitigation 4.8-4(a), which is included as part of the project. In compliance with LRDP Mitigation 4.8-4(b), also relevant to part of the project, the campus will target monitoring and pretreatment for the contaminants specifically identified as of potential concern by the CVRWQCB. These measures would reduce the impact to a less-than-significant level.

The 2003 LRDP EIR found that growth under the 2003 LRDP and other development in the region would increase the cumulative discharge of treated effluent to the Putah Creek watershed, which could degrade receiving water quality (Impact 4.8-12). However, UC Davis is currently the largest discharger of treated effluent to Putah Creek, and no other major dischargers are expected in the future. LRDP Mitigation 4.8-12, included as part of the project, requires implementation of LRDP Mitigation 4.8-4(a-b), discussed above, which would reduce the impact of increased effluent discharge from the campus WWTP to Putah Creek to a less-than-significant level. Therefore, with implementation of LRDP Mitigation 4.8-12, which is included in the proposed project, the cumulative impact would be less than significant.

b) Deep Aquifer

The proposed project is expected to require approximately seven gpm of water from the deep aquifer. The 2003 LRDP EIR found that campus growth under the 2003 LRDP would 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 4.8-5). 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. The 2001 demand for water from the deep aquifer was approximately 2,671 acre-feet. The annual demand for deep aquifer water under the 2003 LRDP, including demand associated with the proposed project, is expected to increase to approximately 5,301 acre-feet through 2015-16 (UC Davis ORMP 2003c). LRDP Mitigation 4.8-5(a-c), included as part of the project, would require continued water conservation efforts, efforts to determine the ability of the deep aquifer to provide for

the campus' long-term water needs, and efforts to minimize withdrawals by UC Davis and the City of Davis from the same deep aquifers. If monitoring identifies that the aquifer is unable to meet the campus' long-term needs, consistent with LRDP Mitigation 4.8-5(d), the campus would treat intermediate aquifer water and/or surface water to serve domestic water needs. Regardless of these mitigation measures, if UC Davis' future demand for water from the deep aquifer increases, groundwater levels in the deep aquifer could lower, contributing to a net deficit in the overall groundwater budget. The effects of increased demand on the volume of the deep aquifer are currently not well understood (although consistent with LRDP Mitigation 4.8-5(b), the campus will continue to study these effects). Therefore, 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 has become 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 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 take the following actions: 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 has become available since certification of the 2003 LRDP EIR that would alter this previous analysis.

Shallow/Intermediate Aquifer

The proposed project would use no water from the shallow/intermediate aquifers. 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). 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 proposed project includes stormwater detention basins, permeable paving on the slow speed test track, and gravel paving where possible to allow stormwater to percolate into the ground. 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 has become 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 has become available since certification of the 2003 LRDP EIR that would alter this previous analysis.

- c) The proposed project would result in approximately 110,000 square feet of new impermeable surfaces. Design efforts to reduce impermeable surfaces have resulted in the proposed use of permeable asphalt for the slow speed test track and increased use of gravel surfaces at the project site. The storm drain runs southerly in Hopkins Road and outlets at Putah Creek. The proposed project would connect to the Hopkins Road stormwater system via an underground pipe in the adjacent Service Unit Park project. UC Davis requires storm water detention for any new project along the

Hopkins Road system. The proposed project would provide stormwater detention basins that would allow some stormwater to percolate into the ground and would only discharge to the Hopkins Road system during large storm events.

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). 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 landscaped areas and detention facilities that are included in the project would reduce contaminants in runoff. The ATIRC project would contribute to the overall increase in runoff associated with development evaluated in the 2003 LRDP.

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 currently 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 has become available since certification of the 2003 LRDP EIR that would alter this previous analysis.

- d,e) The 2003 LRDP EIR found that implementation of the 2003 LRDP would alter drainage patterns in the project area and would increase impervious surfaces, which could exceed the capacity of storm water drainage systems and result in localized flooding and contribution to offsite flooding (Impact 4.8-3). Campus runoff is not expected to significantly increase peak flows in Putah Creek under the 2003 LRDP because anticipated development represents only a minor increase in the percentage of impervious area in the watersheds. Campus discharges from the Arboretum Waterway to Putah Creek are not expected to exceed the existing pumping capacity of approximately 80 cfs (the current NPDES permit has a maximum discharge limit of 130 cfs). Pursuant to the campus Stormwater Management Plan, the current campus standard for storm water management is a 10-year storm event (Wengler 2005). However, under existing conditions, localized flooding on some portions of the campus occurs during a 2-year storm event. In most cases, this flooding consists of temporary water ponding at storm drain inlets and along roads that does not result in property damage or other serious consequences. Without any improvements, increased runoff associated with development under the 2003 LRDP, including the proposed project, would increase the likelihood of localized flooding (West Yost & Associates 2000). In accordance with LRDP Mitigations 4.8-3(a) and 4.8-3 (providing onsite detention facilities), included in the project, a drainage study has been performed for the proposed project to determine if capacity is available in the existing storm drainage system. The proposed project would construction stormwater detention basins to prevent flooding at the project site and avoid directing excess stormwater into the campus stormwater drainage system. Therefore, this impact would be less than significant.

The 2003 LRDP EIR also found that 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 cumulatively exceed the capacity of storm water drainage systems and result in flooding within the Putah Creek watershed (Impact 4.8-11). In most cases, this flooding consists of temporary water ponding at storm drain inlets and along roads that does not result in property damage or other serious consequences. With implementation of LRDP Mitigation 4.8-11, storm water discharges from the campus would be reduced and would not contribute to regional flooding problems.

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

- g) Under the 2003 LRDP, housing (including on-campus student housing and housing within the proposed neighborhood) would be constructed outside the 100-year flood zones on campus (see 2003 LRDP EIR, Figure 4.8-4, 100-Year Floodplain). The proposed project does not include housing. Therefore, no impact would occur.
- h, i) The 2003 LRDP EIR found that development under the 2003 LRDP could place non-residential structures within a 100-year floodplain, which could expose people and structures to risks associated with flooding and/or could impede or redirect flows, contributing to flood hazards (LRDP Impact 4.8-9). The proposed project is not located in a 100-year floodplain. The potential impact would be less than significant impact.

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, .8-2, 4.8-3 (a-c), 4.8-4 (a,b), 4.8-5 (a-c), 4.8-9 (a,b), 4.8-10 (a-c), 4.8-11, 4.8-12, and 4.8-13 (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 campus has a tradition of working cooperatively with the local communities and it is University policy to seek consistency with local plans and policies, where feasible.

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 ATIRC project site is located on the West Campus at UC Davis and consists of approximately four acres. The project site is approximately 2,000 feet west of the runways at the campus airport and approximately 1,500 feet south of Hutchison Drive. The project site can be accessed by traveling south on Hopkins Road from Hutchison Drive and then turning west on a new service road south of the Contained Research Building (Figure 3.3). The new service road (currently unnamed) provides access to the Contained Research Building and the Service Unit Park complex (south of the service road). The service road continues westward as a dirt and gravel field road until it reaches the project site. The service road is proposed to be developed into a paved road for the ATIRC project as described in Section 3.5.1 of this Initial Study.

The four-acre project site is a flat rectangular-shaped parcel. The land has previously been used for agricultural research but is not currently in production for agricultural products and is not being used for agricultural research. The field is mowed periodically to keep grass and weed levels low. A variety of agricultural support facilities including temporary buildings and storage sheds occupy the land to the north of the project site. To the west of the project site are UC Davis agricultural fields used for agricultural research. To the south of the project site, the UC Davis Service Unit Park is a planned complex of buildings to be constructed in phases for administrative functions such as warehousing, mail services, and maintenance. Upon completion, the Service Unit Park development will abut the southern

boundary of the ATIRC project site. The eastern portion of the Service Unit Park complex is currently under construction but the western portion (closest to the ATIRC site) is not currently scheduled to start construction. To the east of the project site the vacant field was designated in the 2003 LRDP as land for *Research Park-Low Density*, as land use designation intended to provide space at UC Davis for collaborative efforts between UC Davis and non-University entities such as research corporations or governmental agencies seeking to establish a research group at UC Davis.

The 2003 LRDP designated the ATIRC site as *Research Park-Low Density*, and the proposed ATIRC development is a collaborative effort between UC Davis and a governmental entity (the California Department of Transportation) as envisioned by the 2003 LRDP *Research Park-Low Density* designation. Funding for the ATIRC project would be provided by a non-University entity to construct and operate ATIRC, and the facility would be administered by UC Davis. The proposed use would be consistent with the *Research Park-Low Density* land use designation, and the 2003 LRDP EIR (page 3-19) described that some campus uses would take place within the *Research Park-Low Density* designation (UC Davis ORMP 2003f). The ATIRC development is considered appropriate for the *Research Park-Low Density* designation and consistent with the land use planning and campus development objectives of the 2003 LRDP.

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

LAND USE & PLANNING	Potentially Significant Impact	Less than Significant with Mitigation	Impact for which 2003 LRDP EIR is Sufficient	Less than Significant Impact	No Impact
Would the project...					
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- | | | | | | |
|---|--------------------------|--------------------------|--------------------------|--------------------------|-------------------------------------|
| 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? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Conflict with any applicable habitat conservation plan or natural community conservation plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Result in development of land uses that are substantially incompatible with existing adjacent land uses or with planned uses? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
-

- a) The proposed project would have no potential to physically divide an established community. The proposed project is more than ½ mile from existing or planned communities and would have no characteristics that could divide, disrupt, or act as a barrier to any community. No impact would occur and no additional analysis is required.
- b) The 2003 LRDP designated the ATIRC site as *Research Park-Low Density*, and the proposed ATIRC development is a collaborative effort between UC Davis and a governmental entity (the California Department of Transportation) as envisioned by the 2003 LRDP *Research Park-Low Density* designation. Funding for the ATIRC project would be provided by a non-University entity to construct and operate ATIRC, and the facility would be administered by UC Davis. The proposed use would be consistent with the *Research Park-Low Density* land use designation, and the 2003 LRDP EIR (page 3-19) described that some campus uses would take place within the *Research Park-Low Density* designation (UC Davis ORMP 2003f). The ATIRC development is considered appropriate for the *Research Park-Low Density* designation and consistent with the land use planning and campus development objectives of the 2003 LRDP. 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 Valley Elderberry Longhorn Beetle at Russell Ranch. The project is located approximately four miles from the Russell Ranch. Therefore, the proposed project would not conflict with an adopted HCP or NCCP. No impact would occur.
- 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. The proposed project would be consistent with the uses envisioned in the 2003 LRDP. The project would have no off-site environmental impact that would disrupt surrounding land uses. Existing land uses and land uses planned under the 2003 LRDP are not expected to have off-site impacts that would impair the proposed uses and activities at the ATIRC site. 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

MINERAL RESOURCES		Potentially Significant Impact	Less than Significant with Mitigation	Impact for which 2003 LRDP EIR is Sufficient	Less than Significant Impact	No Impact
Would the project...						
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- 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_{dn} , 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

The proposed ATIRC site is located on the west campus planning area at UC Davis and is separate from the main campus. Land use on the west campus area consists primarily agricultural research fields and a few developed areas that include small research facilities or small-scale university support functions. Along with the low level of development, activity levels are similarly low and the noise environment at the west campus is characterized as a relatively quiet area with occasional noise from the UC Davis airport, background noise from adjacent roadways, noise from vehicles using the lightly traveled west campus service roads and from service vehicles and tractors being used on the research fields.

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. Noise levels applicable to the proposed project are summarized below in Table 7.11.2.

Table 7.11.2: Thresholds of Significance for Noise Evaluations

Noise Source ^a	Criterion Noise Level ^b	Substantial Increase in Noise Level ^b
Road Traffic and Other Long-Term Sources	65 dBA CNEL	>=3 dBA if CNEL w/project is >= 65 dBA >=5 dBA if CNEL w/project is 50–64 dBA >=10 dBA if CNEL w/project is < 50 dBA
Aircraft	65 dBA CNEL	>=1.5 dBA if CNEL w/project is >= 65 dBA >=3 dBA if CNEL w/project is 60–64 dBA >=5 dBA if CNEL w/project is < 60 dBA
Construction (temporary)	80 dBA $L_{eq(8h)}$ ^c daytime (7:00 a-7:00 p) 80 dBA $L_{eq(8h)}$ evening (7:00 p-11:00 p) 70 dBA $L_{eq(8h)}$ nighttime (11:00 p-7:00 a)	Not Applicable

Source: 2003 LRDP EIR

^a The 2003 LRDP would not substantially increase rail activity; therefore, a threshold of significance for rail noise is not included in this table.

^b At noise-sensitive land use unless otherwise noted. Noise-sensitive land uses include residential and institutional land uses.

^c $L_{eq(t)}$ is an average measurement over a one-hour period.

^d Screening analysis distance criterion from FTA 1995.

^e $L_{eq(8h)}$ 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. Mitigation measures are included to reduce the magnitude of project-level impact 4.10-2 and cumulative impact 4.10-5, but these impacts are identified as significant and

unavoidable because of the uncertainty regarding mitigation feasibility and effectiveness, and because mitigation falls within other jurisdictions to enforce and monitor and therefore cannot be guaranteed by the University of California.

2003 LRDP EIR Impacts		Level of Significance Prior to Mitigation	Level of Significance After Mitigation
NOISE			
4.10-1	Construction of campus facilities pursuant to the 2003 LRDP could expose nearby receptors to excessive groundborne vibration and airborne or groundborne noise.	PS	LS
4.10-2	Implementation of the 2003 LRDP would result in increased vehicular traffic on the regional road network, which would substantially increase ambient noise levels at some locations.	S	SU
4.10-5	The 2003 LRDP development in combination with other regional development would increase ambient noise levels.	S	SU

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

NOISE

- | | |
|-----------|---|
| 4.10-1 | <p>Prior to initiation of construction, the campus shall approve a construction noise mitigation program including but not limited to the following:</p> <ul style="list-style-type: none"> • 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. |
| 4.10-2(a) | For noise-sensitive uses adjacent to Russell Boulevard between Arlington Boulevard and Arthur Street, the existing soundwall (approximately 6.5 feet in height) could be increased slightly in height and extended to include the daycare center to the east. |

2003 LRDP EIR Mitigation Measures

NOISE

For noise-sensitive uses adjacent to Russell Boulevard between Arthur Street and SR 113, and from SR 113 to La Rue/Anderson Road and from La Rue Road to Oak Street, soundwalls may be constructed for exterior residential and recreational land uses within approximately 100 feet of the centerline of Russell Boulevard, where construction of such walls would not interfere with driveway access.

The campus shall reimburse the City of Davis the campus' fair share of the cost of a City of Davis' noise abatement program for reducing interior noise levels in homes along Russell Boulevard that are significantly affected by noise from 2003 LRDP-related traffic growth. The campus' contribution to the City's noise abatement program could be used to extend sound walls as described above or for other noise abatement measures such as retrofit of homes. The campus' fair share shall be determined based on the volume of traffic added to Russell Boulevard by the campus as a result of 2003 LRDP implementation and the percentage that 2003 LRDP-related traffic increases constitute of the average daily traffic on the roadway.

- 4.10-2(b) For components of the 2003 LRDP having future noise-sensitive land uses such as the Neighborhood and Research Park, building and area layouts shall incorporate noise control as a design feature; including increased setbacks, landscaped berms, and using building placement to shield noise-sensitive exterior areas from direct roadway views.
- 4.10-5 Implement LRDP Mitigations 4.10-1 and 4.10-2.

7.11.4 Environmental Checklist and Discussion

NOISE

Would the project...	Potentially Significant Impact	Less than Significant with Mitigation	Impact for which 2003 LRDP EIR is Sufficient	Less than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a,c) The proposed project would introduce low-level traffic and building noise to the west campus that would be similar to other developments currently operating on the west campus. Noise impacts to area roadways are further discussed below. A unique attribute of the ATIRC facility is the addition of test tracks to support the research of the AHMCT and the operation of the HVS's Heavy Vehicle Simulators for the PRC. Noise data from a HVS operating alone indicates a potential for noise levels

of approximately 80 dBA but that noise levels could decrease to 51 dBA at a distance of 400 feet (CSIR 1994). Installation of noise reduction equipment on the HVS at another site resulted in a decrease in noise levels to 43 dBA at 400 feet. While the proposed project would not be located adjacent to existing noise sensitive receptors, the test tracks could produce noise that would be audible from outside of the project site and, which could result in a high level of noise for future development that could be constructed on land within 500 feet of the test tracks. Beyond 500 feet from the test tracks, noise levels from the ATIRC are not expected to be above the background noise levels. The nearest residential land uses are more than 2,000 feet from the project site and no effect is expected at these locations either. The nearby Contained Research Building (approximately 600 feet east of the ATIRC test track) is a well-insulated research building that does not contain operable windows. The Contained Research Building was built for containment of biological organisms and must be continuously sealed with ventilation equipment constantly operating in order to maintain the desired containment. Because of these design features, and the distance from the ATIRC project site, the Contained Research Building would not experience noise from the ATIRC site and is not considered a noise sensitive land use. Similarly, other existing developments that surround the ATIRC site such as the Service Unit Park are not considered noise sensitive land uses and would not be affected by the ATIRC noise levels.

Within 500 feet of the test track, the 2003 LRDP land use designations include *Research Park-Low Density* and *Academic and Administrative-Low Density* land uses that could include noise sensitive uses such as research laboratories with offices built with operable windows, outdoor gathering places for employees, or outdoor research functions. Based on the proximity of future development to the test tracks, the potential future noise levels could exceed the significance threshold of 65 dBA CNEL, and the noise impact from the proposed test tracks could be potentially significant. Project-specific Mitigation Measure 1 would require that prior to project approval of future development within 500 feet of the ATIRC test tracks the campus conduct a detailed noise assessment. If needed, Project Specific Mitigation Measure 1 also requires installation of sound reduction measures on the ATIRC equipment in order to reduce the potential noise impact at a noise sensitive future development site to a less-than-significant level. With implementation of Project-Specific Mitigation Measure, the noise impact caused by the ATIRC test equipment would be less-than-significant.

Project Mitigation Measure 1:

For future developments within 500 feet of the ATIRC test tracks, the campus shall conduct a detailed noise assessment prior to design approval to determine whether the proposed tracks, when used singly or in combination, would exceed the noise level of 65 dBA CNEL at the site of the noise sensitive land use. If the noise levels are determined to exceed the 65 dBA CNEL level, the campus shall include noise reduction measures on the ATIRC test equipment in order to reduce the anticipated noise levels to a less-than-significant level.

Generation of noise levels on or adjacent to the project site associated with vehicle trips would contribute to ambient noise levels on campus. The proposed project would result in increase vehicle trips due to the anticipated increase to the campus population by approximately 40 people. The 2003 LRDP EIR found that implementation of the 2003 LRDP would result in increased vehicular traffic on the regional road network, which would substantially increase ambient noise levels at the following locations through 2015-16: Russell Boulevard, just west of Arlington; the west campus neighborhood site adjacent to SR 113; and on Hutchison Drive west of SR 113 (Impact 4.10-2). The proposed project would increase vehicle trips on these roadways. LRDP Mitigation 4.10-2(a-b) would address this impact by requiring specific noise abatement and noise control programs on campus and in the City of Davis. However, the campus cannot ensure that LRDP Mitigation 4.10-2(a) would be implemented by the City, and it is uncertain whether this measure would effectively reduce noise to acceptable levels. Therefore, the impact of increased noise from vehicle trips would

still be 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 has become available since certification of the 2003 LRDP EIR that would alter this previous analysis.

The 2003 LRDP EIR also recognized that development under the 2003 LRDP in combination with other regional development would cumulatively increase ambient noise levels (4.10-5). Cumulative development would increase the number of people in the region who would be exposed to temporary construction-related noise. LRDP Mitigation 4.10-5, included as part of the proposed project, would require application of the recommended noise control measures detailed in LRDP Mitigation 4.10-1. The 2003 LRDP EIR found that, with this mitigation, the cumulative impact associated with construction noise would be less than significant. LRDP Impact 4.10-2 addresses traffic noise impacts on and adjacent to the campus associated with the 2003 LRDP and cumulative growth. LRDP Mitigation 4.10-5 would require implementation of the noise control and abatement measures identified in LRDP Mitigation 4.10-2(a-b). However, as discussed above, the effectiveness and implementation of LRDP Mitigation 4.10-2(a) cannot be ensured. Therefore, the 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 has become available since certification of the 2003 LRDP EIR that would alter this previous analysis.

- b,d) The ATIRC project would include standard construction techniques and equipment and would not involve items such as pile driving, blasting, or concrete sawing. 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 proposed project is approximately 2,000 feet from the UC Davis airport runway. 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. Therefore, the project would not expose people to excessive noise levels associated with this public use airport, and the impact is less than significant.
- 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 measures 4.10-1, 4.10-2 (a,b), 4.10-5 from the 2003 LRDP EIR are relevant to the proposed project and reduce the significance of noise impacts to the extent feasible. The proposed project could potentially exceed the levels of significance of noise impacts previously established in the 2003 LRDP EIR. The addition of new research equipment at operating on the proposed ATRIC test tracks could potentially result in an increase in noise levels in the vicinity of the project. Project Specific Mitigation Measure 1 establishes noise performance standards for the project and identifies noise control treatments to reduce the potential impact to a less-than-significant level.

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 project site is currently vacant. No housing is located or planned on or adjacent to the project site.

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. A significant population and

housing impact identified in the 2003 LRDP EIR that is relevant to the proposed project is presented below with its corresponding levels of significance. No mitigation was available to reduce the magnitude of this impact, so the impact is considered significant and unavoidable.

2003 LRDP EIR Impacts		Level of Significance Prior to Mitigation	Level of Significance After Mitigation
POPULATION & HOUSING			
4.11-1	Implementation of the 2003 LRDP would directly induce substantial population growth in the area by proposing increased enrollment and additional employment. ¹	S	SU

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

¹ No mitigation is available to reduce the magnitude of this impact.

7.12.4 Environmental Checklist and Discussion

POPULATION & HOUSING	Potentially Significant Impact	Less than Significant with Mitigation	Impact for which 2003 LRDP EIR is Sufficient	Less than Significant Impact	No Impact
Would the project...					
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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Create a demand for housing that cannot be accommodated by local jurisdictions?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

a) The proposed project would increase the campus population by approximately 40 people. The 2003 LRDP EIR found that implementation of the 2003 LRDP would directly induce substantial population growth in the area by proposing increased enrollment and additional employment (Impact 4.11-1). The impact analyses for all of the resource areas covered in this Initial Study address the campus population increases associated with the project. Where possible, this document mitigates associated environmental impacts to the extent feasible. In certain circumstances, impacts that are associated with campus population growth are identified as significant and unavoidable. Accordingly, the effect of direct population growth associated with the 2003 LRDP, including the proposed project, is also considered a significant and unavoidable impact. 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 has become available since certification of the 2003 LRDP EIR that would alter this previous analysis.

The proposed project includes roadway and utility extensions to serve the project site. However, the 2003 LRDP EIR found that implementation of the 2003 LRDP, including the proposed project, would not induce substantial population growth in the area indirectly through the extension of roads or other infrastructure because these extensions would not be provided with excess capacity in an area where lack of infrastructure is an obstacle to growth.

- 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 2003 LRDP EIR found that future housing in the region is anticipated to adequately accommodate population growth associated with the 2003 LRDP, including the proposed project, as well as other population growth in the region. Therefore, the 2003 LRDP EIR found that the potential for campus growth to create a demand for housing that could not be accommodated by local jurisdictions is a less than significant impact.

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 project site is currently vacant and there are no existing or planned public service facilities (fire, police, schools or libraries) on or adjacent to the 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. Significant public services 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 impacts 4.12-6 and 4.12-7, but these impacts are identified as significant and unavoidable because they cannot be fully mitigated.

2003 LRDP EIR Impacts		Level of Significance Prior to Mitigation	Level of Significance After Mitigation
PUBLIC SERVICES			
4.12-6	Implementation of the 2003 LRDP, in conjunction with regional growth, could generate a cumulative demand for new or expanded police and fire service facilities in the region, the construction of which could result in significant adverse environmental impacts to prime farmland and habitat.	S	SU
4.12-7	Implementation of the 2003 LRDP, in conjunction with regional growth, would increase the number of school-age children living in the area. This could generate a cumulative demand for new school facilities, the construction of which could result in significant environmental impacts to agricultural prime farmland and habitat.	S	SU

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

PUBLIC SERVICES

- 4.12-6 If documented unmitigated significant environmental impacts are caused by the construction of police or fire facilities in the Cities of Davis, Dixon, Woodland, and/or Winters that are needed in part due to implementation of the 2003 LRDP, UC Davis shall negotiate with the appropriate local jurisdiction to determine the campus’ fair share (as described in Section 4.12.2.3) of the costs to implement any feasible and required environmental mitigation measures so long as the unmitigated impacts have not been otherwise reduced to less-than-significant levels through regulatory requirements, public funding, or agreements. This mitigation measure shall not apply to any other costs associated with implementation of public service facilities.
- 4.12-7 If documented unmitigated significant environmental impacts are caused by the construction of school facilities in the Cities of Davis, Dixon, Woodland, and/or Winters that are needed in part due to implementation of the 2003 LRDP, UC Davis shall negotiate with the appropriate local jurisdiction to determine the campus’ fair share (as described in Section 4.12.2.3) of the costs to implement any feasible and required environmental mitigation measures so long as the unmitigated impacts have not been otherwise reduced to less-than-significant levels through regulatory requirements, public funding, or agreements. This mitigation measure shall not apply to any other costs associated with implementation of public service facilities.

7.13.4 Environmental Checklist and Discussion

PUBLIC SERVICES	Potentially Significant Impact	Less than Significant with Mitigation	Impact for which 2003 LRDP EIR is Sufficient	Less than Significant Impact	No Impact
Would the project...					
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:					
i) Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ii) Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iii) Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
iv) Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
v) Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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

The proposed project would be located on the west campus at UC Davis, south of Hutchison Drive and west of Hopkins Road. The project would increase the campus population by approximately 40 people and would incrementally contribute to the demand for campus fire and police services that was anticipated under the 2003 LRDP.

In order to continue to meet the UC Davis Fire Department’s standard of responding to 90 percent of campus emergency calls within 6 minutes, the 2003 LRDP EIR found that the campus may need to expand or renovate existing facilities or provide new facilities, supply technologically improved equipment, implement improved management techniques, or hire additional staff for the Department. The 2003 LRDP EIR found that to ensure adequate UC Davis Police Department service for the campus population under the 2003 LRDP, the campus may need to expand existing or provide new

facilities, supply technologically improved equipment, or implement improved management techniques for the Department.

While the expansion and construction of police and fire facilities under the 2003 LRDP could contribute to the 2003 LRDP's effects on air, noise, traffic, agriculture, biological resources, cultural resources, utilities, and other resource areas, with the implementation of mitigation in the 2003 LRDP EIR and due to the relatively small areas that would be disturbed, the construction of these facilities would not individually result in significant environmental impacts. Therefore, the environmental impact associated with constructing new or altered facilities in order to maintain adequate levels of UC Davis fire and police services is considered less than significant.

Regional Fire and Police Protection

The 2003 LRDP EIR found that implementation of the 2003 LRDP, in conjunction with regional growth, could generate a cumulative demand for new or expanded police and fire service facilities in the region, the construction of which could result in significant adverse environmental impacts to prime farmland and habitat (Impact 4.12-6). To the extent that an increase in off-campus population associated with the 2003 LRDP, including the proposed project, could contribute to the demand for new police and fire facilities, in compliance with LRDP Mitigation 4.12-6, the campus would negotiate with respective jurisdictions to determine the University's fair share of costs for feasible mitigation to reduce associated significant environmental impacts. The campus' contribution to mitigation for such effects could include implementation of preservation mechanisms for on-campus prime farmland and/or habitat conservation. However, impacts associated with an irreversible loss of prime farmland and habitat could not be mitigated to less-than-significant levels. Therefore, the cumulative impacts related to police and fire facility construction in the Cities of Davis, Winters, Dixon, and Woodland would be 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 has become available since certification of the 2003 LRDP EIR that would alter this previous analysis.

a, iii) Schools

The proposed project would contribute approximately 40 people to the campus population, which could contribute to the number of school-age children living in the region. The 2003 LRDP EIR recognized that implementation of the 2003 LRDP, in conjunction with regional growth, would increase the number of school-age children living in the area. This could generate a cumulative demand for new school facilities, the construction of which could result in significant environmental impacts (Impact 4.12-7). Construction of new schools in the Cities of Davis, Winters, Dixon, and Woodland could result in development of agricultural areas, which could result in the permanent loss of prime farmland and habitat. Other potentially significant environmental impacts are too speculative to determine at this time. To the extent that the school-age dependents of new campus employees could contribute to the demand for new school facilities in these cities, in compliance with LRDP Mitigation 4.12-7, the campus would negotiate with respective school districts to determine the University's fair share of costs for feasible mitigation to reduce associated significant environmental impacts. The campus' contribution to mitigation for such effects could include implementation of preservation mechanisms for on-campus prime farmland and/or habitat conservation. However, impacts associated with an irreversible loss of prime farmland and habitat could not be mitigated to less-than-significant levels. Therefore, the impact related to school construction in the Cities of Davis, Winters, Dixon, and Woodland would be 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 has become available since certification of the 2003 LRDP EIR that would alter this previous analysis.

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

a, v) **Libraries**

The project would contribute approximately 40 people to the campus population, which could cause an increase in the use of local libraries. UC Davis provides extensive academic library facilities in four general libraries that serve students, faculty, staff, and the general public, as well as in specialized libraries on campus. With its extensive existing libraries and ongoing update processes, UC Davis has adequate facilities to provide sufficient library services to serve the campus and general population's needs through 2015-16. Therefore, construction of additional library facilities on campus as the result of campus growth under the 2003 LRDP is not anticipated. Furthermore, due to the small scale and infill nature of minor library expansions and renovations that could occur in the Cities of Davis, Dixon, Woodland, and Winters to serve cumulative growth through 2015-16, significant environmental impacts are not anticipated to result. Therefore, project-level and cumulative impacts associated with library services are considered less than significant.

Summary

Mitigation measures 4.12-6 and 4.12-7 from the 2003 LRDP EIR are relevant to the proposed project and reduce the significance of public service-related impacts to the extent feasible. 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 project site is currently vacant and there are no existing or planned recreation facilities on or adjacent to the 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. A significant recreation impact identified in the 2003 LRDP EIR that is relevant to the proposed project is presented below with its 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 impact 4.13-2 but this impact is identified as significant and unavoidable because it cannot be fully mitigated.

2003 LRDP EIR Impacts	Level of Significance Prior to Mitigation	Level of Significance After Mitigation
RECREATION		

2003 LRDP EIR Impacts		Level of Significance Prior to Mitigation	Level of Significance After Mitigation
RECREATION			
4.13-2	Implementation of the 2003 LRDP, together with the cumulative impacts of other regional development, could increase the use of off-campus recreation facilities, the development of which could result in significant environmental impacts.	S	SU

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

RECREATION

4.13-2	If documented unmitigated significant environmental impacts are caused by the construction of recreation facilities in the Cities of Dixon, Woodland, and/or Winters that are needed in part due to implementation of the 2003 LRDP, UC Davis shall negotiate with the appropriate local jurisdiction to determine the campus' fair share (as described in Section 4.12.2.3) of the costs to implement any feasible and required environmental mitigation measures so long as the unmitigated impacts have not been otherwise reduced to less-than-significant levels through regulatory requirements, public funding, or agreements. This mitigation measure shall not apply to any other costs associated with implementation of recreation facilities.
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7.14.4 Environmental Checklist and Discussion

RECREATION	Potentially Significant Impact	Less than Significant with Mitigation	Impact for which 2003 LRDP EIR is Sufficient	Less than Significant Impact	No Impact
Would the project...					
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

- a,b) The ATIRC project would contribute approximately 40 people to the campus, which would contribute to demand for parks and recreation facilities on and off campus.

The 2003 LRDP EIR found that increased population at UC Davis under the 2003 LRDP, including the population growth associated with the proposed project, is expected to result in increased demand for and usage of campus recreation facilities. However, to counteract the effects of increased usage, it is campus practice to increase maintenance levels of recreation facilities in response to increases in demand. In addition, the 2003 LRDP designates approximately 18 acres of land west of SR 113 for future recreation fields. The 2003 LRDP also designates land for greenbelts to the west of State

Route 113, expansion of the campus Arboretum, expansion of the Putah Creek Riparian Reserve, and enhanced formal open space (garden walks and formal courtyards) within the central campus. The construction of new facilities would take place when warranted by increased demand and when financially feasible. The campus practice of increasing maintenance activities and the planned construction of new facilities would prevent the deterioration of existing recreation facilities, resulting in a less than significant impact.

The 2003 LRDP EIR found that implementation of the 2003 LRDP, together with other regional growth, could result in the development of parks and recreation facilities off-campus that could result in significant environmental impacts (Impact 4.13-2). Depending on the site, development of new parks and recreation facilities in the cities of Dixon, Winters, and Woodland could result in impacts such as loss of prime farmland or valuable habitat. However, environmental impacts are too speculative to determine at this time. In compliance with LRDP Mitigation 4.13-2, the campus would negotiate with respective jurisdictions to determine the University's fair share of costs for feasible mitigation to reduce associated significant environmental impacts, if any. Due to the speculative nature of this cumulative impact, it 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 has become available since certification of the 2003 LRDP EIR that would alter this previous analysis.

Summary

Mitigation measure 4.13-2 from the 2003 LRDP EIR is relevant to the proposed project to reduce the significance of recreation-related impacts to the extent feasible. With the implementation of this measure, 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 Roads, 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

The proposed project would be served by Hutchison Drive, Hopkins Road, and an extension of an existing service road (currently unnamed) west of Hopkins Road. The extension of the service road would result in a two-lane asphalt road from Hopkins Road approximately 1,000 feet west to the ATIRC site. To allow for delivery of the proposed HVS, a field road extending from Hutchison Drive to the west side of the project site would also be upgraded with a gravel base to allow for HVS transportation to and from the project site a few times a year.

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. Significant and potentially significant traffic, circulation, and parking 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 impact 4.14-2, 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.

2003 LRDP EIR Impacts		Level of Significance Prior to Mitigation	Level of Significance After Mitigation
TRANSPORTATION, CIRCULATION, & PARKING			
4.14-1	Implementation of the 2003 LRDP would cause unacceptable intersection operations at on-campus intersections.	S	LS
4.14-2	Implementation of the 2003 LRDP would cause unacceptable intersection and freeway LOS operations at off-campus facilities, including facilities contained in the Yolo County and Solano County Congestion Management Plans.	S	SU
4.14-3	Implementation of the 2003 LRDP would create additional parking demand.	PS	LS
4.14-4	Implementation of the 2003 LRDP would increase demand for transit services.	PS	LS

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

TRANSPORTATION, CIRCULATION, & PARKING

- | | |
|-----------|--|
| 4.14-1(a) | UC Davis shall continue to actively pursue Transportation Demand Management strategies to reduce vehicle-trips to and from campus. |
| 4.14-1(b) | UC Davis shall continue to monitor AM and PM peak hour traffic operations at critical intersections and roadways on campus. |

2003 LRDP EIR Mitigation Measures

TRANSPORTATION, CIRCULATION, & PARKING

- 4.14-1(c) UC Davis shall review individual projects proposed under the 2003 LRDP as they advance through the environmental clearance phase of development to determine if intersection or roadway improvements are needed with the additional traffic generated by the proposed project. If intersection operations are found to degrade to unacceptable levels, UC Davis shall construct physical improvements such as adding traffic signals or roundabouts at affected study intersections.
- 4.14-2(a) UC Davis shall continue to actively pursue Transportation Demand Management strategies to reduce vehicle-trips to and from campus.
- 4.14-2(b) UC Davis shall continue to monitor AM and PM peak hour traffic operations at critical intersections and roadways in the campus vicinity at least every three years to identify locations operating below UC Davis, City of Davis, Yolo County, Solano County, or Caltrans LOS thresholds and to identify improvements to restore operations to an acceptable level.
- 4.14-2(c) UC Davis shall review individual projects proposed under the 2003 LRDP as they advance through the environmental clearance phase of development to determine if intersection or roadway improvements are needed with the additional traffic generated by the proposed project. If intersection operations are found to degrade to unacceptable levels, UC Davis shall contribute its fair share towards roadway improvements at affected study intersections.
- 4.14-3(a) UC Davis shall continue to actively pursue Transportation Demand Management strategies to reduce parking demand.
- 4.14-3(b) UC Davis shall continue to monitor parking demand on a quarterly basis to identify campus parking areas with a parking utilization over 90 percent. UC Davis shall provide additional parking if a proposed project is expected to increase the winter utilization rate to over 90 percent on the central campus, Health Sciences District, and/or major facilities of the west and south campus.
- 4.14-4 UC Davis shall monitor transit ridership to identify routes operating over capacity with increased campus growth. UC Davis shall work with transit providers to identify additional service required with campus growth or new transit routes needed to serve future development areas.

7.15.4 Environmental Checklist and Discussion

TRANSPORTATION, CIRCULATION, & PARKING

Would the project...	Potentially Significant Impact	Less than Significant with Mitigation	Impact for which 2003 LRDP EIR is Sufficient	Less than Significant Impact	No Impact
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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Result in inadequate parking capacity?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Conflict with applicable adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

- a,b) The proposed project would result in new vehicle trips from approximately 40 new employees at the ATIRC site. Vehicles are expected to use Hutchison Drive and Hopkins Road to access the project site.

The 2003 LRDP EIR found that implementation of the 2003 LRDP, including the proposed project, would cause unacceptable intersection operations at on-campus intersections (Impact 4.14-1) and the proposed project would result in vehicle trips that would contribute to these exceedances. LRDP Mitigation 4.14-1(a-c), included in the proposed project, requires that the campus continue to pursue Transportation Demand Management strategies to reduce vehicle-trips, monitor peak hour traffic operations at critical locations, review individual projects to determine if intersection operations will degrade to unacceptable levels, and implement physical improvements when intersection operations degrade. The 2003 LRDP EIR found that additional vehicle trips under the 2003 LRDP would cause the LOS at ten on-campus intersections to drop below acceptable levels. Potential improvements could be needed at intersections along Hutchison Drive and on-going monitoring would determine the exact timing of any needed improvements. With implementation of measures identified in the 2003 LRDP EIR, the impact associated with the project's contribution to degraded on-campus intersection operations would be less than significant.

The 2003 LRDP EIR also identified that implementation of the 2003 LRDP would cause unacceptable intersection and freeway operations off-campus (Impact 4.14-2) and the proposed project could contribute to these exceedances. LRDP Mitigation 4.14-2(a-c), included in the proposed project, requires that the campus continue to pursue Transportation Demand Management strategies to reduce vehicle-trips, monitor peak hour traffic operations at critical locations, review individual projects to determine if operations will degrade to unacceptable levels, and contribute fair share costs to roadway improvements if operations degrade. Because the feasibility and/or implementation of off-campus roadway and intersection improvements is ultimately within the jurisdiction of other authorities and cannot be guaranteed by the University, 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 has become available since certification of the 2003 LRDP EIR that would alter this previous analysis.

- 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 would result in an improved road connection to Hutchison Drive for transportation of the HVS. At the Hutchison Drive intersection, the HVS would need to turn right or left to enter or exit the gravel road. To avoid blocking traffic, the gravel improvements would be wide enough at the intersection to allow delivery trucks to complete the turn without having to

reverse direction. The design would allow safe movement of the delivery trucks and the potential impact would be less-than-significant.

- e) Impacts related to emergency access are discussed in Section 7.7, Hazards and Hazardous Materials.
- f) Parking to serve the ATIRC project would be provided at the ATIRC site. The 2003 LRDP EIR identified that implementation of the 2003 LRDP would create additional parking demand (Impact 4.14-3). In compliance with LRDP Mitigation 4.14-3(a-b), included in the proposed project, the campus will: continue to pursue Transportation Demand Management strategies to reduce parking demand; monitor parking demand on a quarterly basis; and provide additional parking if a proposed project is expected to increase winter parking utilization rates over 90 percent on the central campus, at the Health Sciences District, and/or at major facilities on the west or south campuses. With implementation of measures identified in the 2003 LRDP EIR, this impact would be less than significant.
- g) The proposed project would include bike parking facilities and bike access to the site would be provide via multiple routes on the west campus that lead to Hopkins Road. The proposed project would result in increased demand for transit services on the west campus but the potential demand is not expected to warrant new transit service to the west campus. The 2003 LRDP EIR identified that growth under the 2003 LRDP would increase demand for transit services (LRDP Impact 4.14-4), and that an impact could result if development under the 2003 LRDP caused conflicts with applicable adopted policies, plans, or programs supporting alternative transportation. LRDP Mitigation 4.14-4, included in the proposed project, requires the campus to monitor transit ridership to identify routes that operate over capacity and work with transit providers to identify additional service needed to serve future growth. With implementation of this measure, the impact would be less than significant.

Summary

Mitigation measures 4.14-1 (a-c), 4.14-2 (a-c), 4.14-3 (a,b), and 4.14-4 from the 2003 LRDP EIR are relevant to the proposed project and reduce the significance of transportation, circulation, and parking impacts to the extent feasible. 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
- Utility Water
- Agricultural Water
- Storm Drainage
- Wastewater
- Solid Waste
- Chilled Water
- Steam
- Electricity
- Natural Gas
- Telecommunications

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: domestic water, wastewater, storm drainage, solid waste, electricity, natural gas, and telecommunications. These utilities and service systems are discussed below:

- **Domestic Water:** The campus' domestic/fire water system obtains water from six deep aquifer wells to serve the needs of campus buildings, landscape irrigation on the west and south campuses, and heating and cooling systems at the Central Heating and Cooling Plant (CHCP). The system includes approximately 144,000 linear feet of distribution pipelines, a water tower and a ground storage tank with a combined capacity of approximately 500,000 gallons, an underground storage reservoir with a capacity of approximately 1.3 million gallons, and a booster pump station. In 2001-02, annual domestic water consumption was approximately 2,670 acre feet and peak demand was 3,100 gpm. The ATIRC project would connect to the campus domestic water system approximately 250 feet east of the project site along the new access road and approximately 300 feet north of the project site at an existing underground water main. The two connections would comply with the practice of providing a looped water supply main. The proposed project is estimated to require approximately 7 gallons per minute (gpm) during regular use and approximately 1,800 gpm for fire suppression.
- **Wastewater:** UC Davis operates a campus wastewater conveyance and treatment system that is independent from regional facilities. The campus Wastewater Treatment Plant (WWTP) is located in the south campus, and treated effluent from the plant discharges to Putah Creek. The peak month capacity of the campus WWTP, as regulated under the existing NPDES permit issued by the CVRWQCB, is 2.7 mgd. Since the current WWTP began operation in March 2000, the maximum monthly flow has been 2.2 mgd. Maximum flow in 2001-02 was 1.6 mgd. The ATIRC project would connect to the campus sanitary sewer system in one of two possible locations. The first potential connection site is approximately 250 feet east of the project site along the new access. The second potential connection site is approximately 900 feet east of the

project site at a sewer main located beneath Hopkins Road. The project is expected to generate approximately 11,000 gallons per day (gpd) of effluent for treatment in the campus wastewater treatment plant.

- **Storm Drainage:** The central campus and developed parts of the west and south campuses are served by campus storm water drainage systems. The central campus drainage system involves a system of underground pipes that drain to the Arboretum Waterway (providing the only major detention storage in the system), from which storm water is pumped to the South Fork of Putah Creek during large storm events. The ATIRC project would provide stormwater detention basins within the project site in order to eliminate drainage flows to campus stormwater drainage system during most storms. However, the new basins would be connected to the campus stormwater drainage system at a point 300 feet south and east of the project site. The basins would be designed to discharge excess stormwater during large storms to the campus drainage system which conveys water in an underground pipe to Putah Creek approximately 3,000 feet to the south.
- **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.
- **Electricity:** The main campus currently receives electricity from the Western Area Power Administration (WAPA) through PG&E transmission lines at the campus substation located south of I-80. 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 ATIRC project would connect to the campus electrical system approximately 250 feet south of the project site at an underground electrical vault. The project is expected to use approximately 700 kVa during peak periods and would be able to provide electrical power to operate the machinery on the Heavy Vehicle Simulator test track.
- **Natural Gas:** The campus purchases natural gas from outside vendors and provides it to the campus facilities through PG&E pipelines. Natural gas is provided to four locations on campus for use and distribution: the CHCP, the Primate Center Plant, the Cogeneration Plant, and the Master Meter #1. Peak natural gas demand in 2001-02 was approximately 2,900 therms per hour. The ATIRC project will connect to the campus natural gas system approximately 250 feet east of the project site along the new access road. The project is estimated to require approximately 900 cubic feet per hour (cfh) of natural gas.
- **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 connect to the campus telecommunications system approximately 250 feet east of the project site.

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 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 4.15-1, 4.15-3, 4.15-4, 4.15-6, 4.15-8, 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. Mitigation measures are included to reduce the magnitude of project-level impact 4.15-7 and cumulative impact 4.15-10, but these impacts are identified as significant and unavoidable because they cannot be fully mitigated.

2003 LRDP EIR Impacts		Level of Significance Prior to Mitigation	Level of Significance After Mitigation
UTILITIES & SERVICE SYSTEMS			
4.15-1	Implementation of the 2003 LRDP would require the expansion of campus domestic/fire water extraction and conveyance systems, which would not cause significant environmental impacts.	LS	LS
4.15-3	Implementation of the 2003 LRDP would require the expansion of wastewater	LS	LS

2003 LRDP EIR Impacts		Level of Significance Prior to Mitigation	Level of Significance After Mitigation
UTILITIES & SERVICE SYSTEMS			
	treatment and conveyance facilities, the construction and operation of which would not result in significant environmental impacts.		
4.15-4	Implementation of the 2003 LRDP would require the expansion of campus storm drainage conveyance and detention facilities, which would not result in significant environmental impacts.	LS	LS
4.15-6	Implementation of the 2003 LRDP would require the expansion of the campus electrical system, which would not result in significant adverse environmental impacts.	LS	LS
4.15-7	Implementation of the 2003 LRDP would require the expansion of natural gas transmission systems, which would result in environmental impacts.	LS	LS
4.15-9	Implementation of the 2003 LRDP would require expansion of campus communication facilities, which would not result in significant environmental impacts.	LS	LS
4.15-10	Implementation of the 2003 LRDP together with other regional development could generate a cumulative demand for wastewater treatment facilities in the region, the construction of which could result in significant environmental impacts on habitat.	S	SU

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

UTILITIES & SERVICE SYSTEMS

- | | |
|-----------|---|
| 4.15-1(a) | Once preliminary project design is developed, the campus shall review each project to determine if existing domestic/fire water supply is adequate at the point of connection. If domestic/fire water is determined inadequate, the campus will upgrade the system to provide adequate water flow and pressure to the project site before constructing the project. |
| 4.15-1(b) | Implement domestic water conservation strategies as indicated in LRDP Mitigation 4.8-5(a) (see Section 7.8 Hydrology and Water Quality of this Tiered Initial Study). |
| 4.15-3 | Once preliminary project design is developed, the campus shall review each project to determine whether existing capacity of the sanitary sewer line at the point of connection is adequate. If the capacity of the sewer line is determined inadequate, the campus will upgrade the system to provide adequate service to the project site prior to occupation or operation. |
| 4.15-4 | Once preliminary project design is developed, the campus shall review each project to determine whether existing storm drainage system is adequate at the point of connection. If the storm drainage system is determined inadequate, the campus will upgrade the system to provide adequate storm water drainage and/or detention prior to occupation or operation. |
| 4.15-6(a) | Once preliminary project design is developed, the campus shall review each project to determine whether the existing electrical system is adequate at the point of connection. If the electrical system is determined inadequate, the campus will upgrade the system to provide adequate service to the project prior to occupation or operation. |

2003 LRDP EIR Mitigation Measures

UTILITIES & SERVICE SYSTEMS

- 4.15-6(b) The campus would continue to meet or exceed Title 24 energy conservation requirements for new buildings, and it would continue to incorporate energy efficient design elements outlined in the UC Davis Campus Standards & Design Guide in new construction and retrofit projects. These energy conservation standards may be subject to modification as more stringent standards are developed.
- 4.15-7(a) Once preliminary project design is developed, the campus shall review each project to determine whether existing capacity of the natural gas supply pipeline at the point of connection is adequate. If the capacity of the pipeline is determined inadequate, the system will be updated to provide adequate service to the project site prior to occupation or operation.
- 4.15-9 Once preliminary project design is developed, the campus shall review each project to determine whether existing capacity of the telecommunications system is adequate. If the capacity is determined to be inadequate, the campus will upgrade the system to provide adequate service to the project site prior to occupation or operation.
- 4.15-10 If documented unmitigated significant environmental impacts are caused by the construction of wastewater treatment facilities in the Cities of Davis, Dixon, Woodland, and/or Winters that are needed in part due to implementation of the 2003 LRDP, UC Davis shall negotiate with the appropriate local jurisdiction to determine the campus' fair share (as described in Section 4.12.2.3) of the costs to implement any feasible and required environmental mitigation measures so long as the unmitigated impacts have not been otherwise reduced to less-than-significant levels through regulatory requirements, public funding, or agreements. This mitigation measure shall not apply to any other costs associated with implementation of utilities or service systems.

7.16.4 Environmental Checklist and Discussion

UTILITIES & SERVICE SYSTEMS		Potentially Significant Impact	Less than Significant with Mitigation	Impact for which 2003 LRDP EIR is Sufficient	Less than Significant Impact	No Impact
Would the project...						
a)	Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d)	Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f)	Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g)	Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

- | | | | | | |
|--|--------------------------|--------------------------|-------------------------------------|--------------------------|--------------------------|
| h) Require or result in the construction or expansion of electrical, natural gas, chilled water, or steam facilities, which would cause significant environmental impacts? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| i) Require or result in the construction or expansion of telecommunication facilities, which would cause significant environmental impacts? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
-

a) The ATIRC project is expected to generate approximately 11,000 gallons per day (gpd) of effluent for treatment in the campus wastewater treatment plant. The permitted peak monthly average capacity of the campus WWTP is currently 2.7 mgd, and growth under the 2003 LRDP, including the proposed project, is anticipated to increase the volume of discharge to 3.85 mgd through 2015-16. As discussed further in item “a,f” in Section 7.8, Hydrology and Water Quality, with continuation of current practices and implementation of 2003 LRDP EIR mitigation measures, the campus anticipates meeting the WWTP’s permit requirements. Therefore, the impact associated with possible exceedances of WWTP requirements would be less than significant.

b) Domestic Water Facilities

The ATIRC project would connect to the campus domestic water system approximately 250 feet east of the project site along the new access road and approximately 300 feet north of the project site at an existing underground water main. The domestic water system would provide a water supply for landscape irrigation, fire suppression, and for potable water needs. The two connections would comply with the practice of providing a looped water supply main. The proposed project is estimated to require approximately 7 gallons per minute (gpm) during regular use and approximately 1,800 gpm for fire suppression. The 2003 LRDP EIR identified that campus development under the 2003 LRDP would require the expansion of campus domestic/fire water extraction and conveyance systems, the construction of which would not cause significant environmental impacts (LRDP Impact 4.15-1). The domestic water lines associated with the project would be constructed within a previously disturbed area where cultural and biological resources would not likely occur. In addition, the campus would survey the site before construction and 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, effects associated with domestic water utility extensions would be less than significant. LRDP Mitigation 4.15-1(a-b), included in the proposed project, would further reduce the significance of this impact by requiring the water conservation strategies outlined in LRDP Mitigation 4.8-5(a) (see Hydrology and Water Quality section) and by requiring the campus to review the project to determine if the domestic/fire water supply is adequate at the point of connection and if any upgrades to the system are required.

Utility Water Facilities

The proposed project would not connect to the campus utility water system. Irrigation needs for landscaping at the ATIRC project site would be met by use of the domestic water system.

Wastewater Facilities

The ATIRC project would connect to the campus sanitary sewer system in one of two possible locations. The first potential connection site is approximately 250 feet east of the project site along the new access road. The second potential connection site is approximately 900 feet east of the project site at a sewer main located beneath Hopkins Road. The project is expected to generate approximately 11,000 gallons per day (gpd) of effluent for treatment in the campus wastewater

treatment plant. The 2003 LRDP EIR identified that implementation of the 2003 LRDP, including the proposed project, would require the expansion of campus wastewater treatment and conveyance facilities, the construction and operation of which would not result in significant environmental impacts (Impact 4.15-3). Future expansion of the existing WWTP and installation of new sanitary sewer conveyance lines would primarily occur on previously disturbed ground. In addition, the campus would survey the site before construction and 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, this impact would be less than significant. LRDP Mitigation 4.15-3, included in the proposed project, would further reduce the significance of this impact by ensuring the campus practice of reviewing projects to determine if there is adequate capacity to provide sanitary sewer service, and to upgrade the system as necessary.

The ATIRC project would contribute approximately 40 employees to the UC Davis staff and faculty population which could result in increased regional population through the addition of the new employees and associated household members. This would contribute to the cumulative demand for wastewater treatment facilities in the region, which the 2003 LRDP EIR recognized could result in significant environmental impacts (Impact 4.15-10). Because expansion of wastewater treatment facilities in local jurisdictions could require development on agricultural land, loss of farmland and/or habitat could result. To the extent that an increase in off-campus population associated with the 2003 LRDP, including the proposed project, could contribute to the demand for wastewater treatment, in compliance with LRDP Mitigation 4.15-10, the campus would negotiate with the affected jurisdictions to determine the University's fair share of costs for feasible mitigation to reduce associated significant environmental impacts. The campus' contribution to mitigation could include implementation of preservation mechanisms for on-campus prime farmland and/or habitat conservation. However, impacts associated with an irreversible loss of prime farmland and habitat could not be mitigated to less-than-significant levels. Therefore, the cumulative impacts related to wastewater treatment facility construction in the Cities of Davis, Winters, Dixon, and Woodland would be 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 has become available since certification of the 2003 LRDP EIR that would alter this previous analysis.

- c) The ATIRC project would provide stormwater detention basins within the project site in order to eliminate drainage flows to campus stormwater drainage system during most storms. However, the new basins would be connected to the campus stormwater drainage system at a point 300 feet south and east of the project site. The basins would be designed to discharge excess stormwater during large storms to the campus drainage system which conveys water in an underground pipe to Putah Creek approximately 3,000 feet to the south. The 2003 LRDP EIR identified that implementation of the 2003 LRDP would require the expansion of storm drainage conveyance and detention facilities, the construction and operation of which would not result in significant environmental impacts (Impact 4.15-4). In addition, the campus would survey the site before construction and 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. LRDP Mitigation 4.15-4, included in the proposed project, would further reduce this less-than-significant impact by ensuring the campus practice of reviewing projects to determine if there is adequate capacity to provide storm water drainage service for the proposed project, and to upgrade the system as necessary.
- d) The campus domestic water system is supplied with water from the deep aquifer and the ATIRC project would connect to the campus domestic water system approximately 250 feet east of the project site along the new access road and approximately 300 feet north of the project site at an

existing underground water main. The proposed project is estimated to require approximately 7 gallons per minute (gpm) during regular use and approximately 1,800 gpm for fire suppression. Impacts associated with the project's demand for water from the deep aquifer are addressed in item (b) in Section 7.8, Hydrology and Water Quality. As addressed, mitigation measures would be implemented under the 2003 LRDP to reduce the campus' demand for domestic/fire, to monitor impacts on the groundwater aquifers, and to manage water sources if impacts on the aquifers are identified. However, regardless of mitigation, because the effects of increased groundwater extraction are not currently well understood, impacts of increased water use are considered significant and unavoidable (LRDP Impact 4.8-5). 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 has become available since certification of the 2003 LRDP EIR that would alter this previous analysis.

- e) The campus' WWTP would provide wastewater treatment for the proposed project. As discussed in item (b) above, LRDP Mitigation 4.15-3, included in the proposed project, would ensure the campus practice of reviewing projects to determine if there is adequate capacity to provide sanitary sewer service, and to upgrade the system as necessary. The utility study performed for the proposed project identified that the ATIRC project could connect to the stormwater system and would not trigger additional upgrades to the campus WWTP. Therefore, this impact would be less than significant.
- f) The waste disposal needs of the proposed project would be served by the campus landfill. The proposed project would result in typical office and non-hazardous laboratory solid waste. 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 would generate destroyed asphalt and concrete test sections that would be recycled into road materials whenever possible. If the materials are not suitable for recycling due to the content or the small amount of the available materials, the asphalt may be sent to the campus landfill. The proposed project would comply with all applicable statutes and regulations related to solid waste. Therefore, no impact would occur.
- h) The proposed project would use electricity and natural gas from connections located near the project site and no additional facilities would be needed to serve ATIRC. Electrical and natural gas utility extensions required by the proposed project would be constructed within previously disturbed areas. In addition, the campus would survey the site before construction and 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), 4.15-7(a), and 4.15-8, 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.

- i) The proposed project would require approximately 85 network connections to the campus telecommunications system. The proposed connection point is approximately 250 feet east of the project site. The 2003 LRDP EIR identified that growth under the 2003 LRDP would require the expansion of the campus telecommunications system, which would not result in significant environmental impacts (LRDP Impact 4.15-9). Telecommunication extensions required by the proposed project would be constructed within a previously disturbed area. In addition, the campus would survey the site before construction and 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 Mitigation 4.15-9, included in the proposed project, would further reduce the significance of this impact by requiring the campus to determine if the telecommunication capacity is adequate at the point of connection and if any upgrades to the system are required.

Summary

Mitigation measures 4.15-1 (a,b), 4.15-3, 4.15-4, 4.15-6 (a,b), 4.15-7, 4.15-9, and 4.15-10 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.

7.17 MANDATORY FINDINGS OF SIGNIFICANCE

MANDATORY FINDINGS OF SIGNIFICANCE	Potentially Significant Impact	Less than Significant with Mitigation	Impact for which 2003 LRDP EIR is Sufficient	Less than Significant Impact	No Impact
Would the project...					
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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 has become available since certification of the 2003 LRDP EIR that would alter this previous analysis.

b,c) The proposed project would incrementally contribute to, but would not exceed, significant and unavoidable impacts related to: aesthetics, agriculture resources, air quality, biological resources, cultural resources, hydrology and water quality, noise, population and housing, public services, recreation, transportation/circulation, and utilities and service systems. 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 has become 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

Pay Fee

9 REFERENCES

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10 AGENCIES & PERSONS CONSULTED

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**APPENDIX A
MITIGATED NEGATIVE DECLARATION**

MITIGATED NEGATIVE DECLARATION

- Lead Agency:** University of California
- Project Proponent:** University of California, Davis
- Project Location:** UC Davis, west campus, west of Hopkins Road
Yolo County
- Project Description:** UC Davis proposes to construct and operate the Advanced Transportation Infrastructure Research Center (ATIRC). The four-acre ATIRC project would include 43,000 square feet of buildings, paved outdoor vehicle test facilities, automobile parking, new access roads, utility extensions and stormwater detention basins to serve the proposed project.
- Mitigation Measure:** In addition to relevant mitigation measures from the 2003 Long Range Development Plan Environmental Impact Report, a project-specific mitigation measure is proposed to reduce potential noise impacts from the ATIRC test tracks to a less-than-significant level. The project-specific mitigation measure is included in Appendix B of the Draft Tiered Initial Study and described in Section 7.11 of the Draft Tiered Initial Study.
- Reference:** This Proposed Mitigated 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 the proposed project could have a significant effect on the environment that has not been previously addressed in the 2003 LRDP EIR, and a new project-specific mitigation measure, in addition to those previously identified in the 2003 LRDP EIR, is required to reduce this effect to such a point that clearly no significant impact would occur.
- 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 January 25, 2007 to February 23, 2007. During the public comment period, one comment was received from a state agency regarding potential permit requirements for projects that encroach on an adopted flood control plan. The submitted comment does not alter the analysis in the Initial Study or the determination of this Mitigated Negative Declaration.

**APPENDIX B
PROPOSED MITIGATION MONITORING PLAN**

PROPOSED MITIGATION MONITORING PROGRAM

Section 15097(a) of the State CEQA Guidelines requires that the Lead Agency establish a program to report on and monitor measures adopted as part of the environmental review process to mitigate or avoid significant effects on the environment. This Mitigation Monitoring Program (MMP) is designed to ensure that the project-specific mitigation measures identified in this Tiered Initial Study are implemented. Applicable mitigation measures from the 2003 LRDP EIR will be implemented as part of the proposed project pursuant to the previous MMP adopted by the Regents as part of the 2003 LRDP on November 20, 2003.

The MMP for the proposed project, as outlined in the following table, describes monitoring and reporting procedures, monitoring responsibilities, and monitoring schedules for the project-specific mitigation measure identified in the Tiered Initial Study. All monitoring actions, once completed, will be reported in writing to or by the UC Davis Office of Resource Management and Planning, which will maintain mitigation monitoring records for the proposed project. The MMP will be considered by the campus in conjunction with project review and will be included as a condition of project approval.

The components of the MMP include:

- a) **Project Specific Mitigation Measure:** The project-specific mitigation measure provide mitigation for the proposed project beyond the measures that will be implemented pursuant to the 2003 LRDP EIR.
- b) **Monitoring and Reporting Procedure:** Identifies the action(s) that must be completed for the mitigation measure to be implemented.
- c) **Mitigation Timing:** Identifies the timing for implementation of each action associated with the mitigation measure in order to effectively accomplish the intended outcome.
- d) **Monitoring Responsibilities:** Identifies the UC Davis entity responsible for undertaking the required action and monitoring the mitigation measure.

Mitigation Monitoring Program

Project-Specific Mitigation Measure	Monitoring and Reporting Procedure	Mitigation Timing	Mitigation Responsibility
<p>Project Specific Mitigation Measure 1: For future developments within 500 feet of the ATIRC test tracks, the campus shall conduct a detailed noise assessment prior to design approval to determine whether the proposed tracks, when used singly or in combination, would exceed the noise level of 65 dBA CNEL at the site of the noise sensitive land use. If the noise levels are determined to exceed the 65 dBA CNEL level, the campus shall include noise reduction measures on the ATIRC test equipment in order to reduce the anticipated noise levels to a less-than-significant level.</p>	<p>Conduct detailed noise assessment and review results to determine need for sound attenuation measures. If needed, sound attenuation measures shall be designed by a licensed acoustical engineer with experience conducting outdoor noise assessment and mitigation. Results of the design measures shall be reported to the UC Davis Vice Chancellor of Resource Management and Planning.</p>	<p>Conduct noise assessment prior to design approval of noise sensitive land uses within 500 feet of the ATIRC test tracks. Implement sound attenuation measures, if needed, prior to operation of the noise sensitive land use.</p>	<p>UC Davis Office of Resource Management and Planning</p>

APPENDIX B
PROPOSED MITIGATION MONITORING PLAN

Comment page 1

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Response to Comment Letter from Department of Water Resources

Comment noted. At this time, the project does not appear to require any encroachment permit from the Department of Water Resources. If future changes to the project would alter this conclusion, the University would reexamine the need for an encroachment permit.